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Community-Clinical Linkages Within Health Care in Hawai‘i

COMMUNITY-CLINICAL LINKAGES WITHIN HEALTH CARE IN HAWAI‘I: HISTORY, INNOVATION, AND FUTURE DIRECTIONS

Tetine L. Sentell PhD; Lance Ching PhD; Stephanie L. Cacal BA; and Karen Rowan MS

3

COMMUNITY HEALTH WORKERS IN HAWAI‘I: A SCOPING REVIEW AND FRAMEWORK ANALYSIS OF EXISTING EVIDENCE

David A. Stupplebeen MPH; Alexis T. Barnett-Sherrill MPH, MS; and Tetine L. Sentell PhD

6

COMMUNITY HEALTH WORKERS IN ACTION: COMMUNITY-CLINICAL LINKAGES FOR DIABETES PREVENTION AND HYPERTENSION MANAGEMENT AT 3 COMMUNITY HEALTH CENTERS

David A. Stupplebeen MPH; Tetine L. Sentell PhD; Catherine M. Pirkle PhD; Bryan Juan MPH; Alexis T. Barnett-Sherrill MPH, MS; Joseph W. Humphry MD; Sheryl R. Yoshimura MPH, RD; Jasmin Kiernan RN; Claudia P. Hartz BA; and L. Brooke Keliikoa DrPH

15

LEGISLATIVE DEFINITIONS OF COMMUNITY HEALTH WORKERS: EXAMPLES FROM OTHER STATES TO INFORM HAWAI‘I

Stephanie L. Cacal BA; Napualani Spock MA, MBA-PHA; Michelle L. Quensell MPH; Tetine L. Sentell PhD; and David A. Stupplebeen MPH

23

COMMUNITY HEALTH WORKER (CHW) MOVEMENT IN HAWAI‘I: MOVING TOWARDS A CHW ASSOCIATION

Jessica Yamauchi MA; Rie L. Kuhaulua PsyD, MPH; Stephanie Moir MPH; Claudia Hartz; Alexis T. Barnett-Sherrill MPH, MS; Cristina L. Vocalan BSN, RN; Roella V. Foronda MPH; and Gregg S. Kishaba BS

30

“NOTHING ABOUT US WITHOUT US”: BEST PRACTICES LEARNED THROUGH SUPPORTING COMMUNITY HEALTH WORKERS IN HAWAI‘I NEI AND BEYOND

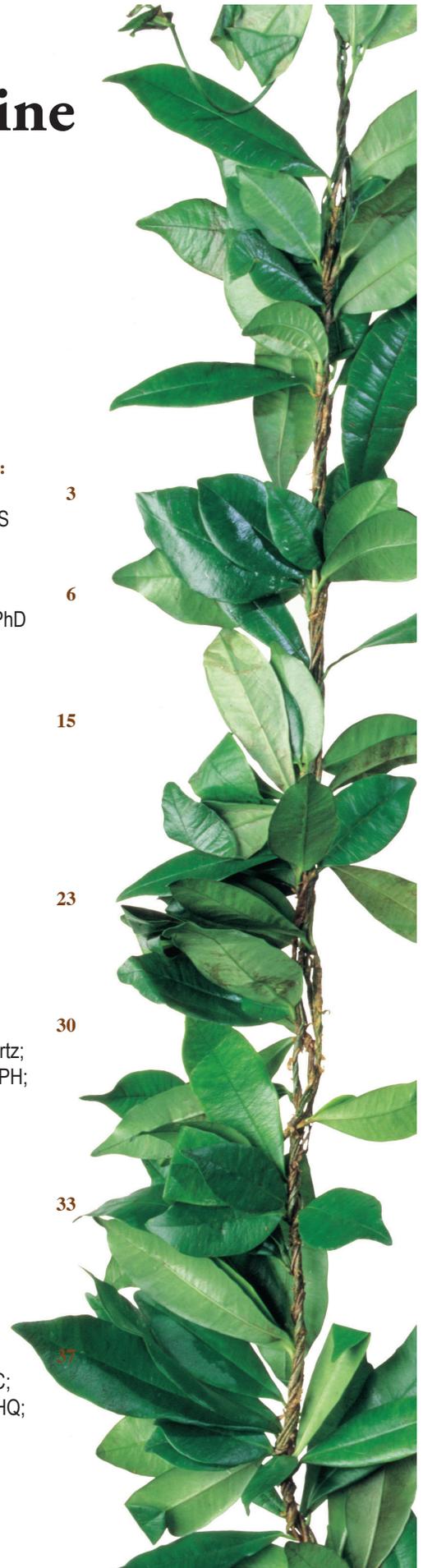
Napualani Spock MA, MBA and Ashley Wennerstrom PhD, MPH

33

ENGAGING A COMMUNITY CHAPLAINCY RESOURCE FOR INTERPROFESSIONAL HEALTH CARE PROVIDER TRAINING IN FACILITATING FAMILY DECISION MAKING FOR CHILDREN AT END-OF-LIFE

Randal K. Wada MD, MS; Lorrie Wong PhD, MS, RN, CHSE-A; Anke Flohr MDiv, BCC; David Kurahara MD; Robin Arndt MSW, LSW; Melodee J. Deutsch MS, MPH, RN, CPHQ; Dana Ing MSN, NNP-BC, APRN-Rx; Karol Richardson PhD, MPH, APRN; Alexander Munro MFA; Lori Kaneshige MSN, RN; Mary Mullis MSW, LSW; Mychal Hatae LCSW; and Cheryl L. Albright PhD, MPH

37



AS A COMMUNITY, WE CAN: HOW COLLABORATION IN EAST HAWAI‘I LED TO COMMUNITY-WIDE INITIATIVES FOCUSED ON REDUCING AVOIDABLE EMERGENCY DEPARTMENT VISITS AND INPATIENT ADMISSIONS	41
Jennifer J. Walker MD, MPH; Mike Sayama PhD; Jon Cunningham MH; Tom Spradling MBA; and Beatrice Interino MHA	
ADDING SOCIAL DETERMINANTS IN THE ELECTRONIC HEALTH RECORD IN CLINICAL CARE IN HAWAI‘I: SUPPORTING COMMUNITY-CLINICAL LINKAGES IN PATIENT CARE	46
Connie M. Trinacty PhD; Emiline LaWall PhD; Melinda Ashton MD; Deborah Taira ScD; Todd B. Seto MD; and Tetine L. Sentell PhD	
INTERPROFESSIONAL EDUCATION IN HAWAI‘I TO SUPPORT COMMUNITY-CLINICAL LINKAGES	52
J. Alan Otsuki MD, MBA; Jerris R. Hedges MD, MS, MMM; and Kamal Masaki MD	
BUILDING A PATIENT-CENTERED MEDICAL-LEGAL HOME IN HAWAII’S KALIHI VALLEY	55
Dina M. Shek JD, MA and Alicia G. Turlington MD	
PEDALS AND PEDAGOGY: CYCLES OF HOPE AND HEALTH	61
Edward Kevin Faller BBA; Gracieuse Jean-Pierre BA; Megan Inada DrPH; and J.T. Miguel Acido PhD	
IMPLEMENTING A HEALTH COACHING CURRICULUM IN HAWAII’S COMMUNITY HEALTH CENTERS	65
Jermy-Leigh B. Domingo DrPH; Andrea L. Macabeo MPH; Mairine Kaiko-George; Denise K. Ropa CHW; Thessalonica K. Sandi; Olivia A. Pascual RN, BSN; Cori L. Takesue PsyD; Diana M.V. Shaw PhD, MBA, MPH; and Joseph W. Humphry MD, FACP	
GREATER COMMUNITY-CLINICAL LINKAGES AND ATTENTION TO PATIENT LIFE STAGE: RECOMMENDATIONS TO IMPROVE DIABETES SELF-MANAGEMENT EDUCATION IN HAWAI‘I	70
Catherine M. Pirkle PhD; Ngoc D. Vu MA; Lindsey S.K. Ilagan MS; Stephanie L. Cacal BA; David A. Stupplebeen MPH; and Blythe Nett MPH	
A CULTURE-BASED FAMILY-CENTERED HEALTH NAVIGATION INTERVENTION FOR CHRONIC DISEASE MANAGEMENT IN NATIVE HAWAIIANS	78
Robin E.S. Miyamoto PsyD; Andrea H. Hermosura PhD; and Debieh A.R. Miguel Acido BA	
KE KU‘UNA NA‘AU: A NATIVE HAWAIIAN BEHAVIORAL HEALTH INITIATIVE AT THE QUEEN’S MEDICAL CENTER	83
Jaclyn Kanilehua Kim MSW, LSW; Lisa Garrett MSN, APRN RX, FNP-BC; Renee Latimer APRN-BC, MS, MPH; Laura Kau‘ionalani Nishizaki LSW; Jo Ann Kimura MSW; Deborah Taira ScD; and Tetine Sentell PhD	
“IT STARTS WITH ‘ALOHA...” STORIES BY THE PATIENT NAVIGATORS OF KE KU‘UNA NA‘AU PROGRAM AT THE QUEEN’S MEDICAL CENTER	90
Laura Kau‘ionalani Nishizaki LSW; Anthony Hereari‘i Negrillo; Jonna “Minky” Ho‘opai; Robert Naniole; Damien Hanake‘awe; and Kehau Pu‘ou	
COMMUNITY LINKAGE THROUGH NAVIGATION TO REDUCE HOSPITAL UTILIZATION AMONG SUPER UTILIZER PATIENTS: A CASE STUDY	98
Ashley J. Shearer MSW, LCSW; Caryn L. Hilmes MSW, LCSW; and Martha N. Boyd, CHW	
COMMUNITY-CLINICAL LINKAGES SUPPORTED BY THE CENTERS FOR DISEASE CONTROL AND PREVENTION: THE HAWAI‘I DEPARTMENT OF HEALTH PERSPECTIVE	102
Lola Irvin MEd and Tetine L. Sentell PhD	



Community-Clinical Linkages Within Health Care in Hawai‘i: History, Innovation, and Future Directions

Tetine L. Sentell PhD; Lance Ching PhD, MPH; Stephanie L. Cacal BA; and Karen Rowan MS

Today’s complex health care environment and new payment structures demand innovative partnerships and collaborations to meet patients’ social and behavioral needs to prevent illness, manage conditions, and address the health disparities that fall outside of the traditional purview of clinical medicine.^{1,2} Many such collaborations fall into the broad classification of community-clinical linkages, which improve patients’ preventative and chronic care by connecting health care providers and systems with supportive community organizations and public health agencies to meet patient needs.³ This is a dynamic topic in both research and practice, and models are actively evolving across the United States and elsewhere.⁴

The articles in this special issue highlight the many innovations in community-clinical linkages in Hawai‘i in recent years and over time, and the extensive expertise in clinical medicine and community care that inspired those innovations. The 14 original, peer-reviewed manuscripts highlight the history and scope of this work, along with successes, challenges, insights, and future directions. These articles present the perspectives of those working in hospitals, clinics, community health centers, and nonprofit organizations. In addition, the 5 accompanying editorial commentaries in this issue provide a broader view of the landscape and offer considerations for future directions across the health care workforce, insurers, and systems in our state. We are especially excited to share the viewpoints of community health workers in a number of the articles.

Community Health Workers

The first articles in this issue provide insights into the endeavors of Hawaii’s community health workers (CHWs). These critical frontline workers hold deep cultural and community relevance and play key roles in many efforts around community-clinical linkages. In *Community Health Workers in Hawai‘i: A Scoping Review and Framework Analysis of Existing Evidence*, Stupplebeen, et al, describe evidence around community health workers efforts in Hawai‘i over time, including workforce programs, intervention roles, barriers, and outcomes considered within national workforce and public health framework roles. In *Community Health Workers in Action: Community-Clinical Linkages for Diabetes Prevention and Hypertension Management at 3 CDC 1422-Funded Community Health Centers*, Stupplebeen, et al, give further insights into the specifics of CHW roles and linkages for chronic disease management. They provide insights into the need to stabilize funding and reimbursement for the CHW workforce. Similarly, in *Legislative Definitions of Community Health Workers: Examples from Other States to Inform Hawai‘i*, Cacal, et al, explore the formalization of the

CHW role and scope of care in Hawai‘i by providing historical context and recommendations for moving forward gleaned from insights into other states’ efforts to formally define CHWs in policy. This can support workforce development that is critical for the establishment of more stable funding streams for, and increased utilization of, CHWs in Hawai‘i.

In related commentaries, Yamauchi, et al, provide insights for Hawai‘i from the perspective of allies supporting the formation of a state-level CHW association in *Community Health Worker (CHW) Movement in Hawai‘i: Moving Towards a CHW Association*. Spock and Wennerstrom, both founding board members of the National Association of Community Health Workers, provide vivid insights into the value of CHWs in health care and best practices about CHW self-governance from the local and national perspectives in “*Nothing About Us Without Us*”: *Lessons from Community Health Workers in Hawai‘i Nei and Beyond*.

Health Systems-Based Programs

Our next section of articles comes from health systems and consider how community resources can be engaged to support critical health issues within hospitals and clinics. In *Engaging a Community Chaplaincy Resource for Healthcare Provider Training in Facilitating Family Decision Making for Child at End-of-Life: An Interprofessional Team Approach*, Wada, et al, provide insights into training with an interprofessional team, including chaplaincy services, which are a valuable resource that are often underutilized in health care, to provide needed, holistic care for the anguishing decisions for children at the end-of-life. In *As a Community, We CAN: How Collaboration in East Hawai‘i Led to Community-Wide Initiatives Focused on Reducing Avoidable Emergency Department Visits and Inpatient Admissions*, Walker, et al, provide useful insights into ways in which medical services, social services, and health plans can collaborate towards common goals to support patients with complex needs to improve quality of care, streamline workflow and administrative systems, provide meaningful connections to services, and reduce unnecessary and costly services. In the article *Adding Social Determinants in the Electronic Health Record in Clinical Care in Hawai‘i: Supporting Community-Clinical Linkages in Patient Care*, Trinacty, et al, provide an overview of the efforts of 3 distinct health systems in Hawai‘i to integrate social needs into clinical care along with the rationales for these undertakings. They consider the challenges of clinical relevance and capacity. In a relevant commentary, *Interprofessional Education in Hawai‘i to Support Community-Clinical Linkages*, Otsuki, Hedges, and Masaki provide a perspective

about changing patterns and new innovations in professional training that will be needed to meet these identified needs from the perspective of the medical school in our state, the John A. Burns School of Medicine at the University of Hawai'i at Mānoa.

Community Health Center-Based Programs

The issue then turns to Hawai'i's community health centers, which have been central to innovative work in addressing social determinants of health in Hawai'i for many years. This issue highlights some of these programs. In *Building a Patient-Centered Medical-Legal Home in Hawai'i's Kalihi Valley*, Shek and Turlington explain that, because legal care can remedy medical problems rooted in legal problems, a partnership between doctors and lawyers can improve the health and well-being of patients. They describe an innovative medical-legal home and its role in promoting patient power and autonomy. Also from Kokua Kalihi Valley Comprehensive Family Services (KKV), the article *Pedals and Pedagogy: Cycles of Hope and Health* by Acido, et al, describes the innovative and collaborative approach of a bike exchange program conducted within a clinical setting. The article highlights the healing aspects of culture circles and shows what it means to hold space for the young men and women of Kalihi. The program addresses generational trauma and violence and aims to restore ancestral connections and practices, thereby reconnecting the youth to reclaim the power of their name, remember their homeland, and summon the guidance of their ancestors. In *Implementing a Health Coaching Curriculum in Hawai'i's Community Health Centers*, Domingo, et al, describe supports for health coaches to help patients become informed, active participants in their care.

Provider-Based Programs

In *Greater Community-Clinical Linkages and Attention to Patient Life-Stage: Recommendations to Improve Diabetes Self-Management Education in Hawai'i*, Pirkle and colleagues provide empirical evidence along with new insights and recommendations for the adaptation of diabetes self-management programs to meet the needs of diverse populations in the state. In *A Culture-Based Family-Centered Health Navigation Intervention for Chronic Disease Management in Native Hawaiians*, Miyamoto and colleagues show that navigators who provide culturally-based case management result in high satisfaction for both patients and primary care physicians.

Queens Health Care System

The issue closes by highlighting programs in one health care setting. In the last few years, The Queens Health Care System has developed innovative programs to address the social needs of some of its most vulnerable patients using non-clinical community health workers as patient navigators. Three articles provide insights from different aspects of these efforts. In *Community*

Linkage Through Navigation to Reduce Hospital Utilization Among Super Utilizer Patients: A Case Study, Shearer, et al, describe a navigation program that connects super utilizer patients to existing community supports, thereby increasing access to care and services and reducing unnecessary hospital utilization. They include their guiding model, a patient-centered, harm reduction framework, along with examples of community linkages and reduction in utilization. Kim, et al, provide the history of the Native Hawaiian value-based approach to support psychosocially vulnerable Native Hawaiians after hospitalization in *Ke Ku'una Na'au: A Native Hawaiian Behavioral Health Initiative at The Queen's Medical Center*. The authors describe their process, their goals, and some of their outcomes from the program perspective. In a companion article by Nishizaki, et al, "*It Starts with 'Aloha...'*" *Stories by the Patient Navigators of Ke Ku'una Na'au Program at The Queen's Medical Center*, the 5 Native Hawaiian navigators from this program describe their experiences, including their journeys with their patients, the privilege they feel when serving their community and *ku-puna* (elders), their insights into community-clinical linkages that are needed by their patients, and the ways they maintain self-care to sustain their work. Together, these articles provide important models of meaningful programs deeply grounded in community needs and practical guidance for similar programs starting in other settings.

Conclusions and Mahalo!

What emerges from these articles is a clear picture of the need for collaboration across clinical and non-clinical workforces, and the importance of cultural adaptations and relevance. Some of these innovations are in their first few years of practice. Future work will evaluate many of these programs in more depth.

The final commentary *Community-Clinical Linkages Supported by the Centers for Disease Control and Prevention: The Hawai'i Department of Health Perspective* by Irvin and Sentell provides insights into the funds supporting key activities in this special issue and show how these funding streams have helped to create links across sectors.

We thank the authors of the articles and editorials for sharing their innovative research, deep insights, and diverse perspectives across various settings and locations. We give a huge mahalo to our wise and generous editorial board (Robert Hirokawa, L. Brooke Keliikoa, Blythe Nett, Catherine Pirkle, Alexis Barnett Sherrill, Napua Spock, Yan Yan Wu, Jessica Yamauchi) and our excellent peer reviewers (Kathryn Braun, Mele Look, Deborah Taira, JoAnn Tsark) for giving so generously of their time and expertise. From the Hawai'i Journal of Medicine and Public Health, we also thank Dr. Kalani Brady for all the support. We hope this work inspires, supports, and encourages new innovation in this area.

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References

1. Porterfield DS, Hinnant LW, Kane H, Horne J, McAleer K, Rousset A. Linkages between clinical practices and community organizations for prevention: a literature review and environmental scan. *Am J Public Health*. 2012;102(Suppl 3):S375–S382. doi:10.2105/AJPH.2012.300692
2. Centers for Disease Control and Prevention. Community-clinical linkages for the prevention and control of chronic disease: a practitioner's guide. Atlanta, GA: Centers for Disease Control and Prevention, US Department of Health and Human Services; 2016. <https://www.cdc.gov/dhdsp/pubs/docs/ccl-practitioners-guide.pdf>
3. Agency for Healthcare Research and Quality. Clinical community linkages. <https://www.ahrq.gov/professionals/prevention-chronic-care/improve/community/index.html> Published February 2013. Updated December 2016.
4. Lohr AM, Ingram M, Nuñez AV, Reinschmidt KM, Carvajal SC. Community-clinical linkages with community health workers in the United States: a scoping review. *Health Promot Pract*. 2018;19(3):349-360. doi: 10.1177/1524839918754868.

Community Health Workers in Hawai'i: A Scoping Review and Framework Analysis of Existing Evidence

David A. Stupplebeen MPH; Alexis T. Barnett-Sherrill MPH, MS; and Tetine L. Sentell PhD

Abstract

Introduction: Community health workers (CHWs) play a vital role in health across Hawai'i, but the scope of this work is not comprehensively collated. This scoping review describes the existing evidence of the roles and responsibilities of CHWs in Hawai'i. **Methods:** Between May and October 2018, researchers gathered documents (eg, reports, journal articles) relevant to Hawai'i CHWs from health organizations, government entities, colleges/universities, and CHWs. Documents were reviewed for overall focus and content, then analyzed using the Centers for Disease Control and Prevention's 10 Essential Public Health Services as well as the Community Health Worker Core Consensus Project roles to identify workplace roles and gaps. **Results:** Of 92 documents received, 68 were included for review. The oldest document dated to 1995. Document types included curricula outlines, unpublished reports, and peer-reviewed articles. Documents discussed trainings, certification programs, CHWs' roles in interventions, and community-, clinical-, and/or patient-level outcomes. Cultural concordance parity between CHWs and patients, cost savings, and barriers to CHW work were noted. Most roles named by the Community Health Worker Core Consensus Project were mentioned in documents, but few were related to the roles of "community/policy advocacy" and "participation in research and evaluation." Workplace roles, as determined using the 10 Essential Public Health Services, focused more on "assuring workforce competency" and "evaluation," and less on "policy development," and "enforcing laws." **Discussion:** CHWs are an important part of Hawai'i's health system and engage in many public health functions. Although CHW roles in Hawai'i mirrored those identified by the CHW Core Consensus Project and 10 Essential Public Health Services frameworks, there is a noticeable gap in Hawai'i CHW professional participation in research, evaluation, and community advocacy.

Keywords

Community health workers, CHW, roles, interventions, training, outreach, Hawai'i

Abbreviation List

CHC = Community health center

CHW = Community health worker

HDOH = Hawai'i State Department of Health

HPCA = Hawai'i Primary Care Association

UHET = University of Hawai'i Evaluation Team (Office of Public Health Studies)

Highlights

- A scoping review of documents on community health workers (CHW) in Hawai'i was conducted
- Documents discussed workforce programs, intervention roles, barriers, and outcomes
- Many roles performed by Hawai'i CHWs reflect the roles performed by the national workforce and identified in public health frameworks
- CHWs are working statewide and are important to Hawai'i's public health and health care systems
- Opportunities exist for CHW engagement in research, evaluation, and advocacy

Introduction

Community health worker (CHW) is a broad term encompassing a wide range of job titles including lay health worker, outreach worker, navigator, and others.¹ The American Public Health Association defines CHWs as frontline public health workers who are trusted community members with an unusually close understanding of the community served, with roles including bridging health/social services and the community, increasing health access, ensuring cultural competency of interventions, and building community and individual capacity,² though other definitions exist.^{3,4} Common activities include mediation between health and social systems, communities, and individuals; health education; case management; coaching and social support; advocacy; and service provision.⁵ Nationally, CHWs may participate in health interventions and health promotion activities related to cancer screening,⁶⁻⁸ cardiovascular disease prevention,⁹⁻¹¹ mental health interventions,⁶ asthma control,¹² and medication safety.⁶ Community membership and racial/ethnic concordance between CHWs and patients can positively affect intervention success;^{6,13} however, health outcomes and cost effectiveness of CHW interventions vary.^{6,14}

National interest in expanding the roles of CHWs is demonstrated through federal policies and initiatives. CHW roles were recognized in the Patient Protection and Affordable Care Act.¹⁵ The Department of Labor's Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant provided \$2 billion nationally toward training and development of in-demand jobs, including CHWs, at community colleges across the country and in Hawai'i.¹⁶ The Centers for Disease Control and Prevention (CDC) supported CHW engagement in proffering community-clinical linkages for disease prevention and management.¹⁷

While CHWs have long been engaged across Hawai'i, the full scope of this work has not been comprehensively collated. Although individual projects and studies document CHW participation in trainings and health interventions, reports on CHW activities in Hawai'i may not be published in peer-reviewed journals and thus may not be mentioned in systematic literature reviews nationally.^{6,14} To describe the breadth of CHW engagement in Hawai'i, we conducted a scoping review to understand the history and evidence base of CHW activities, roles, and responsibilities across all types of available literature.

Methods

Research Collaboration

The University of Hawai'i at Mānoa Healthy Hawai'i Initiative Evaluation Team (UHET) was asked by the Hawai'i State

Department of Health (HDOH) to conduct a scoping review of the breadth of CHW engagement in Hawai'i. Scoping reviews examine the range of activities and the state of research where knowledge is limited.¹⁸ Following one method for scoping reviews,¹⁹ we identified the knowledge gap on CHWs in Hawai'i, then gathered relevant documents. We solicited documentation, reports, and journal articles on Hawai'i-based CHWs from leaders and CHWs at health organizations, government agencies, and colleges and universities via email, face-to-face contact, and phone. Documents collected from May through October 2018 were sent to UHET. We also identified journal articles through PubMed and the UH Mānoa Library OneSearch system from May through September 2018.

Analysis Plan, Framework Analysis, and Theoretical Frameworks

Document data were entered into a Microsoft Excel database, including publication year, setting of the CHW work, document type (eg, journal article, report), CHW roles (eg, training, intervention), types of outcomes (eg, training or patient outcomes), and cost-savings data. Only documents discussing work done in Hawai'i related to CHWs were included. Descriptive quantitative data were analyzed in Stata 15.1 (StataCorp, College Station, TX). Documents were qualitatively analyzed for CHW titles, themes related to engagement, barriers, and opportunities using the Excel database. To understand how CHWs were engaged in service, we conducted a framework analysis²⁰ using 2 nationally recognized frameworks (Table 1): the CHW Core Consensus Project (C3 Project, a partnership between the University of Texas-Houston School of Public Health's Institute for Health Policy and the Texas Tech University Health Sciences Center, El Paso), which identified major CHW roles,⁵ and the CDC's 10 Essential Public Health Services (10 EPHS).²¹ The C3 Project roles were developed using a community-based participatory research approach that included gathering primary data from 5 states and 2 national organizations on CHW roles and training, and then reviewing the findings. The review was conducted by an advisory body and also by CHWs at national meetings and online prior to publication.⁵ The roles identified by the C3 Project were used to understand the roles and responsibilities of CHWs in Hawai'i, and to improve the comparability of our findings to those of other studies.¹ The 10 EPHS were selected to understand the public health functions of CHWs in Hawai'i. This study did not include human subjects and thus did not require institutional review board oversight.

Results

Scoping Review

UHET collected 92 unduplicated documents via document solicitation and library search. Sixty-eight documents were retained for the scoping review (Figure 1). Table 2 describes both self-reported job titles of CHWs from recent conference registrations and titles used by employers.^{22,23} Commonly reported titles were care coordinator, case manager or worker, community health advocate, community health outreach worker,

health educator, patient navigator, or peer educator. Other titles were also reported, such as community health educator, health care worker, peer advocate, and public health aide.

Descriptive statistics about the documents are reported in Table 3. The oldest document was dated 1995. Just over a third (35.82%) were published since 2015, coinciding with a period of increased workforce development programs. Many reported on statewide projects (41.79%), followed by work on O'ahu (31.34%). Island-specific project examples include a CHW diabetes self-management intervention on O'ahu²⁴ and delivery of a lifestyle-change program on Moloka'i.²⁵ Three documents contained information about a Pacific-²⁶ or national-level project that included work in Hawai'i, including national evaluations.^{27,28} Most documents were academic products such as journal articles (38.81%), followed by reports (26.87%), which included evaluations of conferences or trainings,²⁹ or reports to grantors about curriculum development.³⁰⁻³² We received agendas and minutes for trainings²⁹ or planning meetings,³³⁻³⁶ and strategic plans that envisioned CHWs as part of community behavioral health teams.^{37,38} Lastly, we found state legislative documents regarding CHWs.³⁹⁻⁴¹

Over half of the documents related to educational or training opportunities for CHWs. The oldest document among these dated to 2002 and discussed CHW certificate programs as part of the Wai'anae Health Academy, a partnership between Wai'anae Coast Comprehensive Health Center and Kapi'olani Community College.^{27,42-44} Between 2002-2007, two more college-delivered certificate programs were offered in "Case Management" and "Outreach for Health Promotion," designed by a statewide community advisory group including representatives from Community Health Centers (CHCs) and Native Hawaiian Health Care Systems, convened by the Hawai'i Primary Care Association and funded by the Hawai'i Rural Development Project. More than 150 CHWs participated in 1 or both certificate programs delivered face-to-face on 5 islands through 2007.⁴⁵ The 2015 Department of Labor TAACCCT Grant funded year-long CHW certificate programs at community colleges across the state.⁴⁶

Disease- and/or population-specific trainings were developed, which included diabetes^{47,48} and cardiovascular disease-specific trainings⁴⁹ for CHWs working with Native Hawaiians, Pacific Islanders, and Filipinos. The 'Imi Hale Native Hawaiian Cancer Network developed a cancer patient navigation program for CHWs and outreach workers to facilitate timely cancer screening and treatment.⁵⁰ Three statewide workshops in 2013 were developed specifically to assist CHWs with working with public benefit programs (ie, MedQuest, financial assistance, Social Security, federal housing assistance, Supplemental Nutrition Assistance Program), along with working with special populations (eg, people affected by homelessness, migrants from the nations of the Compact of Free Association).²⁹ In 2017, a training on chronic disease prevention and management occurred at a statewide CHW conference.²³

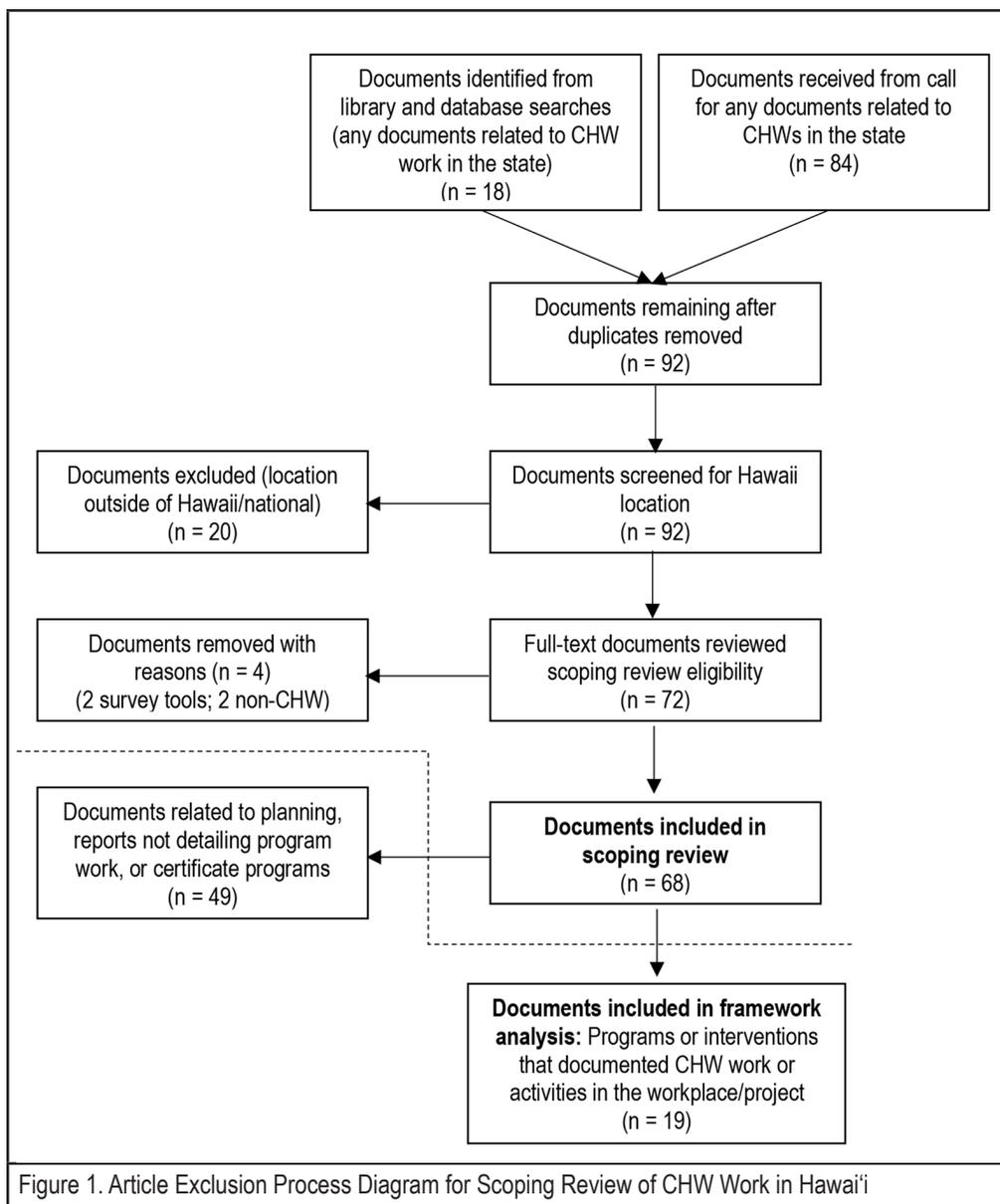
Barriers to advancing the work of CHWs were identified in needs assessments and other documents. Themes from recent documents included the need for more educational and training

Table 1. CDC's Ten Essential Public Health Services Framework ²¹ and the C3 Project CHW Roles ⁵	
10 Essential Public Health Services ²¹	Community Health Worker Core Consensus (C3) Project Roles ⁵
Monitor health status to identify community health problems	Cultural mediation among individuals, communities, and health and social service systems
Diagnose and investigate health problems and health hazards in the community.	Providing culturally appropriate health education and information
Inform, educate, and empower people about health issues	Care coordination, case management, and systems navigation
Mobilize community partnerships to identify and solve health problems	Provide coaching and social support
Develop policies and plan that support individual and community health efforts	Advocating for individuals and communities
Enforce laws and regulation that protect health and ensure safety	Building individual and community capacity
Link people to needed professional health services and assure the provision of health care when otherwise unavailable	Provide direct services
Assure a competent public health and personal health care workforce	Implementing individual and community assessments
Evaluate effectiveness, accessibility and quality of personal and population-based health services.	Conducting outreach
Research for new insights and innovative solutions to health problems.	Participating in evaluation and research

Table 2. Commonly Self-reported and Employer-reported CHW Job Titles in Hawai'i (Alphabetized)	
Commonly Reported	Less Frequently Reported
Care coordinator or care guide	Certified forensic peer specialist
Case managers/case workers	Clinical social worker
Community health advocate or advisor	Community advocate
Community health representative	Community health educator
Community health worker	Community health service program assistant
Community liaison	Community health worker supervisor
Community outreach worker/ community health outreach worker	Community wellness advocate
Enrollment specialist	Doula
Health ambassador	Eligibility worker/manager
Health educator/Lay health educator	Employment counselor/job coach
Patient navigator	Family caregiver
Patient representative	Government and social service specialist
Peer educator	Health care worker
	Housing counselor
	Interpreter
	Mentor/Kupuna
	Nutrition assistant
	Outreach education worker
	Paramedical assistant
	Patient care coordinator
	Peer advocate or advocate
	Public health aides
	Student

Table 3. Document Descriptions	
Description	Frequency (%) (n=68)
Year of Publication	
1999 or older	4 (5.88)
2000-2004	8 (11.76)
2005-2009	16 (23.53)
2010-2014	13 (19.12)
2015 and newer	25 (36.76)
Undated	2 (2.94)
Specific Geographies	
Statewide (all islands)	28 (41.18)
National or Pacific plus any island	3 (4.41)
Any island or combination of islands (except whole state)	37 (54.41)
Any Hawai'i Island ^a	6 (8.82)
Any Kaua'i ^a	4 (5.88)
Any Lāna'i ^a	1 (1.47)
Any Maui ^a	11 (16.18)
Any Moloka'i ^a	9 (13.24)
Any O'ahu ^a	27 (39.71)
Document Type	
Journal articles, dissertations, or poster presentations	27 (39.71)
Reports	18 (26.47)
Certification curricula or flyers	9 (13.24)
Agendas and minutes	8 (11.7)
Strategic plan	3 (4.41)
Legislation	3 (4.41)
CHW Engagement	
Education and training programs	37 (54.41)
Interventions	18 (26.47)
Needs assessment	7 (10.29)
Other	6 (8.82)

^aFrequency of each island mentioned; for example one article mentioned Lāna'i, Hawai'i Island, and O'ahu.



opportunities, resource and information sharing, standardized training curricula, increased pay and reimbursement strategies, and CHW empowerment and support for their work.^{23,51} Training needs related to chronic disease management,^{23,52} including the management of diabetes,^{47,52,53} cardiovascular disease,⁴⁹ heart disease,⁵² and cancer,⁵² were frequently identified. Other topics of interest were learning about community resources^{22,46} for families, working with people experiencing homelessness, and financial aid.^{23,51} An unpublished survey found CHWs sought other additional skills, including crisis management, community building and leadership development, outreach strategies, policy and advocacy, self-care and boundary setting, team building, and working with underserved populations.²³ Barriers to educational programs or workforce development access included program

availability and location⁵⁴ and college entrance requirements, cost, and time limitations of busy CHWs.⁵⁵ Currently, workplaces have addressed some of these issues through in-house training programs;⁵⁴ however a study of professional development programs found these types of programs face a number of worker-, clinic-, and community-related barriers which will require system-level changes to overcome.²⁷

Funding barriers were consistently identified across documents. The staff at Federally-Qualified Health Centers (FQHCs) report previously wanting to hire more CHWs⁵¹ and that CHWs are an integral part of the workforce, but also that CHW positions are constructed from multiple grants and not necessarily reimbursed through other payment sources.⁵⁴ For example, insurers may contract with interpreters for physician appointments, but

interpreters may not be available during scheduled appointments, resulting in CHWs providing those services unreimbursed.⁵⁴ The lack of a career pathway was another barrier identified to advancing the field.⁵⁶ However, one study examining cancer navigators found as the level of navigator education increased, so did the cost of the navigator (ie, navigators who were nurses received higher pay),⁵⁷ suggesting increased education is a means to increased pay.

Documents discussed a number of opportunities, past and present. First, CHC-based CHWs and their employers agree with the APHA's definition of CHWs, and also agree that the C3 Project roles broadly reflect CHWs' scope of work.⁵¹ Support and opportunities from different sectors exist for statewide networking and for potentially starting a CHW association. For example, 6 statewide conferences of CHWs have been held since 2002 to provide networking and training for CHWs, along with encouragement to build a CHW professional association.^{23,58} Among CHWs, support exists to develop task forces or groups^{59,60} for planning around policymaking and legislation.⁵⁹ In addition to the training and certification opportunities mentioned above, FQHCs are in a unique position to provide on-the-job training for CHWs.^{27,54} Two documents reported that CHW-involved interventions yielded cost savings, including reduced hospital utilization among high utilizers for a savings of \$34,681-\$71,338 per navigator,⁶¹ and a 91% drop in emergency department use among pediatric asthma patients, with a savings of \$931 per patient.⁶² Lastly, policies related to CHWs were introduced into the Hawai'i State Legislature³⁹⁻⁴¹ which further demonstrates interest in this growing workforce.

Framework Analysis

For the framework analysis, we further limited the documents to those that directly discussed or evaluated CHWs' interventions or research work, in order to further understand the roles of CHWs in the workplace and analyze their roles vis-à-vis the C3 Project roles and 10 EPHS frameworks. This left 19 studies that specifically discussed the roles in these settings (Figure 1). Documents that discussed training programs, strategic planning, certification, or legislation were excluded from analysis. The included studies discussed chronic disease prevention and management, cancer navigation and screening interventions, a pediatric asthma management and control intervention, and lifestyle change interventions. Four studies⁶³⁻⁶⁶ discussed a single program, the Wai'anae Cancer Research Project, and were combined for analysis.

The C3 Project roles (Table 4) most frequently discussed were "cultural mediation among individuals, communities, and health and social systems," "providing culturally appropriate health education and information," "care coordination, case management, and systems navigation," and "providing coaching and support." Nearly all articles mentioned mediation

between patients or program participants and the health system, including providing assistance to patients overcoming systemic barriers to cancer treatment^{28,69,70} or screening,^{64,68} bridging between patients and clinics to improve treatment compliance,²⁴ navigating social systems,^{61,71} or improving a health system's interventions.⁷¹ Activities were also aligned with providing culturally-appropriate health education and information. For example, in the Wai'anae Cancer Research Project, lay health workers participated in the design of the study materials and implemented a culturally-appropriate intervention for Native Hawaiian women.⁶³⁻⁶⁶ Eleven articles mentioned care coordination, case management, systems navigation, and/or coaching and support. Case management and systems navigation were most prominent in articles regarding cancer services,^{28,63-66,68-71} and other articles mentioned case management as part of the duties of CHWs for other chronic disease interventions.^{24,54,62} Coaching and support were also prominent in cancer-related articles,^{28,63-66,69-71} although CHWs also served as lifestyle coaches for lifestyle-change programs.^{25,54} The C3 Project role that was cited least frequently was "implementing individual or community assessments." For example, doctors trained in cancer screening, rather than CHWs, would provide assessments.⁶⁸ However, CHW-implemented assessments included asthma risk assessments⁶² and community-level assessments in which data collection was conducted via focus groups⁴⁸ or computer-assisted telephone interviewing.⁶³⁻⁶⁶

CHWs perform many of the 10 EPHS services (Table 5). The most frequently performed services were "inform, educate, and empower," "link to or provide care," "assure a competent workforce," and "mobilize community partnerships." CHWs provided health education and promotion across all articles in a variety of chronic disease prevention or management contexts. These included diabetes prevention⁵⁴ and management;²⁴ hypertension management;^{54,67} lifestyle change programs;²⁵ cancer screening, navigation, and education;^{28,48,63-66,68,71} smoking cessation;⁷² emergency department diversion;⁶¹ and pediatric asthma management.⁶² Linkages to other services or provision of care was another key activity conducted by CHWs that was mentioned in all but 1 article. CHWs participated in some type of training program to deliver interventions or to participate in research projects,^{48,50,63,65} which we counted toward "assuring a competent workforce." Additionally, CHWs marshalled community resources to promote health improvement, such as building community-clinical linkages.^{50,54} The least frequently mentioned of the 10 EPHS was the role of CHWs in evaluation.^{69,73} Two of the 10 EPHS were not mentioned in any articles. One was policy development, which includes developing local health policy and state-level planning, and the other was enforcing laws, which includes education on health laws and regulations, and compliance support.²¹

Table 4. Community Health Worker Core Consensus (C3) Project Roles ³ Identified in Studies Included in the Framework Analysis											
Author(s) or Organization(s)	1 [†]	2 [†]	3 [†]	4 [†]	5 [†]	6 [†]	7 [†]	8 [†]	9 [†]	10 [†]	Total
Stupplebeen, et al, 2019 ⁵⁴	X	X	X	X	X	X	X		X	X	9
Braun, et al, 2015 ⁷⁰	X	X	X						X		4
Allison, et al, 2013 ⁷¹			X	X	X	X					4
Braun, et al, 2012 ²⁸	X	X	X	X	X				X		6
Aitaoto, et al, 2012 ⁷³	X	X	X	X		X	X		X	X	8
Fernandes, et al, 2012 ⁶⁷	X	X				X	X		X		5
Domingo, et al, 2011 ⁶⁹	X	X	X	X	X	X					6
Gellert, et al, 2010 ²⁵		X					X				2
Braun, et al, 2008 ⁵⁰	X	X									2
Santos, et al, 2008 ⁷²	X	X		X			X		X		5
Aitaoto, et al, 2007 ⁴⁸								X		X	2
Gellert, et al, 2006 ⁶⁸	X			X					X		3
Beckham S, et al, 2004 ⁶²	X		X	X		X	X	X	X	X	8
A Breast and Cervical Cancer Project in a Native Hawaiian Community: Wai'anae Cancer Research Project (Gotay, et al, 2000; Banner, et al, 1999; Matusnaga, et al, 1996; Banner, et al, 1995). ⁶³⁻⁶⁶	X	X	X	X	X		X	X	X	X	9
Humphry, et al, 1997 ²⁴	X	X	X	X		X	X				6
Cheng, et al, n.d. ⁶¹	X	X	X	X	X	X					6
Total	13	12	11	11	6	8	8	3	9	4	

[†]Key: 1. Cultural Mediation Among Individuals, Communities, and Health and Social Service Systems. 2. Providing Culturally Appropriate Health Education and Information. 3. Care Coordination, Case Management, and System navigation. 4. Providing Coaching and Social Support. 5. Advocating for Individuals and Communities. 6. Building Individual and Community Capacity. 7. Providing Direct Service. 8. Implementing Individual and Community Assessments. 9. Conducting Outreach. 10. Participating in Evaluation and Research.

Table 5. 10 Essential Public Health Services ²¹ Identified in Studies Included in the Framework Analysis											
Author(s) or Organization(s)	A [‡]	B [‡]	C [‡]	D [‡]	E [‡]	F [‡]	G [‡]	H [‡]	I [‡]	J [‡]	Total
Stupplebeen, et al, 2019 ⁵⁴	X		X	X			X	X			5
Braun, et al, 2015 ⁷⁰		X	X	X			X	X			5
Allison, et al, 2013 ⁷¹	X		X	X			X	X			5
Braun, et al, 2012 ²⁸			X	X			X	X			4
Aitaoto, et al, 2012 ⁷³		X	X	X			X	X	X	X	7
Fernandes, et al, 2012 ⁶⁷			X				X	X			3
Domingo, et al, 2011 ⁶⁹	X		X	X			X	X	X		6
Gellert, et al, 2010 ²⁵			X								1
Braun, et al, 2008 ⁵⁰			X	X			X	X		X	5
Santos, et al, 2008 ⁷²			X	X			X	X			4
Aitaoto, et al, 2007 ⁴⁸		X						X		X	3
Gellert, et al, 2006 ⁶⁸			X	X			X				3
Beckham S, et al, 2004 ⁶²	X	X	X				X	X		X	6
A Breast and Cervical Cancer Project in a Native Hawaiian Community: Wai'anae Cancer Research Project (Gotay, et al, 2000; Banner, et al, 1999; Matusnaga, et al, 1996; Banner, et al, 1995). ⁶³⁻⁶⁶	X		X	X			X	X		X	6
Humphry, et a., 1997 ²⁴	X	X	X	X			X	X			6
Cheng, et al, n.d. ⁶¹	X		X	X			X				4
Total	7	5	15	12	0	0	14	13	2	5	

[‡]Key: A – Monitor Health. B – Diagnose & Investigate. C – Inform, Educate, Empower. D – Mobilize Community Partnerships. E – Develop Policies. F – Enforce laws. G – Link to/Provide Care. H – Assure Competent Workforce. I – Evaluate. J – Research.

Discussion

This scoping review found CHWs (and workers functioning as CHWs) have been part of the Hawai'i health landscape for well over 20 years, during which time they have contributed to a number of health interventions with diverse populations. Additionally, formalized training and certification programs have been offered for at least the last 15 years, and a rich and diverse network of non-profit, academic, and government organizations has supported the growth of the CHW field. We identified several barriers and opportunities related to the field. In addition, we performed a framework analysis that examined CHWs roles in Hawai'i related to both public health and the workplace.

To overcome some barriers related to training, distance-learning tools such as Zoom have been used for single-subject trainings and within some certificate programs. Use of these tools, plus asynchronous course delivery, could further promote access to training for CHWs across the state including those in rural, remote communities. Because such efforts may feel less personal than in-person courses, engagement and peer support should be considered in these modalities. Eliminating college admission and financial aid barriers could help in increasing certification enrollment. Programs should also work to ensure that working adults who enroll are able to secure practicum locations that will support their work schedules.⁵⁴ Based on existing best practices, CHWs should be continuously involved in training development, facilitation, and support.⁷⁴

In looking at the C3 Project roles, the least frequently mentioned role was “implementing individual or community assessments”; however, researchers in a few articles mentioned CHWs as fulfilling this role.^{48,62,63-66} Thus, CHWs in Hawai'i may also be engaged in non-clinical roles in the areas of academic research and evaluation. Researchers may want to consider CHWs for positions on their teams. CHWs recently mentioned policy and advocacy as a training need.²³ CHWs in Hawai'i fulfilled many of the 10 EPHS services, although “law enforcement” and “policy development” were not found in this study. These roles may be filled by other types of employees, although CHWs have successfully participated in community-level advocacy to address policies related to the social determinants of health and promote health equity in other settings.^{75,76} CHWs could potentially serve as key informants for health in the community for policymakers.

Lastly, organizations working toward creating momentum for a statewide CHW association should support CHWs' development as leaders in organizing efforts, and provide support for trainings, networking, and reimbursement for CHWs. Lessons learned from other communities and states should be leveraged to build capacity; the new National Association of Community Health Workers can be a capacity building resource. Existing trainings for CHWs could be leveraged into online or distance training formats for greater reach. Building reimbursement infrastructure for CHWs, a multifaceted topic, will require participation of CHWs statewide including those working at non-profits, health centers, and state institutions.

Limitations

This study is not without limitations. We relied on submitted documents and those found via searches, and our reliance on written documents likely led to omission of projects with CHWs that lacked documentation. While written documents are resistant to memory decay,⁷⁷ documents may not contain information germane to the engagement of CHWs. Additionally, we did not receive documents from known CHW employers and no comprehensive list of CHWs or their employers exists, thus, a call for documents may not have reached all CHWs or their employers. Documentation may simply not exist, pointing to a need for further data collection and recording of activities related to the field. It is possible that some documents may have been withheld for unknown reasons. Short-term funding cycles may also hamper information gathering due to turnover and institutional memory loss. As a result, CHWs' contributions to health care in the state are likely underreported. One planned remedy to these issues is the development of a website to house knowledge of Hawai'i CHWs that can be continually updated. Other recommendations for research and data collection include conducting a statewide CHW assessment, collecting oral histories on the CHW movement in the state, and performing updated scoping reviews over time. Finally, documents analyzed could suffer from selection bias, as a large number of documents discussed training programs rather than CHW work in the field. We addressed this through the framework analysis.

Conclusion

This review collected and analyzed 68 documents related to the various contributions of CHWs to Hawaii's health care landscape. CHWs work largely mirrored the nationally recognized C3 Project roles and some of the 10 EPHS services. We have provided a snapshot of the landscape, not a complete picture. This project highlights the need for a comprehensive inventory of CHWs and CHW employers in Hawai'i, and the need for more documentation and research on CHW contributions to the health of Hawaii's communities.

Practical Implications

This article gathers and describes existing documents about community health workers in Hawai'i to show where they have been working, what work they have been doing, and needs of the workforce. We hope this article will expand and support the CHW field in Hawai'i in the future. The documents used in this review are cataloged on a publicly accessible website to assist CHWs and others in their work.

Conflict of Interest

The authors report no conflicts of interest.

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References

- Lohr AM, Ingram M, Nuñez AV, Reinschmidt KM, Carvajal SC. Community-clinical linkages with community health workers in the United States: a scoping review. *Health Promot Pract*. 2018;19(3):349-360.
- American Public Health Association. Support for community health workers to increase health access and to reduce health inequities. <https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2014/07/09/14/19/support-for-community-health-workers-to-increase-health-access-and-to-reduce-health-inequities>. Published November 10, 2009.
- Minnesota Community Health Worker Alliance. Definition. <http://mchwalliance.org/who-are-chws/definition/>. Published 2018.
- World Health Organization. Global health workforce alliance – Community health workers. <https://who.int/workforcealliance/knowledge/themes/community/en/>. Published 2016.
- Rosenthal E, Rush C, Allen C. *Understanding scope and competencies: a contemporary look at the United States community health worker field*. Houston, TX: Project on CHW Policy & Practice, University of Texas- Houston School of Public Health, Institute for Health Policy; 2016. 1-43. <https://sph.uh.edu/dotAsset/28044661-fb10-41a2-bf3b-07efa4fe56ae.pdf>. Published July 2016.
- Kim K, Choi JS, Choi E, et al. Effects of community-based health worker interventions to improve chronic disease management and care among vulnerable populations: a systematic review. *Am J Public Health*. 2016;106(4):e3-e28.
- Nguyen TT, Tsoh JY, Woo K, et al. Colorectal cancer screening and Chinese Americans: efficacy of lay health worker outreach and print materials. *Am J Prev Med*. 2017;52(3):e67-e76.
- Roland KB, Milliken EL, Rohan EA, et al. Use of community health workers and patient navigators to improve cancer outcomes among patients served by federally qualified health centers: a systematic literature review. *Health Equity*. 2017;1(1):61-76. doi:10.1089/nehq.2017.0001.
- Brownstein JN, Bone LR, Dennison CR, Hill MN, Kim MT, Levine DM. Community health workers as interventionists in the prevention and control of heart disease and stroke. *Am J Prev Med*. 2005;29(5):128-133.
- Brownstein JN, Chowdhury F, Norris S, et al. Effectiveness of community health workers in the care of people with hypertension. *Am J Prev Med*. 2007;32(5):435-447.
- Lopez PM, Zanowiak J, Goldfeld K, et al. Protocol for project IMPACT (improving millions hearts for provider and community transformation): a quasi-experimental evaluation of an integrated electronic health record and community health worker intervention study to improve hypertension management among South Asian patients. *BMC Health Serv Res*. 2017;17(1):810. doi:10.1186/s12913-017-2767-1
- Peretz PJ, Matiz LA, Findley S, Lizardo M, Evans D, McCord M. Community health workers as drivers of a successful community-based disease management initiative. *Am J Public Health*. 2012;102(8):1443-6. doi:10.2105/AJPH.2011.300585.
- Murayama H, Spencer MS, Sinco BR, Palmisano G, Kieffer EC. Does racial/ethnic identity influence the effectiveness of a community health worker intervention for African American and Latino adults with type 2 diabetes?. *Health Educ Behav*. 2017;44(3):485-493.
- Viswanathan M, Kraschewski JL, Nishikawa B, et al. Outcomes and costs of community health worker interventions: a systematic review. *Medical Care*. 2010;48(9):792-808
- Martinez J, Ro M, Villa NW, Powell W, Knickman JR. Transforming the delivery of care in the post-health reform era: what role will community health workers play?. *Am J Public Health*. 2011;101(12):e1-e5.
- Durham C, Eyster L, Mikelson KS, Cohen E. *Early results of the TAACCCT grants: the trade adjustment assistance community college and career training grant program brief 4*. Washington, DC: Urban Institute; 2017. 1-21. <https://www.dol.gov/asp/evaluation/completed-studies/20170308-TAACCCT-Brief-4.pdf>. Published February 2017.
- Rutledge GE, Lane K, Merlo C, Elmi J. Coordinated approaches to strengthen state and local public health actions to prevent obesity, diabetes, and heart disease and stroke. *Prev Chronic Dis*. 2018;15(E14):1-7.
- Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol*. 2005;8(1):19-32.
- Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implement Sci*. 2010;5(69):1-9. doi:10.1186/1748-5908-5-69.
- Gale NK, Heath G, Cameron E, Rashid S, Redwood S. Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Med Res Methodol*. 2013;13(117):1-8.
- Centers for Disease Control and Prevention (CDC), Office for State, Tribal, Local and Territorial Support (OSTLTS). The 10 essential public health services an overview. Presentation presented at: OSTLTS meeting; May 23, 2014; Acme, Michigan. <https://www.cdc.gov/stltpublichealth/publichealthservices/pdf/essential-phs.pdf>.
- Kapi'olani Community College. CHW employer feedback survey. Honolulu, HI: Kapi'olani Community College; 2017.
- Hawai'i Department of Health (HDOH). Report for CHW conference 8/25/17 evaluation. Kapolei, HI: Author; 2017.
- Humphry J, Jameson LM, Beckham S. Overcoming social and cultural barriers to care for patients with diabetes. *West J of Med*. 1997;167(3):138-44.
- Gellert KS, Aubert RE, Mikami JS. Ke 'Ano Ola: Molokai's community-based healthy lifestyle modification program. *Am J Public Health*. 2010;100(5):779-83.
- Aitaoto NT, Braun KL, Ichiho, HM, Kuhau R L. Diabetes today in the Pacific: reports from the field. *Pac Health Dialog*. 2005;12(1):124-131.
- Farrar B, Morgan JC, Chuang E, Konrad TR. Growing your own: community health workers and jobs to careers. *J Ambul Care Manage*. 2011;34(3):234-246.
- Braun KL, Kagawa-Singer M, Holden AEC, et al. Cancer patient navigator tasks across the cancer care continuum. *J Health Care Poor Underserved*. 2012;23(1):398-413.
- Spock N. *Public benefits training for outreach workers; public benefits training - part ii; and public benefits and special populations (meeting agendas)*. Honolulu, HI: Hawaii Primary Care Association; 2013.
- LeGare S. Curriculum development report. Kahului, HI: University of Hawai'i, Maui College; 2016.
- Legare S. CHW focus group feedback. Kahului, HI: University of Hawai'i, Maui College; 2016.
- Schlather C, LeGare S. CHW curriculum program evaluation report. Kahului, HI: University of Hawai'i, Maui College; 2018.
- Office of the Governor. *Workforce committee meeting June 25, 2015 (Meeting Minutes and Presentation)*. Honolulu, HI: State of Hawai'i, Health Care Innovation Office; 2015.
- Office of the Governor. *Workforce committee meeting minutes July 23, 2015 3:00pm- 4:30pm (Meeting Minutes and Presentation)*. Honolulu, HI: State of Hawai'i, Health Care Innovation Office; 2015.
- Office of the Governor. *Hawai'i health care innovation models project workforce committee meeting August 27, 2015 (Meeting Minutes and Presentation)*. Honolulu, HI: State of Hawai'i, Health Care Innovation Office; 2015.
- Office of the Governor. *Hawai'i health care innovation models project workforce committee meeting October 15, 2015 (Meeting Minutes and Presentation)*. Honolulu, HI: State of Hawai'i, Health Care Innovation Office; 2015.
- Office of the Governor, The Hawai'i Healthcare Project. State of Hawai'i healthcare innovation plan. https://governor.hawaii.gov/wp-content/uploads/2015/06/Hawaii-Healthcare-Innovation-Plan_FINAL.pdf. Honolulu, HI: Office of the Governor; 2014.
- Relating to apprenticeships. HR HB1638 HD2 SD1, 29th leg, regular sess of 2018 (HI).
- Requesting the department of health to establish a certification process, an oversight board, and a reimbursement process for services for community health workers. HR SCR 100, 29th leg, regular sess of 2018 (HI)
- Requesting the department of health to establish a certification process, an oversight board, and a reimbursement process for services for community health workers. HR SR 59, 29th leg, regular sess of 2018 (HI)
- Wai'anae Health Academy. *Wai'anae health academy: Ola Loa Ka Naauao (Brochure)*. Wai'anae, HI: Wai'anae Coast Comprehensive Health Center; 2002.
- Wai'anae Health Academy. *Community health worker I general course (Brochure)*. Wai'anae, HI: Wai'anae Coast Comprehensive Health Center; 2002.
- Wai'anae Health Academy. *Community health worker II general course (Brochure)*. Wai'anae, HI: Wai'anae Coast Comprehensive Health Center; 2002.
- Spock N. Report on Department of Labor funds contracted through mcc rural development project, 2002-2008. Honolulu, HI: Hawaii Primary Care Association; 2008.
- Schlather TC. *Community health worker certificate program evaluation [dissertation]*. Honolulu, HI: University of Hawai'i at Mānoa, 2018.
- Look MA, Baumhofer NK, Ng-Osorio J, Furubayashi JK, Kimata C. Diabetes training of community health workers serving native Hawaiians and Pacific people. *Diabetes Educ*. 2008;34(5):834-840.
- Aitaoto NT, Braun KL, Dang KL, Soa TL. Cultural considerations in developing church-based programs to reduce cancer health disparities among Samoans. *Ethn Health*. 2007;12(4):381-400. <https://doi.org/10.1080/13557850701300707>.
- Moleta CDI, Look MA, Trask-Batti MK, Mabellos T, Mau ML. Cardiovascular disease training for community health workers serving native Hawaiians and other Pacific peoples. *Hawaii J Med Public Health*. 2017;76(7):190-198.
- Braun KL, Allison A, Tsark JU. Using community-based research methods to design cancer patient navigation training. *Prog Community Health Partnersh*. 2008;2(4):329-340.
- Spock N. Final report on HPCA-CHW Project: CHW engagement, December 15, 2015-June 30, 2016. Honolulu, HI: Hawai'i Primary Care Association; 2016.
- Hawai'i Department of Health. Hawai'i CHW survey 2017. Kapolei, HI: Hawaii Department of Health; 2017.
- Look MA, Furubayashi JK. *Ulu reports: Ulu Network strategic directions, 2004-2007*. Honolulu, HI: John A. Burns School of Medicine, Department of Native Hawaiian Health; 2004.
- Stuppelbeen DA, Sentell TL, Pirkle CM, et al. Community health workers in action: community clinical linkages for diabetes prevention and hypertension management at three CDC 1422 grant-funded community health centers. *Hawaii J Med Public Health*. In press.
- Spock N. Final Report, Community health worker training program September 15, 2002-June 15, 2004. Pu'unene, HI: Hawai'i Primary Care Association; 2004.
- Mandari D, Mersberg S. Educational interests and barriers of community health workers in Hawai'i. University of Hawai'i at Mānoa, Honolulu, HI; 2011.

57. Domingo, JB, Braun KL. Characteristics of effective colorectal cancer screening navigation programs in federally qualified health centers: a systematic review. *J Health Care Poor Underserved*. 2017; 28(1):108–126.
58. Spock N. Community health workforce development program. Pu'unene, HI: Hawaii Primary Care Association; 2006.
59. Moir S, Yasutake J. 2017 Community health worker priority survey. Honolulu, HI: Hawaii Public Health Institute; 2017.
60. Papa Ola Lōkahi. The Native Hawaiian Health Care Systems community health worker survey results. Honolulu, HI: Papa Ola Lōkahi; 2018.
61. Cheng D, Hilmes C, Nishizaki L, Shearer A. Improving homeless care while reducing utilization. Poster. Honolulu, HI.
62. Beckham S, Kaahaaina, D, Voloch K, Washburn A. A community-based asthma management program: effects on resource utilization and quality of life. *Hawai'i Med J*. 2004;63(4):121–126.
63. Banner RO, DeCambra H, Enos R, et al. A breast and cervical cancer project in a Native Hawaiian community: Wai'anae cancer research project. *Prev Med*. 1995;24(5):447-453.
64. Banner RO, Gotay CC, Matsunaga, DS et al. Effects of a culturally tailored intervention to increase breast and cervical cancer screening in Native Hawaiians. In Glover CS, Hodge FS, eds. *Native outreach: A report to American Indian, Alaska Native, and Native Hawaiian communities*. Bethesda, MD: National Institute of Health/National Cancer Institute Office of Special Populations; 1999: 45-55.
65. Matsunaga DS, Enos R, Gotay CC, et al. Participatory research in a Native Hawaiian community: The Wai'anae Cancer Research Project. *Cancer*. 1996;78(7):1582-1586.
66. Gotay, C. C., Banner, R. O., Matsunaga, D. S. et al. Impact of a culturally appropriate intervention on breast and cervical screening among native Hawaiian women. *Prev Med*. 2000;31(5):529–537.
67. Fernandes R, Braun KL, Spinner JR, et al. Healthy heart, healthy family: a NHLBI/HRSA collaborative employing community health workers to improve heart health. *J Health Care Poor Underserved*. 2012;23(3):988-99.
68. Gellert K, Braun KL, Morris R, Starkey V. The 'Ohana Day Project: a community approach to increasing cancer screening. *Prev Chronic Dis*. 2006;3(3):A99.
69. Domingo JB, Davis EL, Allison AL, Braun KL. Cancer patient navigation case studies in Hawai'i: the complimentary role of clinical and community navigators. *Hawaii Med J*. 2011;70(12):257-61.
70. Braun KL, Thomas WL, Domingo JL, et al. Reducing cancer screening disparities in Medicare beneficiaries through cancer patient navigation. *J Am Geriatr Soc*. 2015;63(2):365-70.
71. Allison AL, Ishihara-Wong DDM, Domingo JB, et al. Helping cancer patients across the care continuum: the navigation program at Queen's Medical Center. *Hawaii J Med Public Health*. 2013;72(4):116-121.
72. Santos L, Braun KL, Ae'a K, Shearer L. Institutionalizing a comprehensive tobacco-cessation protocol in an indigenous health system: lessons learned. *Prog Community Health Partnersh*. 2008;2(4):279-89.
73. Aitaoto N, Braun KL, Estrella J, Epeluk A, Tsark J. Design and results of a culturally tailored cancer outreach project by and for Micronesian women. *Prev Chronic Dis*. 2012;9:E82.
74. The University of Arizona, Arizona area Health Education Centers Program, Community Health Worker National Education Collaborative. *Key considerations for opening doors: developing community health worker education programs*. Tucson, AZ: Arizona Area Health Education Centers Program, The University of Arizona; 2008.
75. Sabo SJ, Ingram M, Reinschmidt KM, et al. Predictors and a framework for fostering community advocacy as a community health worker core function to eliminate health disparities. *Am J Public Health*. 2013;103(7).
76. Ingram M, Schachter KA, Sabo SJ, et al. A community health worker intervention to address the social determinants of health through policy change. *J Prim Prev*. 2014;32(2):199-123.
77. Weiss CH. *Evaluation*. 2nd ed. Upper Saddle River, NJ: Prentice Hall; 1998.

Community Health Workers in Action: Community-Clinical Linkages for Diabetes Prevention and Hypertension Management at 3 Community Health Centers

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Abstract

In 2014, the Hawai'i State Department of Health (HDOH) received funding from the Centers for Disease Control and Prevention (CDC), via the 1422 Cooperative Agreement, to conduct diabetes prevention and hypertension management. To implement one grant-required strategy—the engagement of community health workers (CHWs) to promote community-clinical linkages—the HDOH partnered with the Hawai'i Primary Care Association and 9 federally qualified health centers (FQHCs). This qualitative evaluation case study sought to understand how 3 of the funded FQHCs engaged CHWs, the types of community-clinical linkages the CHWs promoted, and the facilitators of and barriers to those linkages. Evaluators conducted 2 semi-structured group interviews with 6 administrators/clinicians and 7 CHWs in April 2018. The transcribed interviews were deductively and inductively analyzed to identify major themes. First, CHWs made multiple internal and external linkages using resources provided by the grant as well as other resources. Second, CHWs faced barriers in making community-clinical linkages due to individual patient, geographic, and economic constraints. Third, CHWs have unmet professional needs related to building community-clinical linkages including professional development, networking, and burnout. Reimbursement and payment mechanisms are an all-encompassing challenge to the sustainability of CHW positions, as disease-specific funding and a complete lack of reimbursement structures make CHW positions unstable. Thus, CHWs fulfill a number of grant-specific roles at FQHCs due to this patchwork of funding sources, and this relates to CHWs' experiences of burnout. Policy implications of this study include funding and reimbursement stabilization so FQHCs may consistently engage and support the CHW workforce to meet their patients' complex, diverse needs. More professional development opportunities for CHWs are necessary to build sustainable networks of resources.

Keywords

Community health workers, CHW, community-clinical linkages, diabetes, hypertension

Highlights

- CHW roles cut across grants, creating multiple types of community-clinical linkages for FQHC clients.
- CHWs develop linkages through networks, but need time to expand networks further.
- Client characteristics, FQHC locations, and economic issues are barriers to linkages.
- To increase CHW capacity for disease prevention/management, more training is needed.
- Stabilizing funding and reimbursement to support the CHW workforce is critical.

Abbreviation List

CHW = community health worker
FQHC = federally qualified health center
HDOH = Hawai'i Department of Health
HPCA = Hawai'i Primary Care Association
UHET = University of Hawai'i Evaluation Team (Office of Public Health Studies)
NDPPLCP = National Diabetes Prevention Program Lifestyle Change Program

Introduction

Community health workers (CHWs) are known by many names: *promotoras/es*, community care coordinators, community health educators, patient navigators, and community outreach workers, among others.¹ They are frontline health workers who are trusted members of the community. They often bridge community and health/social services, work to increase access to those services, and support efforts to improve health care quality and cultural competence.² Common roles of CHWs include serving as cultural mediators between patients and systems and providing culturally-appropriate health education, information, or direct services.³ Additionally, CHWs play key roles in health intervention delivery, both across the country and in Hawai'i, including the prevention of heart disease and stroke,⁴⁻⁷ hypertension management,⁸ diabetes self-management,⁹⁻¹⁰ cancer screenings and services,¹¹⁻¹⁵ cancer navigation,¹⁶⁻¹⁷ and asthma control.¹⁸⁻¹⁹ Furthermore, CHWs are a key part of diabetes and hypertension interventions targeting members of the Asian, Native Hawaiian, and Pacific Islander communities.²⁰

CHWs are important to providing community-clinical linkages to clinic patients. These linkages, or referrals, connect patients with services that can aid in the prevention of disease. These include extending resources beyond the clinical setting,²¹ such as linkages to food retailers²²⁻²³ or physical activity venues.²² Other types of services that are linked to may include cancer screening services,^{1,11,24} lifestyle change programs,^{1,25-26} or services that address patients' needs as related to the social determinants of health.¹ Through understanding community needs and patient-CHW cultural concordance, CHWs can positively affect both patient-level^{9,27} and community-level outcomes.²⁸⁻²⁹

In 2014, the Centers for Disease Control and Prevention (CDC) released the State and Local Public Health Actions to Prevent Obesity, Diabetes, Heart Disease and Stroke cooperative agreement under the CDC 1422 Cooperative Agreement (hereafter, referred to as the 1422 grant). The Hawai'i Department of Health (HDOH), a grant awardee, partnered with the Hawai'i

Primary Care Association (HPCA) and 9 federally qualified health centers (FQHCs) to implement local-level health systems' interventions. These FQHCs are located in communities with health disparities related to diabetes, heart disease, stroke, and hypertension, especially among priority populations including Native Hawaiians, Pacific Islanders, and Filipinos. One grant strategy was to support diabetes prevention and hypertension control efforts through the promotion of community-clinical linkages by CHWs.³⁰ The current study, as part of the grant evaluation, sought to understand how these health centers engaged CHWs to promote community-clinical linkages and enumerate those linkages. Study objectives were to describe how FQHCs engaged with CHWs, types of community and clinical resources that CHWs referred community members to, and facilitators of and barriers to CHWs' engagement at clinics and with patients.

Methods

Evaluation Collaboration

The HDOH contracted the University of Hawai'i at Mānoa Evaluation Team (UHET) in the Office of Public Health Studies to evaluate grant activities related to CHWs and community-clinical linkages. The HDOH, the HPCA, and the UHET identified 3 FQHCs with high levels of CHW engagement throughout the term of the cooperative agreement. These FQHCs were Kokua Kalihi Valley Comprehensive Family Services, located in urban Honolulu, O'ahu; Lāna'i Community Health Center in Lāna'i City, Lāna'i; and West Hawai'i Community Health Center, Kailua-Kona, Hawai'i Island. These centers serve varied geographic areas and patient demographic groups (Table 1).

Study Design

This evaluation study used qualitative methods. Evaluators created 2 semi-structured group interview guides, 1 for CHWs and 1 for administrators and clinicians. Guides asked about the types of community-clinical linkages identified and provided by CHWs, how CHWs were engaged in the grant goals of diabetes prevention and hypertension management, and the barriers to and facilitators of CHW engagement. A group of 7 CHWs and a separate group of 6 clinician/administrators were interviewed in April 2018 at Lāna'i Community Health Center after a quarterly learning session which was part of the FQHCs' 1422-related activities. Each group interview lasted 75 minutes.

Data Analysis

Interviews were transcribed verbatim, then deductively coded in Nvivo 11 (QSR International), based on the interview guide and grant structure. The primary coder (DS) also coded inductively for emergent themes. Themes were then validated by interviewees during 4 webinars conducted in July 2018; 3 webinars included the CHWs from each FQHC, and a fourth webinar included all clinician/administrator participants. Feedback was incorporated into the study results.

Ethics Statement

The University of Hawai'i at Mānoa Institutional Review Board (UH IRB #2018-00226) approved this study. All participants provided informed consent.

Results

Four major thematic areas emerged from the interviews. The themes are presented in Table 2.

Theme 1: CHWs Made Multiple Internal and External Linkages

One CHW said their role was *"to link resources from the community to the clinic, the clinic to the community, so we serve as that bridge. Linking people to services."* To that end, CHWs made linkages to programs in their clinics and community-clinical linkages external to the clinic, which were both 1422 grant-specific or related to other grants and resources (Table 3). Internal programs may already exist at clinics (eg, urban farm, tobacco cessation) or were created out of a need for programs in the community due to isolation (eg, exercise programs). External community-clinical linkages related to lifestyle change included linkages to food retailers, food banks, wellness classes, and other lifestyle change services (eg, Ornish program). In addition, program participants were referred to behavioral health providers or to organizations that address other financial or systemic barriers that affect health. One administrator put it this way: *"Their problem may not be their health, it might just be getting some food on the table or housing. If you're not addressing the social determinants, then you're not addressing that whole person."* To address these determinants, CHWs provided a number of direct services, including program eligibility counseling and outreach and education services in different venues (Table 4). External linkages were built through networking; CHWs met community organizations of all types to learn more about local services to offer their patients: *"We've kind of built...this community resource book. It's a big binder and we just stick like business cards in there and different brochures and pamphlets that when we meet people outside."*

As part of the 1422 grant, CHWs also implemented intervention activities related to both the National Diabetes Prevention Program Lifestyle Change Program (NDPPLCP), such as lifestyle change classes, and self-measured blood pressure monitoring programs, including training patients on blood pressure monitor use, measurement recording, medication reconciliation, dietary and physical activity modification, stress management strategies, and home visits. CHW implementation of these activities assisted referrals to varied resources for both intervention participants and patients in general. Additionally, CHWs planned and coordinated supplementary activities for the NDPPLCP, as described by one CHW: *"You have to be able to demonstrate the things that [participants] can do and I think that was keeping them really engaged. You have to do things like cooking demos ... we've done everything from doing bicycles ... to doing yoga to Zumba Pound [Zumba with sticks]... You really have to embellish that curriculum to make it alive."*

Interviewees also reported providing interpretation and translation services for patients in a number of languages in support of grant goals.

Theme 2: CHWs Face Multilevel Barriers in Making Community-clinical Linkages

CHWs and administrators reported barriers to community-clinical linkages for lifestyle change across individual patient, geographic, and economic levels. Individual patient barriers included time or willingness to participate in programmatic resources, which required CHWs to be persistent in motivating patients to engage in resource referrals. One administrator

relayed a story about one patient-CHW interaction: “[A CHW] would follow that one patient that’s like ‘nope, I don’t wanna exercise today, I don’t wanna exercise.’” Geographic barriers stemmed from clinic isolation or the size of the area served. One health center services an 80-mile corridor, while another is “so isolated that we’re almost a one-stop shop.” Geographic isolation intersected with economic issues related to island shipping patterns, which also made linkages for lifestyle change difficult: “[W]e have to rely on the barge to bring us our food and then it’s at a higher cost... they see something cheaper that’s unhealthy they’re gonna go for that... No one wants to spend \$50 on a couple vegetables.”

	Kokua Kalihi Valley ^a	Lāna'i Community Health Center ^b	West Hawai'i Community Health Center ^c
Total Patients	10 842	2010	15 446
Total Adults >18 Years (%)	6256 (58%)	1324 (66%)	8826 (57%)
Race & Ethnicity (% known)			
Hispanic/Latino	2.11%	8.81%	13.35%
Asian	18.46%	45.97%	8.84%
Native Hawaiian or Other Pacific Islander	77.90%	16.74%	21.80%
More than One Race	0.45%	19.91%	31.73%
Best Served in a Language Other than English (%)	46.00%	N/A	5.88%
Poverty Status			
At or Below 200% of Poverty	97.66%	53.83%	81.69%
At or Below 100% of Poverty	77.02%	24.56%	55.74%
Insurance			
Uninsured	15.95%	12.74%	5.92%
Medicaid/CHIP	56.45%	19.80%	60.02%
Medicare	5.25%	10.40%	11.17%
Dually Eligible	N/A	0.30%	4.13%
Other Third Party	22.36%	57.06%	22.89%
Special Populations			
Homeless	0.48%	0.35%	3.96%
Agricultural Worker	0.05%	0	2.68%
Public Housing Resident	100.00%	0	0
Veterans	0.06%	3.13%	2.29%
Clinical Data			
Hypertension (% of estimated adult patients ages 18-85)	37.15%	19.56%	25.62%
Diabetes (% of estimated adult patients ages 18-75)	34.19%	13.00%	13.34%
Disease Management			
Controlled Hypertension (<140/90) among Those with Hypertension ^d	72.17%	43.96%	57.08%
Poor Diabetes Control or No Test During Year among Those with Diabetes ^e	38.91%	35.96%	26.38%

*All data from the Health Resources & Service Administration "2017 Health Center Profile, Health Center Program Grantee Profiles" website: <https://bphc.hrsa.gov/uds/datacenter.aspx?q=d&year=2017&state=HI#glist>, combining the three health center profiles for comparison.

^aKokua Kalihi Valley profile: <https://bphc.hrsa.gov/uds/datacenter.aspx?q=d&bid=093410&state=HI&year=2017>.

^bLāna'i Community Health Center profile: <https://bphc.hrsa.gov/uds/datacenter.aspx?q=d&bid=0931570&state=HI&year=2017>.

^cWest Hawai'i Community Health Center profile: <https://bphc.hrsa.gov/uds/datacenter.aspx?q=d&bid=0924640&state=HI&year=2017>.

^dBased on Centers for Medicare & Medicaid Services (CMS) Measure ID CMS165v5 (NQF Number 0018): <https://ecqi.healthit.gov/ecqm/measures/cms165v5>.

^eBased on Centers for Medicare & Medicaid Services (CMS) Measure ID CMS122v5 (NQF Number 0059): <https://ecqi.healthit.gov/ecqm/measures/cms122v5>.

Table 2. Interview Themes, Subthemes, and Representative Quotes	
Theme 1: CHWs made multiple internal and external linkages	
Subthemes: Building internal and external linkages • Bridging community and clinic • Resource referrals related to social determinants of health • Internal and external resources • Resource networking ----- 1422: National Diabetes Prevention Lifestyle Change Program • Program delivery • Community-clinical linkages ----- 1422: Self-measured blood pressure monitoring programs • Program delivery • Home visits and monitoring • Community-clinical linkages	Representative Quotes: <i>"I do medical insurance through QUEST^a and the Affordable Care Act. I do smoking cessation. I do both the diabetes prevention program and the high blood pressure. What else? I do translation for them. I do... financial aid and the SNAP^b program with them. And housing application as well." – A CHW</i> ----- <i>"...for a CHW, for myself a big part of it is I also have pre-diabetes, so encouraging like the people in our group to work together. So planning extra activities like a walk or a bike ride and let's do this together." – A CHW</i> ----- <i>"We have Zumba, yoga, Tai-Chi. We have senior Tai-Chi, senior chair Yoga so a variety of classes for a variety of age groups. So whatever they think will work best for them or how they can best get out of it for either their blood pressure or their diabetes or pre-diabetes. Whichever class they think will fit best for them we offer." – A CHW</i>
Theme 2: CHWs face multilevel barriers in making community-clinical linkages	
Subthemes: Patient barriers • Cultural barriers • Individual barriers ----- Contextual barriers • Geographic and clinic isolation • Economic barriers	Representative Quotes: <i>"I didn't realize that a big part of the influence here really is the way we grew up. Because we come from plantation style living and it's different. It's a lot of cultural things." – An administrator</i> <i>"Like for example for coming from the men for my place the Chuukese men, when they heard of Hula and their mind thinking it's for women only because they shake their booty, they don't want to do that. And then when Kumu^c introduce the kind of dancing with the similar to our cultures like canoeing." – A CHW</i> ----- <i>"[B]ecause we're so isolated, that we're almost like a one-stop ... place here yeah. Like a one-stop-shop. So we do everything from pre-K to Kupuna,^d so that's health education in the schools." – A CHW</i> <i>"[W]e have an 80 mile corridor for heaven's sake." – An administrator</i> <i>"One of our barriers within the context of managing those diseases is the limited access to food and the cost of food. And I know occasions where we've had people come over for food demonstrations, they're going to go to the market and buy the appropriate food, they don't bring enough budget and they come back and they go, how does anybody eat on this island?" – A CHW</i>
Theme 3: CHWs have unmet professional needs related to community-clinical linkages	
Subthemes: Education and knowledge • Education on specific diseases • Resource networking ----- CHW burnout • Number of roles CHW asked to play due to funding structure	Representative Quotes: <i>"...What we do is the basic and share T2^e even for our patients with the diagnosis of diabetes or chronic disease because that's what we have. That's our education and our background right now. So to go into more detail for ... I'll just use an example for like a Filipino man that his BMI^f is 18 but his A1C^g is high. We can't tell him to lose weight so we need to tell him to eat more healthy but we can't make those recommendations. So I would like to know how or learn more about diets... The carbs to so-and-so ratio that stuff." – A CHW</i> ----- <i>"They each are trained in all of the different things because it doesn't make sense for us to assign one to one group and another to another group. We're small, but they reach different people, so if you're trying to cover the whole population, then you've gotta train them all in everything." – An administrator</i>
Theme 4: Reimbursement and payment mechanisms are an all-encompassing challenge to CHW sustainability	
Subthemes: Challenges • Position funding structure and grantmaking • Current reimbursement structure ----- Opportunities • Statewide policies on reimbursement • Certification to reimbursement pathway • Other payment mechanisms (eg, global payment)	Representative Quotes: <i>"If some of this reform would actually pay for care coordination, well, it is, but it's limited only to Medicare and it's only 40 bucks a pop, so it barely pays for anything." – An administrator</i> ----- <i>"We really are going to run into a crisis in doing some of the things that CDC^h has asked because I don't see a financing system through the delivery system. I do see greater value in having us work much more closely with the Department of Health, the public health sector and employers to make this work but having it all on our shoulders and suddenly deciding that we're going to be the ones to make this work, when it's actually lifestyle changes." – An administrator</i>

aQUEST: The State of Hawai'i "Med-QUEST" low-income adults and children health insurance plans. ^bSNAP: US Department of Agriculture Supplemental Nutrition Assistance Program. ^cKumu: In this case, refers to a kumu hula, or a hula teacher. ^dKupuna: A grandparent or elder. ^eT2: Refers to the US Centers for Disease Control and Prevention Prevent T2! National Diabetes Prevention Program lifestyle change program curriculum. ^fBMI: Body mass index. ^gA1C: Refers to hemoglobin A1c, a measure of blood sugar. ^hCDC: US Centers for Disease Control and Prevention

Table 3. Community-clinical Linkages Provided by CHWs	
Linkage Location	Linkages
Community linkages related to 1422	<ul style="list-style-type: none"> • 211 referrals • Blue Zones^a qualified retailers • Food banks • Ornish^b diet providers • Physical activity providers/opportunities (eg, fun runs, fitness classes) • Veggie Rx^c program/SNAP^d recipients • Wellness classes
Internal linkages or programming related to 1422	<ul style="list-style-type: none"> • Behavioral health specialists (individual and group) • Bicycling program • Dance/exercise classes (eg, hula, yoga, or Zumba) • Farmer's market and "Double Bucks"^e • Food/cooking demonstrations and education • Telemedicine • Tobacco cessation • Urban farm
Other resource linkages	<ul style="list-style-type: none"> • Farm sites • Legal aid/immigration assistance • Housing and Section 8 counseling • Child care assistance • Pharmacist • Other diabetes prevention program • Sewing program • Utility payment assistance

^aRetailers participating in the Blue Zones Project. ^bOrnish Lifestyle Medicine providers. ^cFruit and vegetable "prescriptions". ^dUS Department of Agriculture Supplemental Nutrition Assistance Program. ^eDoubles food stamp amounts (up to a certain amount) for shopping at farmers' markets

Table 4. Additional CHW Roles Unrelated to CDC 1422 Grant	
Direct Services	<ul style="list-style-type: none"> • Behavioral health counseling (individual and group) • Family planning • Flu vaccination drives • Glucose monitoring • Screening at community and employer venues • Perinatal support services • Tobacco cessation • Translation and interpretation (informal and medical) • Youth group/counseling
Program Eligibility/Application	<ul style="list-style-type: none"> • Dental insurance • Food Stamps/EBT • Housing and Section 8 eligibility • Immigration assistance (COFA^a/DACA^b) • Insurance eligibility and enrollment (ACA^c and Med-QUEST^d/Medicaid) • Medication assistance (ProCare Rx/340B)^e • Welfare/TANF^f applications
Outreach & Education	<ul style="list-style-type: none"> • Education and outreach at homeless shelters • Fall prevention/education • Health/STI^g education in schools • Outreach at community and employer venues • Patient outreach in-person or over the phone
Other Duties	<ul style="list-style-type: none"> • Documentation of patient interaction

^aCompact of Freely Associated States (includes people from the Federated States of Micronesia, the Republic of the Marshall Islands, and Palau). ^bDeferred Action for Childhood Arrivals, or undocumented children brought to the US by parents. ^cAffordable Care Act. ^dState of Hawaii's "Med-QUEST" low-income adults and children health insurance plans. ^ePrescription fulfillment and processing for Health Resources and Services Administration FQHCs. ^fTemporary Assistance for Needy Families. ^gSexually transmitted infections.

Theme 3: CHWs Have Unmet Professional Needs Related to Community-clinical Linkages

CHW professional needs and concerns directly related to the first theme, of CHW roles and linkage-making, as well as the fourth theme, of funding, discussed further below. An administrator reflected on the knowledge required to fulfill the many roles CHWs play:

"[I]t is a huge learning curve because you are working so broadly with patients and community members that it's almost like you have to know a little bit of everything but not be an expert in it. And that's a lot to hold. So there's always this kind of learning curve, they're always like, 'oh I need to learn this, I need to learn this' and it's a lot. So, I think that's the challenge of the community health worker."

Administrators and CHWs discussed wanting more opportunities for education and networking in order to facilitate more linkages, and ways of bridging this knowledge gap. One such opportunity was "lunch and learn" trainings at the clinic. Another was the CHW certification program offered at community colleges across the state. Although some CHWs had completed the certification program, administrators mentioned that accessing distance learning programs was a problem. Another administrator said CHW certificate students experienced conflicts in scheduling practicum hours because their current workplaces had shifting schedules, which affected program participation and completion. These issues led one FQHC to develop its own CHW on-the-job training program to address specific health needs of the community. Tangentially, this led CHWs and administrators to mention issues related to burnout. A CHW put this succinctly: *"I want to say it's a 24/7-hour job because we live in the communities that we serve... that's one thing that I would like people to know is that it's a non-stop position. We get stopped like on our Costco errand and asked for a resource..."* The health centers have addressed the issue of burnout by holding boundary-setting trainings for CHWs, and creating formal opportunities for connection through sharing meals with clients and making the work more enjoyable for CHWs. Lastly, weekly debriefings between CHWs and clinic staff was another way to manage burnout and to troubleshoot issues with patients.

Theme 4: Reimbursement and Payment Mechanisms are an All-encompassing Challenge to CHW Sustainability

Challenges with, and opportunities for, reimbursement and payment, was the final theme, which touched on the multiple issues mentioned above. Obtaining enough funding for a full-time position required CHWs to not only increase community-clinical linkages, but also to fulfill a number of roles, including delivery of 1422 grant-related and non-related interventions:³⁰ *"[I]f we follow the [1422 grant CHW] job description... we'd have a dysfunctional community health worker 'cause it would be too narrow. We have three or four funding sources that have allowed us to get community health workers.'" CHW positions were funded by multiple grants, including tobacco funds, pre-natal support services, Special Supplemental Nutrition Program*

for Women, Infants and Children funds, and a Department of Health & Human Services grant. One administrator noted: “[E]ventually [the] tobacco grant is going to run its course. This grant is going to run its course. So it’s kind of like, if we don’t get some kind of payment reform, what are we gonna do? Because we need these workers” and continued, “It’s a struggle every time a grant ends.” The plethora of funding streams and requirements made CHWs feel “pulled every which way” and as though they “have to do a little bit of everything,” which was related to CHW’s experiences of burnout. The need to cross-train CHWs to stand in for each other in case of illness or absence amplifies this effect. As grants begin or end, the role of the CHW also changes. Lastly, another administrator mentioned CHWs sometimes provide critical, unreimbursed services, such as medical interpretation, when insurance-contracted translators are unavailable during patient appointments:

“I think that the funders need to know that the insurance companies, they’re supposed to pay for interpretation and things like that, but when the patients go to the appointments, the specialist appointments, [the interpreters] are not there. We are actually sending our CHW with the patient and they explain all these things that needs to be done, but we don’t get paid for it.”

In fulfilling diverse functions like translation, outreach, and service provision, CHWs helped FQHCs pivot to being more community-centered. One administrator stated: “[W]e needed to [move] from patient-centered to more community centric... it was really key...for most of the community health centers to really speak the language, to be cultural liaisons, be patient advocates, be facilitators of resources within the community.” To sustain CHW positions, administrators offered a number potential solutions: “I think that’s where we need to move is towards statewide policies that really support the CHW... We need something at the legislative level that would support that as a legitimate position and role, that would actually get paid.” One administrator expressed concern that if CHW certification was the main route to reimbursement, challenges in CHWs accessing certification programs could result in unreimbursed CHWs, especially in rural areas. Global payment mechanisms or having both public and private insurers pay for chronic care management may be paths to sustainability. However, all administrators agreed change is required to adequately reimburse the workers who fill this vital role.

Discussion

The evaluation findings reveal how CHWs successfully supported community-clinical linkages for a number of health-related determinants and conditions, including diabetes prevention and hypertension management. CHWs were instrumental in the cultivation and/or development of internal or external resources, including exercise or education programs for patients, including those with prediabetes and hypertension. For patients in general, CHWs assisted with linkages to needed resources to overcome some of the social determinants of poor health. The specific community-clinical linkages offered in Hawai‘i reflect many of the diverse interventions and program linkages CHWs

implement nationally related to maternal and child health, cancer prevention and screening, fall prevention, diabetes prevention and management, and hypertension management.³² It is unclear from the literature, however, how CHWs form these linkages or maintain them.¹ In this study, CHWs reported they refer to internally available resources, known external resources, and also work through their own external networking efforts. CHWs noted a need for additional resources to refer clients to, and said they would like to receive further networking support with community organizations to help extend the net of referral services.

The geographic locations of clinics affected CHW work. Rural and urban settings had different needs and available resources. The staff at one isolated clinic created their own internal resources in order to facilitate lifestyle change for clients, a step beyond the community-clinical linkages model, because nothing was available in the community. Although all FQHCs employ a community-centered model,³³ more funds are needed to ensure that health centers in low-resource areas are able to create, grow, and sustain programs internally to fill existing resource gaps. This may include funding to hire physical activity specialists to supplement the work of CHWs. As one of the deliverables over the course of the grant, FQHC staff (including CHWs) networked with one another, strengthening networks and linkages. Although not discussed in the interviews, funders of CHW interventions may want to consider providing additional networking opportunities across clinics to address locating and accessing resources.

Systemic and funding issues have policy implications. Administrators and clinicians in this study mentioned the need for stable funding and reimbursement environments for FQHCs to engage CHWs and to support the CHW workforce to meet FQHC patients’ complex, diverse needs on a consistent basis. The literature reflects these concerns.^{14,34-36} Educational opportunities beyond certification were mentioned as an outstanding need. Some Hawai‘i-tailored training courses for CHWs related to diabetes management³⁷ and hypertension³⁸ already exist. Funders should consider assisting the expansion of these training courses and providing travel assistance to support CHWs’ attendance. Additionally, certification program staff with distance learning experience could assist in providing online training options. Lastly, certification programs that included a distance-learning component and practicum matching prior to program start were needs mentioned by CHWs, administrators, and clinicians. A number of states have certification mechanisms and standards, but only Minnesota has established a means for Medicaid reimbursement for certified CHW services.³⁹ Concerns persist that rural CHWs may not be able to access certification programs, leaving CHWs non-reimbursable and rural FQHCs without CHWs. Medicaid 1115 waivers may provide funds for “experimental, pilot, or demonstration projects” related to CHW services, but these projects would still need to find sustainable funding sources.⁴⁰ Reimbursement from other federal funders (eg, the Health Resources & Services Administration) should be explored. Nevertheless, stakeholders, FQHCs, and CHWs will need to work together to develop payment models that

recognize the important, diverse contributions of CHWs and support FQHCs in covering the cost of compensating a vital member of the care team.

In conclusion, this study found evidence that CHWs are engaged in providing community-clinical linkages in multiple grant-specific contexts. CHWs and FQHCs both create their own resources or connect with other community resources to build networks, but require more assistance and time to develop these networks more fully. To expand CHW knowledge, improved distance-learning opportunities and more topic-specific trainings are required (eg, diabetes management). Reimbursement of CHW activities should be a top priority for key stakeholders, including the HDOH, Medicaid and Medicare, private insurance, educators, and CHWs themselves in order to sustain and grow the field.

Practical Implications

This study points to a number of implications for grant-making entities and payers related to community health workers: (1) CHWs are a valuable community-facing resource for clinics as they reflect the community; (2) The current disease-specific grant structure makes it difficult to sustain jobs for community health workers over time; (3) Opportunities to sustain jobs for community health workers in clinics exist, but will require input from a variety of parties, including CHWs; (4) Funders should consider repurposing existing trainings for distance-learning or provide travel assistance for in-person trainings to help address CHWs' desire to learn more about specific diseases, prevention, and treatment.

Conflict of Interest

The authors report no conflicts to disclose.

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References

1. Lohr AM, Ingram M, Nuñez AV, Reinschmidt KM, Carvajal SC. Community-clinical linkages with community health workers in the United States: a scoping review. *Health Promot Pract*. 2018;19(3):349-360.
2. American Public Health Association. Support for community health workers to increase health access and to reduce health inequities. <https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2014/07/09/14/19/support-for-community-health-workers-to-increase-health-access-and-to-reduce-health-inequities>. Published November 10, 2009.
3. Rosenthal E, Rush C, Allen C. *Understanding Scope and Competencies: A Contemporary Look at the United State Community Health Worker field*. Houston, TX: Project on CHW Policy & Practice, University of Texas-Houston School of Public Health, Institute for Health Policy; 2016. 1-43.
4. Brownstein JN, Bone LR, Dennison CR, Hill MN, Kim MT, Levine DM. Community health workers as interventionists in the prevention and control of heart disease and stroke. *Am J Prev Med*. 2005;29(5 Suppl 1):128-133.
5. Brownstein JN, Chowdhury FM, Norris SL, et al. Effectiveness of community health workers in the care of people with hypertension. *Am J Prev Med*. 2007;32(5):435-447.
6. Fernandes R, Braun KL, Spinner JR, et al. Healthy Heart, Healthy Family: a NHLBI/HRSA collaborative employing community health workers to improve heart health. *J Health Care Poor Underserved*. 2012;23(3):988-999.
7. Krantz MJ, Coronel SM, Whitley EM, Dale R, Yost J, Estacio RO. Effectiveness of a community health worker cardiovascular risk reduction program in public health and health care settings. *Am J Public Health*. 2013;103(1):e19-e27.
8. Lopez PM, Islam N, Feinberg A, et al. A place-based community health worker program: feasibility and early outcomes, New York City, 2015. *Am J Prev Med*. 2017;52(3S3):S284-S289.
9. Heisler M, Spencer M, Forman J, et al. Participants' assessments of the effects of a community health worker intervention on their diabetes self-management and interactions with healthcare providers. *Am J Prev Med*. 2009;37(6 Suppl 1):S270-S279.
10. Humphry J, Jameson LM, Beckham S. Overcoming social and cultural barriers to care for patients with diabetes. *West J Med*. 1997;167(3):138-144.
11. Aitaoto N, Braun KL, Estrella J, Epeluk A, Tsark J. Design and results of a culturally tailored cancer outreach project by and for Micronesian women. *Prev Chronic Dis*. 2012;9:E82.
12. Braun KL, Thomas WL Jr, Domingo J-LB, et al. Reducing cancer screening disparities in Medicare beneficiaries through cancer patient navigation. *J Am Geriatr Soc*. 2015;63(2):365-370.
13. Gotay CC, Banner RO, Matsunaga DS, et al. Impact of a culturally appropriate intervention on breast and cervical screening among native Hawaiian women. *Prev Med*. 2000;31(5):529-537.
14. Roland KB, Milliken EL, Rohan EA, et al. Use of community health workers and patient navigators to improve cancer outcomes among patients served by federally qualified health centers: a systematic literature review. *Health Equity*. 2017;1(1):61-76.
15. Nguyen TT, Tsoh JY, Woo K, et al. Colorectal cancer screening and Chinese Americans: efficacy of lay health worker outreach and print materials. *Am J Prev Med*. 2017;52(3):e67-e76.
16. Allison AL, Ishihara-Wong DDM, Domingo JB, et al. Helping cancer patients across the care continuum: the navigation program at the Queen's Medical Center. *Hawai'i J Med Public Health*. 2013;72(4):116-121.
17. Domingo JB, Davis EL, Allison AL, Braun KL. Cancer patient navigation case studies in Hawai'i: the complementary role of clinical and community navigators. *Hawai'i Med J*. 2011;70(12):257-261.
18. Beckham S, Kaahaaina D, Voloch K, Washburn A. A community-based asthma management program: Effects on resource utilization and quality of life. *Hawai'i Medical Journal*. 2004;63(4):121-126.
19. Peretz PJ, Matiz LA, Findley S, Lizardo M, Evans D, McCord M. Community health workers as drivers of a successful community-based disease management initiative. *Am J Public Health*. 2012;102(8):1443-1446.
20. Islam NS, Zanowiak JM, Riley L, Nadkarni SK, Kwon SC, Trinh-Shevrin C. Characteristics of Asian American, Native Hawaiian, and Pacific Islander community health worker programs: a systematic review. *J Health Care Poor Underserved*. 2015;26(2 Suppl):238-268.
21. Porterfield DS, Hinnant LW, Kane H, Home J, McAleer K, Roussel A. Linkages between clinical practices and community organizations for prevention: a literature review and environmental scan. *Am J Public Health*. 2012;102 Suppl 3:S375-S382.
22. Fiechtner L, Puente GC, Sharif M, et al. A community resource map to support clinical-community linkages in a randomized controlled trial of childhood obesity, Eastern Massachusetts, 2014-2016. *Prev Chronic Dis*. 2017;14:E53.
23. Joshi K, Smith S, Bolen SD, Osborne A, Benko M, Trapl ES. Implementing a produce prescription program for hypertensive patients in safety net clinics. *Health Promot Pract*. 2019;20(1):94-104.
24. Gellert K, Braun KL, Morris R, Starkey V. The 'Ohana Day Project: a community approach to increasing cancer screening. *Prev Chronic Dis*. 2006;3(3):A99.
25. Gellert KS, Aubert RE, Mikami JS. Ke 'Ano Ola: Molokai's community-based healthy lifestyle modification program. *Am J Public Health*. 2010;100(5):779-783.
26. Santos L, Braun KL, Aei'a K, Shearer L. Institutionalizing a comprehensive tobacco-cessation protocol in an indigenous health system: lessons learned. *Prog Community Health Partnersh*. 2008;2(4):279-289.
27. Murayama H, Spencer MS, Sinco BR, Palmisano G, Kieffer EC. Does racial/ethnic identity influence the effectiveness of a community health worker intervention for African American and Latino adults with type 2 Diabetes? *Health Educ Behav*. 2017;44(3):485-493.
28. Ingram M, Schachter KA, Sabo SJ, et al. A community health worker intervention to address the social determinants of health through policy change. *J Prim Prev*. 2014;35(2):119-123.

29. Sabo S, Ingram M, Reinschmidt KM, et al. Predictors and a framework for fostering community advocacy as a community health worker core function to eliminate health disparities. *Am J Public Health.* 2013;103(7):e67-e73.
30. Rutledge GE, Lane K, Merlo C, Elmi J. Coordinated approaches to strengthen state and local public health actions to prevent obesity, diabetes, and heart disease and stroke. *Prev Chronic Dis.* 2018;15:E14.
31. Creswell JW, Poth CN. *Qualitative Inquiry and Research Design: Choosing Among Five Approaches.* Thousand Oaks, CA: SAGE Publications; 2018.
32. Viswanathan M, Kraschnewski JL, Nishikawa B, et al. Outcomes and costs of community health worker interventions: a systematic review. *Medical Care.* 2010;48(9):792-808.
33. Geiger HJ. The first community health center in Mississippi: communities empowering themselves. *Am J Public Health.* 2016;106(10):1738-1740.
34. Alvililar M, Quinlan J, Rush CH, Dudley DJ. Recommendations for developing and sustaining community health workers. *J Health Care Poor Underserved.* 2011;22(3):745-750.
35. Cherrington A, Ayala GX, Elder JP, Arredondo EM, Fouad M, Scarinci I. Recognizing the diverse roles of community health workers in the elimination of health disparities: from paid staff to volunteers. *Ethn Dis.* 2010;20(2):189-194.
36. Kash BA, May ML, Tai-Seale M. Community health worker training and certification programs in the United States: findings from a national survey. *Health Policy.* 2007;80(1):32-42.
37. Look MA, Baumhofer NK, Ng-Osorio J, Furubayashi JK, Kimata C. Diabetes training of community health workers serving Native Hawaiians and Pacific people. *Diabetes Educ.* 2008;34(5):834-840.
38. Moleta CDI, Look MA, Trask-Batti MK, Mabellos T, Mau ML. Cardiovascular disease training for community health workers serving Native Hawaiians and Other Pacific Peoples. *Hawaii J Med Public Health.* 2017;76(7):190-198.
39. Association of State and Territorial Health Officials (ASTHO). *Community Health Workers (CHWs) Training/Certification Standards: Current Status.* Arlington, VA: ASTHO. <http://www.astho.org/Public-Policy/Public-Health-Law/Scope-of-Practice/CHW-Certification-Standards/Updated-10-23-15/>. Published October 2015.
40. The Henry J. Kaiser Family Foundation. *Section 1115 Medicaid Demonstration Waivers: The Current Landscape of Approved and Pending Waivers.* <https://www.kff.org/medicaid/issue-brief/section-1115-medicaid-demonstration-waivers-the-current-landscape-of-approved-and-pending-waivers/>. Published September 20, 2018. Accessed December 4, 2018.

Legislative Definitions of Community Health Workers: Examples from Other States to Inform Hawai'i

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Abstract

Community health workers (CHWs) have been important contributors to the health and wellness of disenfranchised and minority communities for more than 50 years in the United States. Recently the Centers for Disease Control and Prevention (CDC) recommended several policy initiatives to support and advance the CHW workforce, including formalizing a state-level definition for CHWs. Such state-wide standards can lay the groundwork for health insurance reimbursement for CHW services, help establish a professional identity, and generate cohesion among CHWs. Some states have already adopted a formal definition of CHWs. Hawai'i has had grassroots and political movement in this direction, although no widespread, formal consensus has been reached. This paper reviews decisions in other states in formally defining CHWs in order to inform efforts in Hawai'i. As of February 2019, data has been collected on states which have formally defined CHWs. Two independent reviewers compared the definitions used in 15 states with formalized definitions using the American Public Health Association (APHA) CHW Section definition. We found that most states built upon the APHA definition to create working definitions that were codified into law, sometimes with minor modifications for relevance to their communities. Given the widespread use of the APHA definition, Hawai'i may also find benefit from using the APHA definition as a backbone for a state-level definition. Critically, following best practices, it will be important to take steps to ensure CHW self-determination in all aspects of the processes towards a state-level definition of and scope of care for CHWs.

Keywords

Community health workers, CHW, definition, law

Abbreviations

APHA = American Public Health Association
CDC = Centers for Disease Control and Prevention
CHW = Community health worker
FQHC = Federally qualified health centers

Highlights

- The CDC and others recommend formalizing state-wide definitions for CHWs.
- Fifteen states have formalized CHW definitions.
- The APHA definition of CHW is a key model.
- We recommend Hawai'i also leverage these efforts with widespread consensus.
- Like doctors and nurses, CHWs should take the lead in defining their own profession.

Background

Community health workers (CHWs) have been important contributors to the health and wellness of disenfranchised and minority communities for more than 50 years in the United States.^{1,2} In 2014, the Centers for Disease Control and Prevention (CDC) recommended several policy initiatives to support and advance the CHW workforce, including formalizing state-level definitions for CHWs.³ Iterative processes to define the CHW

field began in 1998 with the publication of the first national survey of the CHW workforce.⁴ In 2000, the American Public Health Association (APHA) created the CHW Special Primary Interest Group (CHW SPIG) to support and promote the CHW workforce and to provide a forum for CHWs to share resources and strategies across their complex roles.⁵ In this same year, the APHA created a definition for CHWs using a strong collaborative process. This definition states:

“A community health worker is a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. This trusting relationship enables the worker to serve as a liaison/link/intermediary between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery.”⁶

In 2009, the APHA CHW SPIG became the APHA CHW Section and released recommendations urging CHWs and policymakers to create “common definitions and nationally recognized standards of core competencies for CHW practice, based on an updated understanding of core CHW roles.”^{4,5} Toward these goals, the CHW Core Consensus (C3) Project has gathered input from CHWs and stakeholders across the country to support the design of relevant training curricula and scope of practice guidelines for use across local, state, and national levels.⁷ The most recent (2016) report includes 10 core roles and skills.⁸ This builds on the earlier workforce assessments and provides useful insights into formal statewide definitions.

A formal statewide definition can be useful. Many individuals working as CHWs under different job titles other than “CHW” may not be aware of this auxiliary identity or understand their part in it. A formal definition can help establish a professional identity and generate cohesion among CHWs,⁹ which can facilitate their active informed involvement in the decision to promote CHW reimbursement, and how to design a reimbursement process in a way that works for most CHWs. Other important reasons for formally defining the role of CHWs include the fact that, historically, CHW services have been funded through short-term mechanisms, such as grants and demonstration projects.² Standardized CHW roles and scope of care can allow for health insurance reimbursement, providing stabilized funding, more job stability, and greater integration of CHWs within healthcare and social services.⁴ Such payment reforms require clear delineation of the CHW role compared to other reimbursable healthcare and social services providers (eg, social workers, nurses). Additionally, a formal statewide

CHW definition and scope of care can establish the field's unique place in the health care and social service workforce, highlighting the qualities of a CHW (eg, the strong connection they have to the communities they serve), and their success in addressing the social determinants of health.¹⁰

A common definition could also serve as an important foundation to support the formation of a CHW association that could provide a forum for CHWs to network and organize around common actions, such as advocating for community needs.¹⁰ These efforts could ultimately increase recognition, understanding and visibility of the CHW role by other health care providers, insurance providers, other funders, legislators, and the public at large.¹⁰ This can also support future workforce development and occupational regulations, such as credentialing and standardized training.¹¹

For these reasons, some states have formally defined CHWs roles in state-level policies. These definitions often include information about the placement of CHWs in the larger health care system and/or their scope of care. Currently, Hawai'i does not have a formal statewide definition, although recent activities demonstrate momentum toward adopting one.⁷ The purpose of this paper is to examine other states' formal CHW definitions to inform efforts in Hawai'i. Specifically, we compared states' formalized definitions with the APHA CHW Section definition. We then briefly discuss the process of formalizing a statewide definition in Hawai'i with considerations to inform efforts to establish a formal consensus definition and scope of care for CHWs in the state.

Methods

Sample

To examine CHW roles and scope of care, we compared formal state decisions using policy and legislative tracking data about these policies collected from the National Academy for State Health Policy (NASHP) State Community Health Worker Models webpage¹² and Association of State and Territorial Health Officials (ASTHO)'s Community Health Worker (CHWs) Training/Certification Standards chart.¹³ We created a master list of all 50 states and Washington, DC that included information on extant legislation, CHW definitions, and any CHW-related programs, such as education/training, certification, and associations/organizations. To ensure inclusion of the most current and accurate information, we compared the state bills to both ASTHO¹³ and NASHP¹² sources. For cases where no information was found for any category for a state, we performed a Google search for any documentation that was left out of the national databases. From the list of 50 states, we removed those without a bill, and those where bills had failed to pass out of the state legislature. Lastly, we reviewed each of the final pieces of legislation and those without a CHW definition were removed; bills that included definitions, even if not explicitly defining CHWs, were kept. We created a final table that lists each state's bill, the year it was passed, and its CHW definition.

Data Analysis

Each state's formalized definition of CHWs was compared to the APHA CHW Section CHW definition.⁸ The APHA definition was broken down by the individual characteristics listed in the definition, and then these characteristics were grouped together by theme. A total of 4 themes and 17 characteristics were used as criteria for comparing the state definitions to the APHA definition. The first theme describes who CHWs are: a frontline public health worker, a trusted member of the community served, and someone who has an unusually close understanding of the community served. The next theme lists CHWs' roles at the community level: serves as a liaison/link/intermediary between health services and the community, serves as a liaison/link/intermediary between social services and the community, improve the quality of service delivery, improve the cultural competence of service delivery, and build community capacity. The third theme labels CHWs' roles at the individual level: builds individual capacity, facilitates access to services, increases health knowledge, and increases self-sufficiency. The final theme defines CHWs' activities: outreach, community education, informal counseling, social support, and advocacy. Two of the authors (SC, MQ) independently compared each state definition to the APHA definition, then met to review results and discuss areas of disagreement to create a final concordance document. All themes were agreed upon after discussion, and areas of discussion are included in the results table as they provide insights in aspects of the definition that may be useful for the state of Hawai'i to consider. Data collection commenced in February 2019 and was completed in March 2019. Data were analyzed in April 2019.

Results

Of the 50 states, only 21 had bills that addressed CHWs. Six states were removed from this list for reasons described in the methods (eg, non-passage), leaving 15 states included in the analysis (Table 1).¹⁴⁻³¹ Three states that did not explicitly define CHWs were still included in the analysis because they had passed a relevant bill with a definition of related positions: Alaska defined "health care provider,"¹⁴ California defined "community health care worker,"¹⁶ and Georgia defined a "patient navigator."¹⁸ Specifically, California was included as only the word "care" differentiated it from a CHW. Additionally, Alaska and Georgia were included because CHWs were listed among the examples of position definitions in the bill. In total, 15 states had legislatively-codified working definitions of CHWs (Table 1). New Mexico had 2 distinct state documents that defined CHWs differently, and Texas had 3 (Table 2), thus a total of 18 definitions were analyzed.

The analysis showed the APHA definition served as a starting point for many states. Of the 18 state definitions considered, 3 (from Arizona,¹⁵ Illinois,¹⁹ and Maryland²¹) adopted the APHA definition in full. The definitions in the legislative language from California,¹⁶ Georgia,¹⁸ Nevada,²³ the first New Mexico document,²⁴ and Rhode Island²⁸ had fewer than 5 characteristics in common with the APHA definition. Alaska¹⁴ and Maine²⁰ had broad definitions that did not use any APHA language.

Table 1. State Definitions of CHWs	
State, Year Passed, and Bill Number	Definition of a Community Health Worker from Legislation
AK, 2018 AS 18.15.395 ¹⁴	"[H]ealth care provider" means any person that provides health care services; "health care provider" includes a hospital, medical clinic or office, special care facility, medical laboratory, physician, pharmacist, dentist, physician assistant, nurse, paramedic, emergency medical or laboratory technician, community health worker, and ambulance and emergency medical worker;
AR, 2018 HB2324 ¹⁵	A frontline public health worker who is a trusted member of the community, who serves the community or has an in-depth understanding of the community the worker serves, who serves as a liaison between Health service providers or social service providers and community members to facilitate access to services and improve the quality and cultural competence of service delivery and who builds individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support and advocacy.
CA, 2012 Labor Code 6332 ¹⁶	"Community health care worker" means an individual who provides healthcare or health care-related services to clients in home settings.
CT, 2017 SB126 ¹⁷	[P]ublic health outreach professional with an in-depth understanding of the experience, language, culture and socioeconomic needs of the community who (1) serves as a liaison between individuals within the community and health care and social services providers to facilitate access to such services and health-related resources, improve the quality and cultural competence of the delivery of such services and address social determinants of health with a goal toward reducing racial, ethnic, gender and socioeconomic health disparities, and (2) increases health knowledge and self-sufficiency through a range of services including outreach, engagement, education, coaching, informal counseling, social support, advocacy, care coordination, research related to social determinants of health and basic screenings and assessments of any risks associated with social determinants of health.
GA, 2014 Code 33-23-201 ¹⁸	"Patient navigator" means an individual who offers assistance to patients, families, and caregivers to help overcome health care system barriers and to facilitate timely access to quality medical and psychosocial care as defined by the health care community he or she serves.
IL, 2014 HB5412 ¹⁹	A frontline public health worker who is a trusted member or has an unusually close understanding of the community served. This trusting relationship enables the community health worker to serve as a liaison, link, and intermediary between health and social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery. A community health worker also builds individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities, including outreach, community education, informal counseling, social support, and advocacy. Nothing in this definition shall be construed to authorize a community health worker to provide direct care or treatment to any person or to perform any act or service for which a license issued by a professional licensing board is required.
ME, 2015 LD1426; Revised Statute Title 22, § 1812-G ²⁰	§1812-G. Maine Registry of Certified Nursing Assistants and Direct Care Workers 1-B. Definitions. D. "Direct care worker" means an individual employed in a home, community or other health care or direct access setting who provides direct contact assistance with personal care, activities of daily living or other services to individuals. "Direct care worker" does not include certified nursing assistants employed in their capacity as certified nursing assistants. 2-A. Registry listing...Direct care workers who may be listed on the registry include but are not limited to the following: A. Behavior specialists; B. Behavioral health professionals; C. Certified residential care aides; D. Certified residential medication aides; E. Direct support professionals; F. Mental health rehabilitation technicians; G. Mental health support specialists; H. Other qualified mental health professionals; I. Personal care or support specialists J. Registered medical assistants; K. Residential care specialists; L. Community health workers; and M. Other direct care workers described in rules adopted by the department pursuant 8 to subsection 18.
MD, 2018 SB163 ²¹	Frontline public health worker who: (1) is a trusted member of, or has an unusually close understanding of the community served; (2) serves as a liaison, link, or intermediary between health and social services and the community to: (i) facilitate access to services; and (ii) improve the quality and cultural competence of service delivery; and (3) builds individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities, including: (i) outreach; (ii) community education; (iii) informal counseling; (iv) social support; and (v) advocacy.
MA, 2010 H4692 ²²	A public health worker who applies his or her unique understanding of the experience, language, and/or culture of the populations he or she serves through one or more of the following roles: a) Providing culturally appropriate health education, information, and outreach in community-based settings, such as homes, schools, clinics, shelters, local businesses, and community centers; b) bridging/culturally mediating between individuals, communities, and health and human services, including actively building individual and community capacity; c) assuring that community members access the services they need; d) providing direct services, such as informal counseling, social support, care coordination, and health screenings; and e) advocating for individual and community needs.
NV, 2015 SB498 ²³	a natural person who: 1. Lives in or otherwise has a connection to the community in which he or she provides services. 2. Is trained by a provider of health care to provide certain services which do not require the community health worker to be licensed. 3. Provides services at the direction of a facility for the dependent, medical facility or provider of health care which may include, without limitation, outreach and the coordination of health care.
NM (1), 2015 Administrative Code R7.29.5.1 ²⁴	a public health worker, also known as a tribal community health representative or a promotora, who applies an understanding of the experience, language, and culture of the populations that the individual serves and who provides services aimed at optimizing individual, family and community health outcomes
NM (2), 2014 SB58 ²⁵	"community health worker" means a public health worker who applies an understanding of the experience, language and culture of the populations that the individual serves and who provides direct services aimed at optimizing individual and family health outcomes, including: (1) informal and motivational counseling and education; (2) interventions to maximize social supports; (3) care coordination; (4) facilitation of access to health care and social services; (5) health screenings; and (6) other services that the secretary defines by rule
OH, 2015 Ohio Revised Codes 4723-26-01 ²⁶	"Community health worker" and "certified community health worker" mean an individual who satisfies both of the following: (1) As a community representative, advocates for clients in the community by assisting them in accessing community health and supportive resources through the provision of such services as education, role modeling, outreach, home visits, or referrals; and (2) Holds a certificate to practice issued or renewed by the board under section 4723.85 of the Revised Code.

Table 1. State Definitions of CHWs (Continued)	
State, Year Passed, and Bill Number	Definition of a Community Health Worker from Legislation
OR, 2011 HB3650 ²⁷	an individual who: (a) Has expertise or experience in public health; (b) Works in an urban or rural community, either for pay or as a volunteer in association with a local health care system; (c) To the extent practicable, shares ethnicity, language, socioeconomic status and life experiences with the residents of the community where the worker serves; (d) Assists members of the community to improve their health and increases the capacity of the community to meet the health care needs of its residents and achieve wellness; (e) Provides health education and information that is culturally appropriate to the individuals being served; (f) Assists community residents in receiving the care they need; (g) May give peer counseling and guidance on health behaviors; and (h) May provide direct services such as first aid or blood pressure screening.
RI, 2011 H5633 Sub A ²⁸	a person who creates a bridge between providers of health services, community services, social agencies and vulnerable populations within the community. Community health workers provide support and assist in navigating the health and social services system. In addition community health workers can build community capacity through workshops and programs.
TX (1), 2015 Administrative Code 146.1 ²⁹	"Promotor(a)" or "Community Health Worker"—A person who, with or without compensation, is a liaison and provides cultural mediation between health care and social services, and the community. A promotor(a) or community health worker: is a trusted member, and has a close understanding of, the ethnicity, language, socio-economic status, and life experiences of the community served. A promotor(a) or community health worker assists people to gain access to needed services and builds individual, community, and system capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, patient navigation and follow-up, community health education and information, informal counseling, social support, advocacy, and participation in clinical research.
TX (2), 2011 HB2610 ³⁰	A "Promotora" or "community health worker" means a person who, with or without compensation, provides a liaison between health care providers and patients through activities that may include activities such as assisting in case conferences, providing patient education, making referrals to health and social services, conducting needs assessments, distributing surveys to identify barriers to health care delivery, making home visits, and providing bilingual language services.
TX (3), 1999 HB1864 ³¹	a person who promotes health within the community in which the person resides, without regard to whether the person is compensated, by engaging in activities such as providing health education, making referrals to health and social services providers, coaching families on effective ways to access health services, conducting needs assessments, identifying barriers to health care delivery, making home visits, providing language services, collecting information regarding the outcome of health services provided to families, and acting as a liaison between families and health care providers.

Table 2. Comparison Between State Definitions and APHA Definition																	
State	APHA Definition Components ⁶																
	Who are CHWs			Community-level Roles					Individual-level Roles				CHW Activities				
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
AK ¹⁴																	
AR ¹⁵	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
CA ¹⁶										x							
CT ¹⁷	x		x	x	x	x	x			x	x	x	x	x	x	x	x
GA ¹⁸				x	x					x							
IL ¹⁹	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
ME ²⁰																	
MD ²¹	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
MA ²²	x		x	x	x		x	x	x	x			x	x	x	x	x
NV ²³		x	x										x				
NM (1) ²⁴	x	x	x														
NM (2) ²⁵	x		x	x	x					x				x	x	x	
OH ²⁶		x		x	x					x			x	x		x	x
OR ²⁷	x		x				x	x		x				x	x		
RI ²⁸				x	x			x		x							
TX (1) ²⁹		x	x	x	x			x	x	x	x	x	x	x	x	x	x
TX (2) ³⁰				x	x		x			x	x			x			
TX (3) ³¹		x		x	x		x			x	x			x			

APHA Definition Components Key: A – A frontline public health worker. B – Trusted member of the community served. C – Has an unusually close understanding of the community served. D - Serve as a liaison/link/intermediary between health services and the community. E - Serve as a liaison/link/intermediary between social services and the community. F - Improve quality of service delivery. G - Improve cultural competence of service delivery. H - Builds community capacity. I - Builds individual capacity. J - Facilitate access to services. K - Increases health knowledge. L - Increases self-sufficiency. M – Outreach. N - Community Education. O - Informal Counseling. P - Social Support. Q – Advocacy

The characteristic from the APHA definition that was most commonly incorporated in state definitions was facilitating access to services, which was mentioned in 78% of state definitions (14/18). Only 22% of state definitions (4/18) included improving quality of service delivery as a CHW characteristic. Twenty-two percent of state definitions (4/18) used the APHA definition in discussing who CHWs are (eg, a frontline public health worker, a trusted member of the community served). CHWs were defined as public health workers in 44% of state definitions (8/18). Fifty-six percent of state definitions (10/18) said that “CHWs have an unusually close understanding of the community served,” but only 44% of state definitions (8/18) had language that distinguished CHWs “as trusted members of the community they served.” 17% of the state definitions (3/18) used the APHA’s definition that CHWs work on a community-level, while 22% (4/18) included the same APHA components to define CHW work on an individual level. Sixty-seven percent of state definitions (12/18) identified CHWs as “liaisons between communities and healthcare/social services.” Thirty-nine percent of state definitions (7/18) included language about building community capacity, but only 5 state definitions included building individual capacity. Thirty-three percent of the state definitions (6/18) listed the same activities that the APHA included in its definition. Community education was the most-mentioned activity, appearing in 9 out of the 18 state definitions.

Two states, New Mexico^{24,25} and Texas,^{29,31} had more than 1 bill that defined CHWs and had variation in the definitions of CHWs used in the bills and in how closely those definitions matched the APHA definition. For example, New Mexico’s 2 bills were passed within 10 months of each other. The first, from 2014,²⁴ was more congruent with the APHA definition than the second bill, passed in 2015.²⁵ The later bill, however, included language defining a CHW as a “tribal community health representative” or “*promotora*,” which the first bill did not.^{24,25} In Texas, 3 bills, passed in 1999,²⁹ 2011,³⁰ and 2015³¹ defined CHWs. Despite adopting the APHA definition in 2000, the 1999 definition was more congruent with the APHA version than the 2011 definition. Like New Mexico’s 2015 bill, the 2011 and 2015 bills from Texas included “*promotoras*” in their definitions. Among the 3 Texas bills, the 2015 bill most closely mirrored the APHA definition.

Discussion

We found that many, but not all, of the states that have defined CHWs built upon the detailed and widely-accepted APHA definition in creating their own definitions, but also included minor modifications to enhance relevance in their communities (eg, use of the word *promotora*). Some states included activities beyond what was listed in the APHA definition. These other activities included research,^{17,29} home visits,^{16,26,30} and other direct clinical services such as first aid and screening.^{17,20,22,25,27} Although CHWs have a long history of addressing gaps in the social determinants of health, a role that differentiates CHWs from many other health care professionals, only Connecticut

included this aspect of CHWs’ work in its formal definition.¹⁷ Other states defined the CHW role more broadly and with low congruence with the APHA definition.^{14,16,23,24} This practice could allow institutions more freedom to define CHW roles and activities for specific positions in order to better meet program needs within the organization.

For the 2 states (New Mexico^{24,25} and Texas^{29,31}) that had more than 1 bill that defined CHWs, more information on the evolution of these bills, as well as the important stakeholders and historical events that influenced the variation between the bills would help illuminate the process and guide states that have yet to develop a CHW definition.

Some bills were not included in this study. Minnesota had a bill that discussed payment strategies for CHWs but did not define the CHW role and thus was excluded from the current analysis. Five states (Florida, New Jersey, Virginia, Washington, and Hawai‘i) introduced bills that included CHW definition bills but that eventually died in legislation; these states were also excluded from the analysis. In Hawai‘i, multiple bills were introduced in both 2018 and 2019, but all failed to progress through legislative session. The lack of passed legislation in these states indicates that active CHW engagement and strong relationships with allies to successfully develop and pass CHW legislation may be called for.³²

Several published studies may help to demonstrate the process of crafting a CHW definition and scope of care. For example, in Massachusetts, the process involved first the building of leadership among CHWs through a strong partnership between CHWs and the Massachusetts Department of Public Health, which included training for CHW capacity- and knowledge-building.³³ Typically, CHWs come from disadvantaged groups that may have less resources or capacity to organize and advocate for their profession.³⁴ This usually results in other interest groups driving the policymaking process (eg, nurses, doctors, health insurance companies).³⁵ Not all states have included CHWs in the process of developing CHW legislation. In Ohio, the Board of Nursing controls certification and training requirements for CHWs.³⁶ The ways in which allies engage CHWs in the legislative process will have a direct impact on the strength of the defined CHW role as well as those important relationships with collaborators moving forward. Creating CHW scope and role definition through genuine collaboration and consensus building among parties takes time and patience, but is imperative for creating applicable, useful, and comprehensive policy.³⁷

Strong groundwork has been laid for a formal definition and scope of care for CHWs in Hawai‘i. From February to June 2016, one author of the current paper (NS), who began her career as a CHW then became the outreach director at the Hawai‘i Primary Care Association, conducted a series of 8 meetings across the state with 90 CHWs and 5 meetings of CHW supervisors employed at 14 federally qualified health centers (FQHCs). The goal was to build consensus on a working definition of CHWs as well as scope of care/recommended competencies for CHWs employed at Hawaii’s FQHCs. Groups of CHWs met twice in each county over a 4-month period to build informed discus-

sions. The CHW Supervisor Advisory Committee, consisting of 16 CHW supervisors and some CHWs from FQHCs in every county, was convened 5 times over 4 months.³⁸ Consensus was reached among CHWs and CHW supervisors to adopt all 10 roles of CHWs defined by the C3 Project, with some minor edits tailored to the role of CHWs in FQHC clinical settings,⁸ and to adopt, in full, the APHA definition. Though these recommendations primarily reflect the views of the CHWs and administrators of FQHCs, about 40% of the CHW meeting participants were from other health and social service agencies, indicating strong representation from the Hawai'i CHW community.

Movement toward the professionalization of CHWs highlights tensions between the desire to integrate CHWs into the health care system and develop reimbursement structures and the desire to retain distinctively close ties between CHWs and the community.³⁷ Balancing these priorities requires the active participation of CHWs in decisions affecting their profession. The APHA and CDC both recommend that CHWs, like other health professionals,¹¹ take the lead in decisions that impact their profession and advocate for a minimum of 50% CHW membership on workforce policy committees.³⁹ Allies of CHWs should take a supportive role, encouraging CHWs to be actively engaged.

Limitations

This study had some limitations. In the analysis, SC and MQ compared the state definition to the APHA definition with a conservative approach. In some instances, verbiage used in state definitions was so broad that it could not match the APHA definition. For example, states such as Alaska, Maine, Nevada, and New Mexico included in their definitions vague language about CHWs providing services and/or conducting activities, but did not explicitly define these, thus leaving the characteristics of these services/activities up for interpretation. In other cases, state definitions listed activities that may suggest or promote components of the APHA definition but because they did not declare these activities specifically they were not counted. For instance, Texas incorporated into its definition "provides cultural mediation," but this may not necessarily improve cultural competence of service or intervention delivery. Additionally, one definition from New Mexico mentions that CHWs "provide education," and although an educator may hope this would lead

to an "increase of health knowledge," this cannot be assumed. From the scope of our study, it is not possible to know what the intentions of the drafters were when they created these definitions, and therefore the definitions may be interpreted by the authors differently than the drafters intended. To mitigate this issue, SC and MQ used a narrow scope. Disagreement with these analysis methods may lead to discussions within Hawai'i about whether CHW definitions should match the APHA definition or be broad and possibly risk infringing on the work of other professionals. Other articles included in this issue give more detailed insights into recent and historical efforts to formalize CHW roles in Hawai'i. A full consideration of these efforts is beyond the scope of this article, which focuses on comparisons in definitions across states to inform such efforts.

Practical Implications

CHWs are an important part of the Hawai'i health care system. One way to assure the sustainability of the field and reimbursement for these vital service providers is to formally define their work and scope of care. A number of states have already undergone this policymaking process and provide useful guidance. Future policies that define the field and scope of care should follow nationally-accepted definitions, like the APHA definition. CHWs, advocates and allies, and legislators should examine and integrate the lessons learned from states with exemplary processes, including CHW-led initiatives.

Conflict of Interest

None of the authors identify a conflict of interest.

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References

1. Lehmann U, Sanders D. Community health workers: what do we know about them? Geneva: World Health Organization (WHO); 2007. https://www.who.int/hrh/documents/community_health_workers.pdf. Accessed April 12, 2019.
2. U.S. Department of Health and Human Services Health Resources and Services Administration Bureau of Health Professions. Community health worker national workforce study. 2007 U.S. Department of Health and Human Services Health Resources and Services Administration Bureau of Health Professions. <https://bhw.hrsa.gov/sites/default/files/bhw/nchwa/projections/communityhealthworkforce.pdf>. Accessed October 12, 2018.
3. Center for Disease Control National Center for Chronic Disease Prevention and Health Promotion. Technical assistance guide for states implementing community health worker strategies. 2014. https://www.cdc.gov/dhdspp/programs/spha/docs/1305_ta_guide_chws.pdf. Accessed October 12, 2018.
4. Rosenthal EL, Wiggins N, Brownstein J, Johnson S, Borbon I, Rael R. A summary of the national community health advisor study: weaving the future. Reprint, Phoenix, AZ: University of Arizona. 1998. <http://crh.arizona.edu/sites/default/files/pdf/publications/CAHsummaryALL.pdf>. Accessed October 12, 2018.
5. American Public Health Association. American public health association support for community health workers to increase health access and to reduce health inequities. 2009. <https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2014/07/09/14/19/support-for-community-health-workers-to-increase-health-access-and-to-reduce-health-inequities>. Accessed October 12, 2018.
6. American Public Health Association. Community health workers. 2000. <https://www.apha.org/apha-communities/member-sections/community-health-workers>. Accessed October 12, 2018.
7. California Association of Community Health Workers. CHW common core (C3) project. 2016. <http://www.cachw.org/community-health-worker-common-core-c3-project/>. Accessed April 20, 2019.
8. Rosenthal EL, Rush CH, Allen CG. Understanding scope and competencies: A contemporary look at the united states community health worker field. progress report of the community health worker core consensus (C3) project: building national consensus on CHW core roles, skills, and qualities. 2016; <http://www.chwcentral.org/sites/default/files/CHW%20C3%20Project.pdf>.
9. Sherman M, Covert H, Fox L, Lichtveld M. Successes and lessons learned from implementing community health worker programs in community-based and clinical settings: insights from the gulf coast. *J Public Health Manag Pract*. 2017 Nov/Dec;23 Suppl 6 Suppl, Gulf Region Health Outreach Program:S85-S93.
10. Brooks BA, Davis S, Frank-Lightfoot L, Kulbok PA, Poree S, & Sgarlata L. Building a community health worker program: the key to better care, better outcomes, & lower costs. Chicago: CommunityHealth Works; (2014).
11. American Public Health Association. Support for community health worker leadership in determining workforce standards for training and credentialing. 2014. <https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2015/01/28/14/15/support-for-community-health-worker-leadership>. Accessed October 12, 2018.
12. National Academy for State Health Policy. State community health worker models. 2017. <https://nashp.org/state-community-health-worker-models/>. Accessed October 12, 2018.
13. Association of State and Territorial Health Officials (ASTHO). Community health workers (CHWs) training/certification standards. 2017. <http://www.astho.org/Public-Policy/Public-Health-Law/Scope-of-Practice/CHW-Certification-Standards-Map/>. Accessed February 5, 2019.
14. Alaska Stat § 18.15.395 (2018). <http://www.legis.state.ak.us/basis/statutes.asp#18.15.395>. Accessed February 1, 2019.
15. Community health workers, H 2324, 53rd Leg, 2nd Sess (Az 2018). <https://www.azleg.gov/legtext/53leg/2r/bills/hb2324p.htm>. Accessed February 5, 2019.
16. Cal Lab. Code §5.1.6332 (2012). https://leginfo.ca.gov/faces/codes_displaySection.xhtml?sectionNum=6332.&lawCode=LAB. Accessed February 7, 2019.
17. An act concerning community health workers, SB 126, 1st Sess (Ct 2017). <https://www.cga.ct.gov/2017/act/pa/pdf/2017PA-00074-R00SB-00126-PA.pdf>. Accessed February 5, 2019.
18. GA Code § 33-23-201 (2014). <https://law.justia.com/codes/georgia/2014/title-33/chapter-23/article-3/section-33-23-201/>. Accessed February 5, 2019.
19. HB 5412, 98th Leg, 1st Sess (Il 2014). <http://www.ilga.gov/legislation/publicacts/fulltext.asp?Name=098-0796>. Accessed February 1, 2019.
20. An act regarding the Maine registry of certified nursing assistants and direct care workers, LD 1426 Sec 9 22 MRSA §18120G, 127th Leg, 1st Sess (Me 2015). <https://www.mainelegislature.org/legis/bills/getPDF.asp?paper=HP0972&item=1&num=127>. Accessed February 5, 2019.
21. Public health – community health worker – advisory committee and certification, SB 163, 1st Sess (MD 2018). <http://mgaleg.maryland.gov/2018RS/bills/sb/sb0163T.pdf>. Accessed February 5, 2019.
22. An act to establish a board of certification of community health workers, HB 4692, 186th Leg, 1st Sess (Ma 2010). <https://malegislature.gov/Bills/186/H4692>. Accessed February 5, 2019.
23. SB 498, 78th Leg, 1st Sess (Nv 2015). https://www.leg.state.nv.us/Session/78th2015/Bills/SB/SB498_EN.pdf. Accessed February 1, 2019.
24. NMAC § 7.29.5.3.G (2015). <http://164.64.110.134/parts/title07/07.029.0005.html>. Accessed February 5, 2019.
25. Community health worker act, SB 58, 1st Sess, (Nm 2014). <https://www.nmlegis.gov/Sessions/14%20Regular/final/SB0058.pdf>. Accessed February 1, 2019.
26. Ohio Rev Code § 4723-26-01 (2015). <http://codes.ohio.gov/oac/4723-26-01v1>. Accessed February 5, 2019.
27. HB 3650, 76th Leg, 1st Sess, (Or 2011). <https://olis.leg.state.or.us/liz/2011R1/Downloads/MeasureDocument/HB3650>. Accessed February 1, 2019.
28. HB 5633 Sub A, 1st Sess (Ri 2011). <http://webserver.rilin.state.ri.us/BillText/BillText11/House-Text11/H5633A.pdf>. Accessed February 1, 2019.
29. Texas Ad Code § 146.1 (2015). http://txrules.elaws.us/rule/title25_chapter146_sec.146.1. Accessed February 5, 2019.
30. HB 2610, 82nd Leg, 1st Sess, (Tx 2011). <https://capitol.texas.gov/tlodocs/82R/billtext/html/HB02610F.HTM>. Accessed February 5, 2019.
31. HB 1864, 76th Leg, 1st Sess, (Tx 1999). <https://capitol.texas.gov/tlodocs/76R/billtext/html/HB01864F.htm>. Accessed February 5, 2019.
32. Nichols DC, Berrios C, Samar H. Texas' community health workforce: from state health promotion policy to community-level practice. *Prev Chronic Dis*.2005;2(Spec Issue):1.
33. Mason T, Wilkinson GW, Nannini A, Martin CM, Fox, DJ, Hirsch G. Winning policy change to promote community health workers: Lessons from Massachusetts in the health reform era. *Am J Public Health*. 2011;101(12), 2211.
34. Kash BA, May ML, Tai-seale M. Community health worker training and certification programs in the united States: findings from a national survey. *Health Policy*. 2007;80(1),32-42
35. Tulenko K, Mogedal S, Afzal M, et al. Community health workers from universal health-care coverage: from fragmentation to synergy. 2013. <https://www.who.int/bulletin/volumes/91/11/13-118745/en/>. Accessed May 1, 2019.
36. Ohio Board of Nursing. Community health workers. 2018. <http://www.nursing.ohio.gov/CommunityHealthWorkers.htm>. Accessed on April 29, 2019.
37. World Medical Association. World medical association declaration of Madrid on professionally led regulation. 2009. <https://www.wma.net/policies-post/wma-declaration-of-madrid-on-professionally-led-regulation/>. Accessed October 12, 2018.
38. Spock N. Final report on the HPCA CHW project: CHW engagement. Commissioned by the University of Hawai'i Kapi'olani Community College; 2016.
39. Smith K, Katikireddi S. A glossary of theories for understanding policymaking. *J Epidemiol Community Health*. 2013;67(2).

Community Health Worker (CHW) Movement in Hawai'i: Moving Towards a CHW Association

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Abstract

This editorial presents the perspectives of allies - a group of governmental, university and public health organizations that support the creation of a professional association for CHWs in Hawai'i. We support the efforts of CHWs as they organize and move towards establishing a professional association. Hawai'i CHWs have held monthly meetings starting in 2017 to discuss variety of issues around their work and share information and experiences. A group of CHWs and allies developed a strategic plan in 2018 in preparation to establish a professional association. They shared the results with colleagues from across the state. One desirable outcome for many was a professional CHW association. Such an association could be a forum of shared learning, information sharing, networking, and advocating for workforce and professional development issues, such as training, reimbursement for services, credentials, and certifications. Furthermore, allies support CHW-led efforts to develop an association, for instance, by securing diversified funding sources for CHW trainings, networking, and planning activities. Allies also help by informing supervisors, employers, and policymakers about the importance of trainings and other workforce and professional development for CHWs. A professional association for CHWs in Hawai'i could be useful to many. This editorial provides more insights into this topic.

Keywords

Community health workers; professional association; workforce development; professional development

Abbreviations and Acronyms

APHA = American Public Health Association

CHWs = community health workers

NACHW = National Association of Community Health Workers

NCHWAS = National Community Health Workers Advocacy Studies

Introduction

This article presents the perspectives of *allies*—a group of governmental, university and public health organizations that support the creation of a professional association for Community Health Workers (CHWs) in Hawai'i. We will describe the CHW-led effort to organize and establish a professional association and why this could be useful, including how allies have supported their efforts and roles they can play going forward in a CHW-led Association.

CHWs are “trusted and culturally responsive,” frontline public health professionals who typically work in underserved communities, and are the integral connection between health care consumers and providers.^{1,2} They take on diverse job titles, roles, and tasks such as health education, outreach, and assist patients to navigate through the complex health care system.³ CHWs respond to systemic issues - addressing health disparities

and breaking down barriers - by using flexible and creative responses appropriate to patients and the communities they serve.⁴

Policy Changes Creates Impetus for an Association

The *Patient Protection and Affordable Care Act* of 2010 included provisions to fund CHWs - a testament to their effectiveness to improve health outcomes, reduce health disparities, and reduce health care costs.⁵ Furthermore, changes in the Medicaid rules made in 2013 opened the possibility for CHWs to be reimbursed for preventive services. States such as Massachusetts and Minnesota initiated policies to increase utilization of services rendered by CHWs, and to make these services reimbursable under Medicaid.⁶ The possibility for reimbursement has initiated a movement towards setting training and credentialing standards for CHWs. Organizations such as the National Association of Community Health Workers (NACHW) and the American Public Health Association (APHA) have worked to develop standards of practice at the national level, while certification and credentialing are primarily regulated by state-level policies.

A professional association for CHWs serving in Hawai'i communities could ensure collective agency and voice in important determinations about workforce and professional development issues. A professional association would provide a forum for CHWs to discuss, reach consensus, and advocate for training standardization and credentialing regulations.

CHW National Advocacy Goals

Nationally, CHWs and their allies have advocated for training, reimbursement, role definition, and identification of professional core competencies according to the National Community Health Workers Advocacy Study.⁷ They also advocate to educate supervisors and the public about their impact and work in communities across the United States.⁷ CHWs may inform policymakers and industry leaders that states providing CHW training programs to improve standards of care, core skills, and competencies are able to achieve better health outcomes.⁸ Also, reimbursements for preventive services increase job security and wages, leading to improved retention rates and overall productivity among CHWs.⁸ Advocacy for professional and workforce development is essential to enhance the CHW's capacity to break down barriers to access and to improve health outcomes.

Groundwork for Establishing a Hawai'i CHW Association

Over the last two decades, Hawai'i CHWs have engaged in diverse training and networking opportunities with support from State and public health organizations, including Wai'anae Coast Comprehensive Health Center's Wai'anae Health Academy; Hawai'i Primary Care Association's CHW program; Papa Ola Lōkahi's 'Imi Hale program for cancer education and prevention among Native Hawaiians. They also had opportunities to participate in state and county-wide conferences hosted by the Hawai'i Primary Care Association (HPCA) in 2006; CHW Network's gatherings in 2015 and 2016; and the Hawai'i Community Health Worker Leadership Conference, *Kulia I Ka Nu'u – Strive for the Highest* in 2017, funded by Hawai'i Department of Health (DOH). These CHW trainings and conferences have created and supported an impetus for CHWs to form a professional association that would increase shared learning, identify training needs, provide networking opportunities, set priorities, frame issues, and advocate for their profession.

Beginning in 2017, CHWs from across the state held monthly meetings to network, share information, and discuss professional and workforce development issues. A core group of 15 CHWs representing all counties, joined by their allies, conducted a strategic planning session in 2018 to set the groundwork to establish a professional association. CHWs and allies organized regional meetings to share the results of the strategic planning with 37 CHWs in Kona, Ka'u, Hilo on Hawai'i island, Kaua'i, Maui, and Lāna'i. They shared the results with approximately 150 Hawai'i-CHWs through a listserv.

The goal of establishing an association is currently ongoing. CHWs will commence their search for a leadership team at the June 2019 CHW conference. The leadership team will make decisions about the organizational structure of the association. A detailed description of CHWs and allies' efforts to build a professional association is documented in Table 1.

The fully established CHW association would provide a platform for CHWs to share and network by hosting dialogues, monthly meetings, and conferences for collaboration, shared learning, and networking. The Association could serve as a vehicle for CHWs to set priorities and frame issues that impact their work and the well being of their communities. Its leadership and members would provide input on core competency recommended by NACHW and APHA; advocate for training to enhance skills and core competencies; advocate for reimbursement, standards of practice, credentials, and certification; advocate for legislation that impact the community's health and develop leadership skills of CHWs.

The Role of Partnerships in the CHW Movement

Allies are core supporters of the CHW-led movement to organize and exercise self-determination over workforce and professional development issues. Allies in the Hawai'i CHW movement are from diverse areas such as: government, academia, and non-profit public health organizations. Allies and other collaborators provided support, for example, funding development, technical assistance, logistical support, capacity building, and advocating for legislation that impacts CHWs and their work.⁹ For example, they secured diversified funding from federal, state, foundation, and nonprofits for trainings as well as support for networking opportunities and planning efforts.

Further Steps

The process of organizing and planning takes time. Hawai'i's CHWs continue to engage with their colleagues, and to outreach to CHWs who do not necessarily identify as CHWs, through presentations and discussions to ensure wide awareness and agreement with the association's mission and vision. Ongoing dialog among CHWs and with allies is necessary to understand and overcome barriers to creating a Hawai'i CHW Association. CHWs and allies will collaboratively educate supervisors, employers and state policymakers on various issues such as the importance of ongoing training for CHWs, credentialing and certification, as well as support for the development of a professional association for CHW in Hawai'i.

Practical Implications

A professional association for community health workers in Hawai'i could unite and bring CHWs together to share, learn from each other, network, and advocate for their profession. A resilient and cohesive workforce with a strong role for CHWs will ensure that Hawai'i's communities will be strong and healthy.

Conflict of Interest

None of the authors identify a conflict of interest.

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Table 1. Process of Developing a Hawai'i Community Health Workers Association				
Milestones	I. Convening Monthly Meetings: (On-going). Since 2017, CHWs have held regular meetings through monthly conference calls and shared information through listservs.	II. Strategic Planning and Consensus Building: (On-going) From 2018 to early 2019, CHWs developed a strategic plan to establish a professional association, shared the plan with colleagues, and gained consensus to develop an association.	III. Developing Leadership and Organizational Structure: (In-progress) Starting from the June 2019 Hawai'i CHW Conference, CHWs will identify a leadership team to develop organizational structure of the association.	IV. Fully Established Organization: (Anticipated). The fully-established Hawai'i CHW Association ("Association") will implement their strategic plan.
CHW Activities	<p>CHWs convened monthly conference call meetings to discuss issues salient to professional and workforce development:</p> <ol style="list-style-type: none"> 1. Identify training needs for professional development as well as the training needs of new CHWs. 2. Create opportunities for professional networking to share knowledge and information about programs and events. 3. Discuss current best practices set by NACHW and APHA. 4. Address core standards of practice and guidelines on CHW roles and responsibilities. <p>Approximately 150 CHWs participate in discussions on a listserv.</p>	<p>A core group of 15 CHWs, along with allies, conducted a strategic planning meeting to establish goals, outcomes and direction of a professional association for CHWs in Hawai'i.</p> <p>They shared the strategic plan with colleagues in all counties to build consensus to establish a professional association for CHWs in Hawaii.</p> <p>As of mid-2019, consensus building is an on-going and active process. They are reaching out to as many CHWs in the field to build consensus, including CHWs who do not necessarily identify as CHWs. The goal is for CHWs to come together and support the establishment of a professional association.</p>	<p>The identified leadership team will be responsible for developing the organizational structure of the professional association:</p> <ol style="list-style-type: none"> 1. To determine roles and responsibilities of leadership and association members. 2. To determine membership structure such as membership criteria and dues, for example. 3. To build a presence in the community through meetings, website and social media. 4. To learn about building professional associations from established groups such as Arizona Community Health Workers Association (AZCHOW) and Massachusetts Association of CHWs (MACHW). 	<p>The Association is a CHW-led platform:</p> <ol style="list-style-type: none"> 1. To foster unity, shared learning, networking, and collaboration among CHWs. 2. To advocate for professional and workforce development issues such as standards of practice; roles and responsibilities; credentials and certification, and reimbursement for CHWs. 3. To advocate for policies and educate policymakers on issues that impact the community's health. <p>The Association will be situated within an established non-profit organization. The leadership team and allies will secure diversified funding to hire staff to coordinate and implement the association's programs.</p>
Allies Support for CHWs	<p>Allies assisted CHWs by securing funding, coordinating, and providing logistical support to convene monthly conference calls, as well as creating a listserv.</p>	<p>Allies secured a consultant to facilitate the strategic planning meeting in 2018.</p> <p>Allies assisted CHWs by coordinating logistics and securing funding for all meetings.</p> <p>Allies and CHWs inform employers and directors of various organizations about the importance of supporting CHW professional and workforce development opportunities and establishing a professional association.</p>	<p>Allies secure services of consultants to facilitate planning meetings about the association.</p> <p>Allies will assist the leadership to identify long-term funding sources to operate an association and implement programs.</p> <p>Allies and CHWs will inform employers, policymakers, and other decision makers about the importance of supporting professional and workforce development opportunities, and professional association.</p>	<p>Allies assist the Association to secure long-term funding, provide technical assistance, and capacity building as they develop their organization and implement their programs. Some examples of assistance from allies:</p> <ol style="list-style-type: none"> 1. Identifying consultants to support organizational development, and, trainers for capacity building in policy development and advocacy. 2. Identifying potential funding sources to implement programs and sustain the Association.

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References

1. American Public Health Association. Support for Community Health Worker Leadership in Determining Workforce Standards for Training and Credentialing. <https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2015/01/28/14/15/support-for-community-health-worker-leadership>. Accessed January 14, 2019.
2. Witmer A, Seifer SD, Finocchio L, Leslie J, O'neil EH. Community health workers: integral members of the healthcare workforce. *American Journal of Public Health*. 1995;85(8_Pt_1):1055-1058. doi:10.2105/ajph.85.8_pt_1.1055.
3. American Public Health Association (APHA). Community Health Workers. <https://www.apha.org/apha-communities/member-sections/community-health-workers>. Accessed January 14, 2019.
4. Ingram M, Reinschmidt KM, Schachter KA, et al. Establishing a Professional Profile of Community Health Workers: Results from a National Study of Roles, Activities and Training. *Journal of Community Health*. 2011;37(2):529-537. doi:10.1007/s10900-011-9475-2.
5. Findley SE, Matos S, Hicks AL, Campbell A, Moore A, Diaz D. Building a consensus on community health workers' scope of practice: lessons from New York. *American Journal of Public Health*. 2012;102(10):1981-1987. doi:10.2105/ajph.2011.300566.
6. Rosenthal LE, Brownstein JN, Rush CH, et al. Community health workers: part of the solution. *Health Affairs*. 2010;29(7) <https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2010.0081>.
7. Sabo S, Wennerstrom A, Phillips D, et al. Community health worker Professional advocacy. *Journal of Ambulatory Care Management*. 2015;38(3):225-235. doi:10.1097/jac.000000000000089.
8. Kash BA, May ML, Tai-Seale M. Community health worker training and certification programs in the United States: findings from a national survey. *Health Policy*. 2007;80(1):32-42. doi:10.1016/j.healthpol.2006.02.010.
9. Mason T, Wilkinson GW, Nannini A, Martin CM, Fox DJ, Hirsch G. Winning policy change to promote community health workers: lessons From Massachusetts in the health reform era. *American Journal of Public Health*. 2011;101(12):2211-2216. doi:10.2105/ajph.2011.300402.

“Nothing About Us Without Us”: Best Practices Learned Through Supporting Community Health Workers in Hawai‘i Nei and Beyond

Napualani Spock MA, MBA and Ashley Wennerstrom PhD, MPH

Abbreviations

APHA = American Public Health Association
AHEC = Hawai‘i-Pacific Basin Area Health Education Center
CHW = community health worker
HPCA = Hawai‘i Primary Care Association
RDP = Hawai‘i Rural Development Program
LACHON = Louisiana Community Health Outreach Network
NACHW = National Association of Community Health Workers
UH = University of Hawai‘i
WCCHC = Wai‘anae Coast Comprehensive Health Center

Background

The purpose of this editorial is to illustrate important lessons that we have learned while working as community health workers (CHWs), or with CHWs, over the past 20 years nationally and in Hawai‘i. We describe our personal and professional encounters with the CHW movement over time, and share the values of the CHW movement and why these are important. We hope this editorial can provide useful, real-world histories from our lived experience to accompany the academic articles in this special issue and can help frame the discussion of CHW engagement and empowerment going forward.

Napualani Spock’s Story

Introduction to CHWs

I first encountered CHWs in practice when I attended an event held by *Hui No Ke Ola Pono*, the Native Hawaiian Health Care System for Maui, with my mother and her friend Auntie Theresa at a church in Lahaina around 1996. We were greeted warmly and familiarly by kind people who introduced themselves as Joey and Auntie Aloha. They did an intake with my mother and Auntie Theresa and collected many vital health metrics: blood pressure, blood sugar, body mass index, survey of dietary choices and physical activity habits, tobacco and alcohol use screening, and a mental health screening. Then Auntie Ulu, the exercise teacher, led a hula-cize class, which I joined. After hula, we were treated to a healthy dinner of Hawaiian food (*poi*, chicken *laulau*, *limu*, and *lomi* salmon). There was a short lecture about the impact of colonialism on our health, and an exhortation to return to our traditional healthy lifestyle practices. This entire experience around health and wellbeing was done in a culturally-appropriate manner for the Hawaiian community. The staff were humble and respectful to the elders (including my mother and Auntie Theresa), encouraging, positive, and careful not to induce any shame about body weight or fitness levels, something the elders would likely have encountered in a common gym. It felt good to be there with these people, like

being with family who know how to talk with you, sincerely love you, and want to support your health and well-being.

In 2000, I was hired to work at that same organization, *Hui No Ke Ola Pono*. I met Joey, Auntie Aloha, and Auntie Ulu again, now as coworkers. My job was a new position, named community health coordinator. I was charged with helping to create a community learning center that would be co-sponsored by the Hawai‘i-Pacific Basin Area Health Education Center (AHEC) and to develop a new stroke prevention program which would be client-centered and reflect Hawaiian values. I came from the Hawaiian language/Hawaiian studies community so I was requested to help integrate our Hawaiian culture into the public health promotion program. In this role, I was now a CHW, although I did not yet know to call myself that.

Over the course of 2 years in this role, I learned so much from my fellow CHWs—their loving familial approach to our clients (everyone was “auntie” or “uncle” and treated with reverence), what issues our clients had and what resources were available to meet their needs in our Maui community (from food, to housing to health insurance), how to engage community partners to create an authentically-community-responsive program, fundraising, working with community advisory committees, and working with grant makers. I was taught that funders are not looking to offer handouts, but rather to partner with community organizations to achieve mutual goals. As such, it is the responsibility of the community organizations, as experts on their community, to ensure that resulting programs are culturally-appropriate and effective. If maintaining a culturally-appropriate approach would require modifying the methods of a funder’s proposal, it is important for the community organization to advocate for the modifications.

My job with *Hui No Ke Ola Pono* was a full-immersion education in community health and program design for me. Our CHW team reflected the community we served. I saw my own family members mirrored in the families we served, and knew inherently how to communicate effectively, what clients valued, how to best approach them to support the public health goals of improving Native Hawaiian health. They (we) WERE the community being served, as well as the people doing the serving. Therefore, as CHWs engage with the community, there is an easy, insider rapport that develops naturally and easy recognition of issues, concerns and nonverbal signals that would otherwise be missed. CHWs know that auntie is not answering truthfully about whether she is taking her medication daily because she has had to prioritize feeding the grandchildren she is fostering, but she would not say this because she would be embarrassed

on so many levels. Also auntie would be more likely to share this information with a CHW who would understand the subtle cues quickly without interrogating or judging. These lessons remained with me throughout the 20-year career that followed, while I worked as a CHW and supported and trained other CHWs.

The CHW Movement

In 2002, I was recruited to coordinate the development of a CHW training program at the Hawai'i Primary Care Association (HPCA) in collaboration with the University of Hawai'i (UH) Community Colleges. My first task was to establish a community advisory committee to help guide the curriculum development process and ensure that it would address the needs of CHWs and their employers across the state. We sought to tailor the training to meet the workforce development concerns of the statewide network of community health centers and Native Hawaiian Health Care Systems (like *Hui No Ke Ola Pono*) on every island.

I first had to figure out what a CHW actually was. How was this role defined? What were the boundaries? What were the job descriptions? I asked around. There were no such job titles at the agencies I was serving except for Wai'anae Coast Comprehensive Health Center (WCCHC). I visited and interviewed staff of WCCHC's Health Academy. They shared the curriculum they developed specific to the needs of their health center. I also reached out to other workforce development entities, including partners on previous projects such as Hawai'i-Pacific Basin AHEC and *Papa Ola Lokahi*. AHEC's Director, Dr. Kelley Withy, had heard about CHWs in one of her National AHEC meetings, and she introduced me to CHW researchers she knew. Dr. Don Proulx and Dr. Lee Rosenthal had worked together on The Community Health Advisor Study, the first published national iteration of core roles and competencies of CHW in 1998. This project provided valuable curriculum development resources, explained the distinctions between certification and credentialing and encouraged me to attend a national CHW conference hosted by the University of Southern Mississippi Center for Sustainable Health Outreach, called "Unity."

The 2002 Unity conference was held in Biloxi, Mississippi. It was an amazing opportunity and eye-opening experience. There I was, for the first time, surrounded by people who were community activists applying social justice values in service to their communities. The diversity was inspiring — people from so many communities across America from Native American, Amish, LGBTQ, African American, immigrant and Spanish-speaking communities. Within the diversity, there was a palpable unity of purpose and spirit! I felt I had found my people! They were all serving their communities, the communities they came from themselves, in a culturally-relevant, authentic way to promote social justice and improve social determinants of health whether they were called *promotores*, community health representatives, outreach workers, lay health educators, or any number of other titles. It was here that I learned about the larger CHW "movement."

At that first conference, I was the only Hawaiian attendee. Over the years, the number of Hawai'i participants has grown. At the 2019 conference in Las Vegas, more than 25 people from Hawai'i were in attendance! Together we learned about this growing movement and the values it found to be most helpful in supporting community health workers and their maximum effectiveness in addressing social determinants of health in their respective communities.

CHW Training Programs

Back home in Hawai'i, after the first Unity Conference in 2002, our HPCA CHW Community Advisory Committee sought to integrate what we learned from the national experts into our homegrown community expertise. Together with our partners we developed 2 CHW training programs, which were offered through the UH Community Colleges and funded through the Federal Department of Labor's subcontractee, the Hawai'i Rural Development Program (RDP).

In 2002, we started with a 9-credit Certificate in Case Management program, named for function rather than job title because of the lack of name recognition for the term CHW at the time. This program included 3 basic courses: Individual Counseling, Case Management, and a practicum. We were given a second RDP grant in 2004-2006 to develop training to address the next area of priority need: outreach strategies, health promotion/disease prevention, and community advocacy. Through this process, we developed a 100-hour Certificate in Outreach for Health Promotion, comprised of 3 credits plus 55 hours of seminars taught by rotating content-area specialists who believed in the CHW model, could serve as mentors and career contacts, and knew how to teach adult learners effectively. Both certificate programs were delivered across the state by local lecturers affiliated with local community colleges on Kaua'i, O'ahu, Maui, Moloka'i, and Hawai'i. Hiring the same instructors for both programs promoted the sustainability of the programs. We engaged the members of our statewide Community Advisory Committee to identify potential instructors, determine appropriate class schedules, and recruit participants on their respective islands to populate the classes. We also identified additional CHW leaders in each class to help facilitate sign-in and other logistical considerations.

More than 150 people completed one or both certificates during the 4-year period of 2002-2006. Many of these CHWs remain in service at community health centers, Native Hawaiian Health Care Systems, and other health and human service agencies today. Community networking and engaging local community-based partners was the key to reaching our lofty goals. Local CHWs, their employers, and the local organizations know their own communities best and can spread the word about training and help with identifying partners and resources better than any outsiders.

In 2014, I was hired at UH Maui to help write a workforce development grant which would focus on CHWs and School Health Aids, as newly-formalizing workforces. We strived to build upon previous efforts so that the many students who

completed previous certificate programs would not have to start from scratch. Through this grant, we developed a 15-credit certificate program that included the 9 credits from the Case Management Certificate as well as the topics which had been covered in the 100-hour Certificate in Outreach for Health Promotion (updated and adapted as CHW 101 and Health Promotion/Disease Prevention). Students who had previously taken the 9-credit Case Management Certificate needed only to add the CHW 101 and Health Promotion/Disease Prevention (6 credits) in order to obtain the new CHW Certificate.

In the meantime, so much had happened on the national level that increased awareness of CHWs as valuable, essential members of the public health team with the most potential to impact social determinants of health in underserved and vulnerable populations that many new stakeholders emerged in Hawai'i to support CHWs. Throughout the entire process of working with CHWs all these years, our strategy has been to partner with local CHWs, their employers and local community colleges, invite them to engage with us in a meaningful way to assess and prioritize needs, generate solutions, and provide continuous feedback to ensure the most relevant, desirable, effective programs.

Ashley Wennerstrom's Story

Introduction to CHWs

I first discovered the magic of CHWs in 2006 when I was a public health student at the University of Arizona. One of my incredible mentors, Jill Guernsey de Zapien, invited me to a bi-national training for CHWs working on both sides of the United States-Mexico border. As the participants went through an exercise in which they used a paper tree taped to a wall to identify the root causes of health problems, I realized that this health workforce was special. They did not deal in clinical work or technical terms, but it was clear that they intrinsically understood how social inequities shaped health in a way that many health care professionals did not.

A couple of years later, I accepted a position in post-Katrina New Orleans that was focused on building local mental health services delivery capacity. One element of the work involved training and supporting CHWs to do outreach and education about depression, and to make referrals for services. Again, I saw that CHWs were unique in that they could effectively address a highly stigmatized health issue in a way that other health care providers could not. They could connect with people who had been through trauma and make them feel safe enough to ask for support.

When that project concluded, several CHW colleagues and I went on to develop a CHW workforce training program, as well as a CHW professional group called the Louisiana Community Health Outreach Network (LACHON). Our goals were to develop local capacity to help new CHWs enter the workforce and to support existing CHWs who often work under very stressful conditions. As my longtime colleague and friend, Catherine Haywood, always says, we created LACHON because "CHWs need a place to vent." Today, under Catherine's dedicated leader-

ship, LACHON is playing a vital role in uniting CHWs across Louisiana and advising the state on CHW workforce policy.

The Question Is No Longer Whether to Engage CHWs, but How To Do So

During the last decade plus of collaborating with CHWs locally and nationally in various capacities, such as implementing interventions, conducting research, and developing policy, we have encountered numerous questions from policymakers, health care providers, and administrators about whether CHWs are effective. In the last few years, though, the conversation has shifted. The evidence base on the value of CHWs has grown tremendously and multiple federal agencies now recognize the importance of CHWs. Stakeholders are no longer asking whether to engage CHWs in the health systems transformation, but rather how to do so.

This monumental shift could not have happened without CHWs organizing for themselves. For example, one of the most important developments in the CHW world was simply settling on the term CHW as an umbrella title for many jobs and defining the CHW role. Thanks to organizing by members of the American Public Health Association (APHA) CHW section, APHA adopted a definition of CHWs in 2009,¹ and this definition has since been embraced by many CHW professional groups around the country. Members of the APHA section advocated for CHWs to be included as members of health care team in the Affordable Care Act and to have the United States Department of Labor create a new standard occupational classification for CHWs so that members of the workforce could be counted as such. Some individual states have begun to develop policies aimed at expanding the CHW workforce, and in response to concerns that such policies might be dictated by people other than CHWs, that APHA CHW Section successfully advocated for the organization to adopt a policy stating that at least half of the members of all bodies creating CHW workforce policies should be CHWs.²

The National Association of Community Health Workers

Perhaps one of the most exciting recent development in the CHW world, and one that we have been honored to play a small part in, has been the creation of the National Association of Community Health Workers (NACHW). For 3 years, roughly 20 CHWs and allies have worked to develop what we believe will become a single national voice for CHWs. Based on the lessons we have all learned in our home states and through national organizing work, particularly through the APHA CHW Section, we created a set of values including unity, self-empowerment, self-determination, social justice, equity, integrity, dignity, and respect, by which we will operate our organization. We officially launched the organization at the Unity Conference in Las Vegas with other 900 CHWs from across the country in attendance.

Conclusions

Throughout our decades of work, one of the most important lessons we have learned is the value of CHW leadership. In the

case of Hawai'i, we have supported community-building and leadership development on all 8 islands in the state because CHWs understand the unique strengths and challenges of each island. Thanks to the leadership of CHWs in individual states and across the nation, the CHW field has grown tremendously and effected important policy change in recent years. As stakeholders consider new policies to support the workforce and programs to improve the health of vulnerable communities, we believe it is absolutely vital that they engage existing, well-established CHW professional groups and encourage them to lead decision-making processes. During the official launch of the National Association of Community Health Workers, the Conference, the phrase "nothing about us without us" was often used. This call to CHWs is a reminder that they should engage in policy development and advocacy so that their perspectives and wisdom are reflected in all decisions that affect the CHW workforce and the communities that CHWs serve. We encourage CHWs to engage, speak up with their perspectives, and use their voices to advocate for the workforce and their communities!

Conflict of Interest

None of the authors identify a conflict of interest.

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References

1. American Public Health Association. Support for community health workers to increase health access and to reduce health inequities. 2009. <https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2014/07/09/14/19/support-for-community-health-workers-to-increase-health-access-and-to-reduce-health-inequities>. Accessed June 9, 2019.
2. American Public Health Association. Support for community health worker leadership in determining workforce standards for training and credentialing. <https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2015/01/28/14/15/support-for-community-health-worker-leadership>. Accessed June 9, 2019.

Engaging a Community Chaplaincy Resource for Interprofessional Health Care Provider Training in Facilitating Family Decision Making for Children at End-of-Life

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Abstract

Coordinating the care of terminally ill children is difficult for both parents and the health care team. An underutilized resource is spiritual care, such as that provided by Pacific Health Ministry, a community-based nonprofit established to develop hospital ministry training programs in Hawai'i and provide chaplaincy services to local facilities. This paper describes a training exercise, called the Pediatric Interprofessional Program (PIPP), which is modeled after an adult program, the Hawai'i Interprofessional Training for End of Life Communication in the intensive care unit (HITEC-ICU). Both programs were developed to introduce teams of learners consisting of Pacific Health Ministry spiritual care residents, internal medicine or pediatric residents, undergraduate students in nursing, and graduate students in social work to techniques in delivering serious, life-altering information, and the dynamics of working as an interprofessional team through use of progressively unfolding clinical simulations. PIPP facilitators included chaplaincy instructors at Pacific Health Ministry, university faculty, and community practitioners in pediatrics, nursing, and social work. The simulations were conducted at the Translational Health Science Simulation Center (THSSC) of the University of Hawai'i at Mānoa (UHM) School of Nursing and Dental Hygiene (SONDH), with simulated patients from the HealthCAST (Collaborative Acting Simulation Training) program, a collaborative agreement between SONDH and the UHM Department of Theatre and Dance. The training is ongoing, but has thus far demonstrated that interprofessional education programs are feasible across community, academic, and clinical lines, and benefit from the engagement of community resources.

Keywords

Interprofessional education, chaplaincy, simulation, end-of-life decision making

Highlights

- *Using an interprofessional team approach can improve pediatric end-of-life care*
- *Chaplaincy services are a valuable resource that is often underutilized*
- *A community-based chaplaincy organization partnered with academic/clinical faculty*
- *Participants included spiritual care residents, pediatric residents, and students in nursing and social work*

Introduction

Therapeutic decisions for children at the end of life pose major challenges for both parents and the health care team, as they seek to balance the likelihood of cure with the toxicity of therapy and its effects on quality of life, pain, and suffering.¹⁻³ A fundamental problem is that aggressive therapy is often administered to children who are so ill that it not only fails to prevent mortal-

ity, but aggravates morbidity and erodes remaining quality of life.^{4,5} For example, just as in adults,⁶ pediatric cancer patients can be treated beyond medical benefit despite poor outcomes, giving rise to increased toxicity, decreased quality of life, and greater healthcare costs. Physicians at all levels of experience recognize that they don't have enough training in conducting these difficult conversations and avoid them, or fail to identify and incorporate key family values and priorities into the decision-making process.⁷⁻¹⁰ Nurses and other health care team members may sense when needed conversations are not taking place, but are unsure of the roles they should play in facilitating the process, or are relegated to "damage control" after poorly managed conferences with parents or family members.^{11,12}

Spiritual care (chaplaincy) services represent an underutilized resource that can help alleviate these problems and facilitate end-of-life decision making. The inclusion of hospital-based spiritual care as part of advance care planning is feasible and acceptable to both patients and other members of the healthcare team, and chaplaincy involvement in end-of-life discussions with hospitalized patients has been linked with increased utilization of hospice services.^{13,14} Pacific Health Ministry is a nonprofit community-based organization established in 1986 to develop hospital ministry and clinical pastoral education programs in Hawai'i, due to the growing interest on the part of health care institutions to address complex bioethical questions and end-of-life issues. The program currently provides spiritual care services and education to several medical facilities across the state. This article describes the simulation training exercise, Pediatric Interprofessional Program (PIPP), which adapted the interprofessional simulation program for adult patients, Hawai'i Interprofessional Training for End of Life Communication in the Intensive Care Unit (HITEC-ICU), to provide a pediatric focus. Educators from Pacific Health Ministry were an integral part of the faculty team who volunteered their time and expertise to create both HITEC-ICU and PIPP. Didactic online modules and simulation practice sessions were designed to promote an interprofessional team approach to teaching students how to engage patients and/or their families in end-of-life decision making in the acute intensive care setting. The teams of learners included spiritual care residents from Pacific Health Ministry, internal medicine or pediatric residents, and students in social work and nursing.

Methods

PIPP is packaged as a pediatric interprofessional simulation experience that requires completion of an online pre-simulation module. The module provides an overview of conversation strategies that can be used during the 4-hour interprofessional training session. This includes articles addressing specific approaches based on Fuzzy Trace¹⁵ and Prospect Theories.^{16,17} The former helps to facilitate parental decision making by condensing information into bottom-line messages (capturing the gist of the clinical situation), and the latter by framing choices to align recommendations with parental values and the child's changing condition.¹⁸ In addition to these theories, learners were provided with information on the use of the SPIKES (Setting, Perception, Invitation, Knowledge, Emotions, Summary) protocol for breaking bad news,¹⁹ the NURSE response (Name the emotion, Understand the emotion, Respect the patient, Support the patient, Explore the emotion) for verbal expression of empathy,²⁰ and SURETY (Sit at an angle, Uncross your arms, Relaxed posture, Eye contact, Touch, Your intuition), a technique for nonverbal expression of empathy.²¹ Learners were provided with cognitive roadmaps²² consisting of questions they could ask parents to structure and guide conversations so that the team could help them articulate their hopes and identify their priorities, as they struggled with making decisions about the care of their child.

Lastly, learners were given examples of team roles such as meeting initiator, key informant, empathic supporter, emotional monitor, and closer (someone who summarizes the content of the discussion for the parent, and reviews the agreed upon next steps). It was emphasized that although their training as a pediatrician, nurse, social worker, or chaplain may be fixed, their team role(s) within a patient encounter were flexible, and could be switched as conversations with parents evolved, depending on the situation (referred to as situational leadership). For example, a chaplain might begin as an empathic supporter, monitoring parental response to the medical information being given by a key informant (nurse or physician), and intervening by pausing the dialogue to address the parent's emotions. However, at a later point, the chaplain might take over the role of key informant when parental issues center on concerns or questions such as guilt, or the conflict between the medical information being received and the urging of the parents' pastor to remain positive and maintain faith in a complete recovery. Competency in the practice of situational leadership and role flexibility techniques underlies the effectiveness of interprofessional teamwork.^{23,24} Online module instructions, narrated slide presentations, articles, and video clips showing examples of a well-functioning interprofessional team in action were all loaded onto a secure, web-based course management system (University of Hawai'i Lāulima) so that didactic materials could be accessed according to each individual's availability and convenience. The total estimated time to review these materials is 3 to 4 hours, and learners were expected to have completed this prior to the simulation session.

The simulation session was a 4-hour, 2-part unfolding session that began with an orientation to the day's learning objectives.

The overarching goal of the exercise centered on learning the professional roles and contributions of the interprofessional team involved in end-of-life care planning. In this exercise, the interprofessional teams collaborated to deliver bad (life-threatening) news to the parent of a critically ill child and engage in end-of-life planning. To ensure that all learners had an opportunity to interact with a simulated patient, 3 simulation rooms were run simultaneously during each of 2 sessions during the semester.

Approximately 16 participants per session were assigned to 1 of 3 interprofessional groups, each consisting of a mix of 1 to 2 pediatric residents, 1 chaplaincy resident, 2 to 4 nursing students, and 1 to 2 social work students. Faculty facilitators for each group included representatives from each profession. Each group was assigned their own simulated patient, and groups designated at least 1 member from each profession to form a clinical team to meet with the patient. During Parts 1 and 2 of the scenario, interprofessional team "huddles" were built into the structure of the exercise to highlight the importance of team collaboration and planning prior to conducting the patient meetings. Before both encounters, all learners in the group were given general information about the case. To encourage communication and collaboration, each member of the designated clinical team was provided with additional profession-specific information not available to the others on the team. During the pre-encounter huddle, each clinical team member shared the information they received, discussed their perspective with the other members, and together, the team identified pertinent issues and planned a coordinated approach to use with the parent. At the conclusion of the team huddle, the HealthCAST (Collaborative Acting Simulation Training) actor (see the Expert developers and facilitators of the simulation training section below) entered the conference room, and the encounter ensued. After the parent meeting was completed, there was a structured debriefing led by the facilitators. A second set of interprofessional team members were then chosen, allowing those who had not participated in Part 1 to participate in Part 2 of the exercise, which was conducted in the same manner as Part 1. The final debriefing also included a feedback session with the HealthCAST actor, who portrayed the parent of the dying pediatric patient.

Unfolding Simulation Scenario

The clinical scenario in the PIPP simulation exercise centered on a 3 ½-year-old boy involved in an accidental near-drowning, where there was respiratory/cardiac arrest and aspiration. The healthcare team's first conversation with a trained HealthCAST actor playing the role of the parent occurs shortly after the child's arrival in the pediatric intensive care unit (ICU). The goal of this interaction is for the team to work collaboratively to help the parent understand their child's critical situation, to engage the parent in discussing concerns and goals of therapy, and to negotiate a plan for utilizing life sustaining interventions. The second encounter, set 2 days later in the ICU, occurs after further clinical deterioration of the child and the demonstration of brain

death. The team must convey this information and then initiate and facilitate an intervention conversation with the parent to help him or her make informed decisions about the withdrawal of treatment and end-of-life care.

Expert Developers and Facilitators of the Simulation Training

The PIPP content experts who developed and helped facilitate the simulation scenario included chaplains from Pacific Health Ministry, physicians from the University of Hawai'i at Mānoa (UHM) John A. Burns School of Medicine Department of Pediatrics, nursing faculty from the UHM School of Nursing and Dental Hygiene (SONDH), social work faculty from the UHM Myron B. Thompson School of Social Work, and nurses and social workers in clinical practice at the Kapi'olani Medical Center for Women & Children. Simulation training sessions were held at the SONDH's Translational Health Science Simulation Center (THSSC), a state-of-the-art high-fidelity clinical simulation facility that offers multiple training modalities, including the HealthCAST program, a collaborative effort between SONDH and the UHM Department of Theatre and Dance.

HealthCAST actors were trained to portray the patient's mother or father. The PIPP planning team worked with the THSSC to create a scenario booklet that provided a broad narrative framework for the clinical situation. An "emotional trajectory" was used as a guide for the actors to react to the team's interventions. HealthCAST actors also debriefed with learners after the simulation was concluded, giving feedback on how they felt (as the patient's parent) interacting with the healthcare team. In turn, learners provided feedback on the credibility of the actor's performance, allowing for mutually-beneficial growth.

Results

Four training sessions have been held over 2 years, involving 14 third year pediatric residents, 23 undergraduate senior nursing students, 3 social work graduate students, and 9 chaplaincy residents, divided into a total of 12 interprofessional groups. Learners completed a THSSC evaluation form, as well as the Self-Efficacy for Interprofessional Experiential Learning²⁵ and End-of-life Professional Caregiver Survey²⁶ instruments, providing pre- and post-training responses. PIPP is currently in its third year, and data and thematic analyses of quantitative and qualitative survey results are ongoing. Initial participant feedback regarding teamwork and the contribution of chaplaincy was positive, and expressed the desire for more interprofessional experiences that included chaplaincy residents. Learners valued working as interprofessional team members in these difficult situations.

Discussion

Pacific Health Ministry provides staffing for hospital-based spiritual care, and is the only ministry education program in the state of Hawai'i. It is accredited by the Association for Clinical

Pastoral Education, which sets the national standard for spiritual care education. This article described how this unique community resource is being leveraged through a partnership with academic and clinical institutions to enhance interprofessional training designed to facilitate and enable parental end-of-life decision making for a critically ill child.

Both chaplains and physicians often interact with patients in one-on-one settings, and previous educational programs have been developed to acclimatize them to working together to address the patient's spiritual needs.²⁷ There is a large body of literature on the expansion of such interprofessional dyads to include teams composed of practitioners in medicine, nursing, pharmacy, social work, and public health. Much of this education is simulation-based, and overall, evaluations on criteria such as attitude towards teamwork, and leadership techniques have been extremely positive.²⁸⁻³² Fewer interprofessional simulation studies have been conducted on challenging communication-focused situations with adults such as end-of-life care, or care for deteriorating patients.³³⁻³⁵ In most of these reports, spiritual care expertise/chaplaincy involvement was lacking. Fewer still are programs focusing on interprofessional end-of-life simulation training for pediatrics. One notable recent publication reported on students in nursing, medicine, pharmacy and public health, with significant pre/post increases in perceptions of teamwork, faculty observations of performance, and positive attitudes about interprofessional teams participating in end-of-life pediatric simulations.³⁶

In actual practice, although end-of-life and advance care planning is considered a priority and several interprofessional team members may be involved, most hospital settings lack systematic clinical routines to support such activities.³⁷ Prior to the actual simulation sessions, PIPP modules prepared learners with online education that included behavioral decision-making theory, protocols and cognitive roadmaps, and examples of how a well-functioning interprofessional team uses situational leadership. The ultimate goal of this educational approach is to improve the ability of healthcare providers to function as interprofessional teams to manage the delivery of distressing clinical information, as well as the emotional responses it elicits, and to help parents identify their own guiding principles for making difficult decisions. The PIPP experience was designed as an initial exposure of healthcare professionals-in-training to the benefits of providing competent, compassionate care as part of an interprofessional team. Limitations of this report include the lack of a control group, lack of longitudinal follow up, and an inability to assess whether learners' participation in PIPP translates into actual improvement in quality of care. Thus far, PIPP has demonstrated that interprofessional educational programming is feasible across community, academic, and clinical lines. In addition, PIPP shows that web-based delivery of preparatory didactic materials reduces the need for frequent in-person meetings to provide lectures for multiple groups of learners in different professions.

Practical Implications

The inclusion of a chaplain as a member of an interprofessional team is a valuable addition to interprofessional education. This article describes the development and implementation of a simulation-based program that leverages community expertise in spiritual care education in combination with academic and clinical resources. The program exposed learners to the experience of working as a team to support the family and each other as they delivered bad news in difficult situations. Future work will evaluate current results and create longitudinal training to address the needs of practicing healthcare providers in high-risk areas, where the opportunity exists to build competency, and to evaluate effects on quality of care indicators and team engagement.

Conflict of Interest

None of the authors identify a conflict of interest.

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References

1. Dickinson GE. A 40-year history of end-of-life offerings in US medical schools: 1975-2015. *Am J Hosp Palliat Care*. 2017;34:559-565.
2. Hinds PS, Drew D, Oakes LL, Fouladi M, Spunt SL, Church C, Furman WL. End-of-life care preferences of pediatric patients with cancer. *J Clin Oncol*. 2005; 23:9146-54.
3. Hinds PS, Kelly KP. Helping parents make and survive end of life decisions for their seriously ill child. *Nurs Clin North Am*. 2010;45:465-74.
4. Byock IR. End-of-life care: a public health crisis and an opportunity for managed care. *Am J Manag Care*. 2001;7:1123-32.
5. Saini V, Garcia-Armesto S, Klemperer D, Paris V, Elshaug AG, Brownlee S, Ioannidis JPA, Fisher ES. Drivers of poor medical care. *Lancet*. 2017;390:178-190.
6. Braga S. Why do our patients get chemotherapy until the end of life? *Ann Oncol*. 2011;22:2345-8.
7. Chou WS, Hamel LM, Thai CL, Debono D, Chapman RA, Albrecht TL, Penner LA, Eggle S. Discussing prognosis and treatment goals with patients with advanced cancer: A qualitative analysis of oncologists' language. *Health Expect*. 2017; Mar 5 [Epub ahead of print].
8. Ha JF, Longnecker N. Doctor-patient communication: a review. *Ochsner J*. 2010;10:38-43.
9. Lotz JD, Jox RJ, Borasio GD, Führer M. Pediatric advance care planning from the perspective of health care professionals: a qualitative interview study. *Palliat Med*. 2015;29:212-22.
10. Monden KR, Gentry L, Cox TR. Delivering bad news to patients. *Proc (Bayl Univ Med Cent)*. 2016;29:101-2.
11. Ahluwalia SC, Schreiber-Baum H, Prendergast TJ, Reinke LF, Lorenz KA. Nurses as intermediaries: how critical care nurses perceive their role in family meetings. *Am J Crit Care*. 2016; 25:33-8.
12. Warnock C. Breaking bad news: issues relating to nursing practice. *Nurs Stand*. 2014;28:51-8.
13. Lee AC, McGinness CE, Levine S, O'Mahony S, Fitchett G. Using chaplains to facilitate advance care planning in medical practice. *JAMA Intern Med*. 2018;178:708-710.
14. Flannelly KJ, Emanuel LL, Handzo GF, Galek K, Silton NR, Carlson M. A national study of chaplaincy services and end-of-life outcomes. *BMC Palliat Care*. 2012;11:10.
15. Reyna VF, Brainerd CJ. Dual processes in decision making and developmental neuroscience: a fuzzy-trace model. *Dev Rev*. 2011;31:180-206.
16. Verma AA, Razak F, Detsky AS. Understanding choice: why physicians should learn prospect theory. *JAMA*. 2014;311:571-2.
17. Wilhelms EA, Reyna VF. Effective ways to communicate risk and benefit. *Virtual Mentor*. 2013;15:34-41.
18. Back AL, Trinidad SB, Hopley EK, Edwards KA. Reframing the goals of care conversation: "we're in a different place". *J Palliat Med*. 2014;17:1019-24.
19. Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES-A six-step protocol for delivering bad news: application to the patient with cancer. *Oncologist*. 2000;5:302-11.
20. Back AL, Arnold RM, Baile WF, Tulsky JA, Fryer-Edwards K. Approaching difficult communication tasks in oncology. *CA Cancer J Clin*. 2005;55:164-77.
21. Back A, Arnold R, Tulsky J. *Mastering Communication with Seriously Ill Patients: Balancing Honesty with Empathy and Hope*. Cambridge, United Kingdom: Cambridge University Press; 2009.
22. Stickley T. From SOLER to SURETY for effective non-verbal communication. *Nurse Educ Pract*. 2011;11:395-8.
23. Chatalalsingh C, Reeves S. Leading team learning: what makes interprofessional teams learn to work well? *J Interprof Care*. 2014;28:513-8.
24. Smith T, Fowler-Davis S, Nancarrow S, Ariss SMB, Enderby P. Leadership in interprofessional health and social care teams: a literature review. *Leadersh Health Serv (Bradford Engl)*. 2018;31:452-467.
25. Mann K, McFetridge-Durdle J, Breaux L, Clovis J, Martin-Misener R, Matheson T, Beanlands H, Sarria M. Development of a scale to measure health professions students' self-efficacy beliefs in interprofessional learning. *J Interprof Care*. 2012;26:92-9.
26. Lazenby M, Ercolano E, Schulman-Green D, McCorkle R. Validity of the end-of-life professional caregiver survey to assess for multidisciplinary educational needs. *J Palliat Med*. 2012;15:427-31.
27. Hemming P, Teague P, Crowe T, Levine RB. Demystifying Spiritual Care: An interprofessional approach for teaching residents and hospital chaplains to work together. *J Grad Med Educ*. 2016;83:454-5.
28. Jakobsen RB, Quatrara B. Interprofessional simulations promote knowledge retention and enhance perceptions of teamwork skills in a surgical-trauma-burn intensive care unit setting. *Dimens Crit Care Nurs*. 2018;37:144-155.
29. Jakobsen RB, Gran SF, Grimsmo B, Arntzen K, Fosse E, Frich JC, Hjortdahl P. Examining participant perceptions of an interprofessional simulation-based trauma team training for medical and nursing students. *J Interprof Care*. 2018;32:80-88.
30. Labrague LJ, McEnroe-Petitte DM, Fronda DC, Obeidat AA. Interprofessional simulation in undergraduate nursing program: an integrative review. *Nurse Educ Today*. 2018;67:46-55.
31. Levesque JF, Harris MF, Scott C, Crabtree B, Miller W, Halma LM, Hogg WE, Weenink JW, Advocat JR, Gunn J, Russell G. Dimensions and intensity of inter-professional teamwork in primary care: evidence from five international jurisdictions. *Fam Pract*. 2018;35:285-294.
32. Wong AH, Gang M, Szyld D, Mahoney H. Making an "attitude adjustment": using a simulation-enhanced interprofessional education strategy to improve attitudes toward teamwork and communication. *Simul Healthc*. 2016;11:117-25.
33. Liaw SY, Zhou WT, Lau TC, Siau C, Chan SW. An interprofessional communication training using simulation to enhance safe care for a deteriorating patient. *Nurse Educ Today*. 2014;34:259-64.
34. Bartlett JL, Thomas-Wright J, Pugh H. When is it okay to cry? An end-of-life simulation experience. *J Nurs Educ*. 2014;53:659-62.
35. Gannon J, Motycka C, Egelund E, Kraemer DF, Smith WT, Solomon K. Teaching end-of-life care using interprofessional simulation. *J Nurs Educ*. 2017;56:205-210.
36. Stout-Aguilar J, Pittman A, Bentley R, Livingston J, Watzak B. The effects of interprofessional pediatric end-of-life simulation on communication and role understanding in health professions students. *Nurs Educ Perspect*. 2018;39:360-362.
37. Arnett K, Sudore RL, Nowels D, Feng CX, Levy CR, Lum HD. Advance care planning: understanding clinical routines and experiences of interprofessional team members in diverse health care settings. *Am J Hosp Palliat Care*. 2017;34:946-953.

As a Community, We CAN: How Collaboration in East Hawai'i Led to Community-Wide Initiatives Focused on Reducing Avoidable Emergency Department Visits and Inpatient Admissions

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Abstract

East Hawai'i and its local hospital face unsustainable cost and health care utilization trends. The medical and social service organizations in this region, which includes the city of Hilo and its surrounding area on Hawai'i Island, previously worked in silos regarding coordination of patient care. To mitigate these factors, community initiatives have been implemented to address the needs of high-cost, high-need (HCHN) patients. Can community initiatives that better coordinate medical and social services to directly address social determinants of health improve quality of care and reduce utilization of emergency department (ED) and inpatient (IP) resources?

Respected community leaders and diverse stakeholders in East Hawai'i have organized a community to improve health while lowering costs, influence legislative policy, and work collaboratively with the largest health plan in Hawai'i and the local hospital to change health care delivery.

A population of patients with high cost, utilization, and disease burden was identified. A model of care was developed with 2 centers of excellence, providing care coordination across medical and social services. Community health workers (CHWs) were added to help patients navigate the system, comply with treatment plans, and request exception funding. A community forum for medical and social services has been established and an online referral system improves efficiency and accountability. Finally, a community quality assurance (QA) committee is being put into place to drive systemic improvements.

The community approach adopted in East Hawai'i holds great promise to realize structural changes to healthcare. While not yet fully implemented, anecdotal data suggest that this program is reducing ED and IP utilization and effectively addressing social determinants of health.

Highlights

- Healthcare transformation can be accomplished through local multi-sector collaboration and community leadership
- Community health workers provide high-touch support to high-cost, high-need patients
- Community QA Committee creates systemic improvement through case reviews
- Exception funding helps meet critical needs that are not covered by medical benefits or social services
- An online inventory and referral system support access to resources and accountability.

List of Abbreviations

CAN = Community Action Network
CCIT = Community Care Improvement Team
CHW = community health worker
C-PCMH = Complex Patient Centered Medical Home
ED = Emergency Department
HCHN = High-cost, high-need
HMC = Hilo Medical Center
RHIC = Regional Health Improvement Collaborative
QA = Quality Assurance

Background: Bringing the Community Together

Based on current projections, within a decade the Hilo Medical Center (HMC) Emergency Department (ED) in East Hawai'i will not have enough rooms and space to adequately treat patients. Currently, patients make 49,000 visits to the Hilo Medical Center ED annually; from 2012 to 2016, the hospital ED treated almost 133,000 patients. The ED has seen an increase of about 900 patients per year on average, rising from 24,855 patients in 2012 to 28,445 patients in 2016. This represents an annual increase of about 3.5%. If these trends continue, they could reach the current full capacity limit of 65,000 ED visits annually by 2027. Additionally, analysis shows that 29% of patients treated at HMC's ED have conditions that are non-emergency in nature and could be handled by the patient's primary care doctor. The hospital's inpatient capacity will also be overwhelmed in less than a decade.

Community First

Community First is a non-profit organization formed in 2014 in East Hawai'i, dedicated to transforming healthcare and personal accountability for health. The organization views the unsustainable Hilo Medical Center patient visit trends as an opportunity for local action. Community First is helping to shape efforts in East Hawai'i with 3 key tenets:

Only together: There is no way to transform healthcare and achieve a sustainable system without coming together.

Make the invisible, visible: Harmony can only come from truth, so we must make the invisible, visible. Truth is the basis of the trust needed for collaboration and transformation.

Try, and don't expect to get it right the first time: We need to act, and we will need to make adjustments as we move forward, but we will make these adjustments collaboratively and in the best interests of the community.

These principles guide the community initiatives in East Hawai'i as they address the adaptive challenge of transforming healthcare. The concept of adaptive challenges comes from the work of Ron Heifetz at Harvard Business School and holds that all stakeholders must resolve baggage from the past, learn new ways of communicating, discuss their fears of loss in changing, and work together to find solutions to their problems. Addressing the adaptive challenge is essential to the community approach.

The East Hawai'i community has spent years building relationships between health care stakeholders.

Regional Health Improvement Collaborative

To foster relationships and develop trust, Community First created the East Hawai'i Regional Health Improvement Collaborative (RHIC). The RHIC included the board chairs and/or chief executive officers (CEOs) from the major healthcare providers in the community including Hilo Medical Center (HMC); Bay Clinic, a federally-qualified health center (FQHC); Hawai'i Medical Service Association (HMSA), the largest health plan in the community; East Hawai'i Independent Physicians Association (IPA), the largest physician association in the region; and Hawai'i Care Choices, a palliative care and hospice organization.

Currently the major focus of the RHIC is to improve care for HCHN patients struggling with unmet economic and social needs that affect their health, such as tenuous living situations, food insecurity, inconsistent employment, and lack of social support. It is estimated that these social determinants of health account for 80% to 90% of health outcomes for a population.

Community Action Network

It was clear that working with social service providers was critical to address social determinants of health, particularly with HCHN patients, and the RHIC recommended convening a steering committee to address gaps in the social safety net and care coordination across the continuum of medical and social services. This committee, identified as the Community Action Network (CAN), currently includes 25 medical and social service providers. Leadership by well-respected community leaders was critical to get participation from all members. Navvis, a population health company, facilitates monthly meetings and organizes task forces. Trust, respect, inclusion, participation, alignment, and communication are essential components of how the CAN operates as both a network of resources and a steering committee.

Figure 1 shows the structure of relationships between Community First, the RHIC, and the CAN.

Two Centers of Excellence: Bay Clinic and the Complex Patient Centered Medical Home

CAN developed a model of care for HCHN patients which was endorsed by Community First and the RHIC. It was agreed that each patient should have a medical home which would be responsible for care coordination across the continuum of medical and social services. It was acknowledged that HCHN patients could benefit from a healthcare "center of excellence" where more attention and expertise could be provided to care for the complexity of their needs. Two centers of excellence were designated: Bay Clinic and the Complex Patient Centered Medical Home (C-PCMH) at HMC, located at the Hawai'i Island Family Health Center, near the HMC ED.

Bay Clinic

As an FQHC, Bay Clinic has a payment model to cover ancillary services and was organized to operate as a center of excellence with not only medical providers but also social workers and CHWs.

C-PCMH, a Partnership between HMC and HMSA

To create a center of excellence for HCHN patients outside of Bay Clinic, a partnership between Hilo Medical Center and HMSA was formed. HMSA, the largest health plan in Hawai'i with 70% of the market in East Hawaii, and HMC designed a payment model with monthly fees for care coordination and increased fees for visits to cover the enhanced delivery structure for the C-PCMH. The model incentivizes providers to use a team approach to treat HCHN patients. Identified patients are enrolled in the C-PCMH for 6 months, with a 3-month extension provided as needed. Through this type of coordinated and focused effort, HCHN patients get access to timely and relevant resources that help prevent future avoidable ED visits and/or IP admissions.^{4,6}

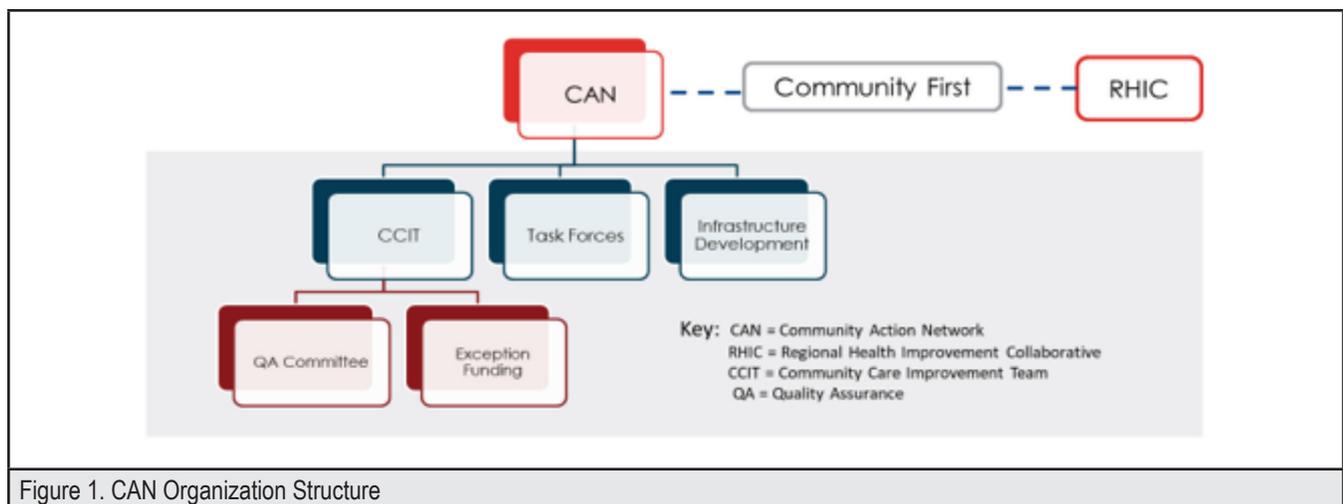


Figure 1. CAN Organization Structure

The American Academy of Family Physicians (AAFP) states that physicians must have awareness of obstacles that patients confront when following treatment plans.⁷ According to a 2017 survey conducted by the AAFP, 83% of family physicians agreed that they should address their patients' social determinants of health, including factors such as housing, food, and transportation.⁸ Despite this and the availability of validated screening tools, the vast majority of family physicians found this task too time consuming to conduct routinely, and most said their clinics are not properly staffed to address these non-medical needs.

The C-PCMH recognizes that social determinants of health impact the medical costs and overall health of patients, and costs can be reduced by connecting patients to community resources. The C-PCMH provides coordinated and intensive managed care for patients with complex needs who meet eligibility criteria. The aim is to care for these patients through a period of complex medical and social needs, and then return the care of those patients to their primary care physicians.

Target Patient Selection for Enrollment

To create a list of prioritized HCHN patients in East Hawai'i for possible C-PCMH enrollment, Navvis performed a detailed analysis of all HMSA QUEST members in East Hawai'i. The detailed analysis identified patients with the following criteria:

- 2+ hospital IP admissions in previous 12 months
- 3+ ED visits in previous 12 months
- 3+ chronic diseases

Additionally, other HMSA QUEST members that could be enrolled into the C-PCMH include:

- Patients with multiple unmet social determinants of health
- Medically- or socially-complex patients referred from ED
- Medically- or socially-complex patients referred by current primary care provider
- Patients that are high utilizers of the 911 Ambulance / Emergency Medical Services System

The Community Health Worker

CHWs are becoming important members of primary care teams.^{9,10} A recent randomized-control trial demonstrated that ambulatory patients who worked with a CHW to receive tailored support for chronic disease control spent significantly fewer days in the hospital over a 9-month period when compared to patients who had no additional support.¹¹ This was due to a combination of shorter average length of stay as well as lower odds of repeat admissions. Participants who worked with a CHW were also more likely to report the highest quality of care.

The first CHW at HMC was hired in 2018 as part of the C-PCMH team, which also includes a physician, a nurse practitioner, a behavioral health provider, and a pharmacist. The CHW plays a crucial role, developing an ongoing relationship with the patient. By meeting with patients face-to-face in their homes and demonstrating they are empowered to help, CHWs are often able to establish trusted relationships with their patients.

For the C-PCMH program, the CHW utilizes a standardized comprehensive screening tool to assess social determinants of

health needs, addressing 5 core domains that community services help with: housing instability, food insecurity, transportation problems, utility payments, and interpersonal safety.¹² The CHW then connects patients to available community resources to help mitigate needs. The CHW helps enrolled patients navigate the complex and often confusing maze of forms and eligibility requirements to get access to community services. In addition to their patient responsibilities, the CHW represents the C-PCMH multi-disciplinary primary care team at CAN meetings.

Exception Funding

Not all critical needs of HCHN patients are covered by available medical and social services, and some needs cannot be responded to quickly enough given required administrative procedures. Starting in the second quarter of 2019, a total of \$85,000 of exception funding will be available from HMSA and a state grant, administered by the CAN. The CAN established a limit of \$1000 per patient to help meet critical non-medical needs when there is an opportunity to improve health outcomes and lower medical expense. Examples that may merit exception funding include a patient needing a refrigerator to keep medication cool or a generator for medical equipment; a patient needing a ride to pick up medication from the pharmacy; or a patient needing transitional housing. Requests for exception funding should apply to domains such as housing, transportation, food, utility needs, among other social determinants – with an expectation that by meeting a specific need, a patient will avoid unnecessary medical costs.

Network of Social Services and Referral Management

The CAN identified a lack of understanding of the resources available in the community and procedures to access them. An online resource directory was needed where each organization could manage and post its own critical information, such as eligibility forms, key contact information, and services available. This online directory was created using a free social media platform for non-profit service organizations. More than 100 people from organizations who are members of the CAN currently use this platform to share information about eligibility, services and programs. During the Kilauea volcano eruption in 2018, this tool became even more helpful, as CAN allowed all eruption service programs to use and update the situation in real time.

The CAN identified transportation and behavioral health as major challenges. CAN members volunteered to be part of the Transportation and Behavioral Health Task Forces. The Transportation Task Force created a transportation process grid and a separate resource directory specifically addressing healthcare-related transportation needs. This has been utilized across several CAN-member organizations such as the Legal Aid Society and Hawai'i County Office of Aging. The Behavioral Health Task Force is working on a Behavioral Health Patient Navigation Tool to understand the organizations available to assist patients with certain conditions.

To create efficiency and accountability, a pilot version of online referral system is currently being implemented between the C-PCMH, the Big Island Substance Abuse Council (BISAC), a substance use disorder treatment provider, Hawai'i County Office of Aging, HOPE Services for the Homeless, and Hui Malama Ola Na Oiwai, the Hawaiian health system for Hawai'i Island. The referral system uses a technology platform called Coreo, provided by Navvis, and funded by HMSA. This platform will eventually connect most medical and social service providers in East Hawai'i.

Community Quality Assurance (QA) Committee

CAN members discuss cases that illustrate gaps in the system, but because these discussions can only be done on a de-identified basis, the ability to identify improvements was limited. A Community QA Committee was formed to enable the sharing of protected health information (PHI) during case reviews for the purpose of improving systemic issues. The challenge was twofold: to create a legal structure for the exchange of PHI among covered and non-covered entities as defined by HIPAA; and to protect discussions under laws regulating QA committees. To allow the exchange of PHI, an organized health care arrangement (OHCA) is being formed. An OHCA is a legal construct and arrangement between covered entities, such as health plans and providers, in which they execute a memorandum of agreement with each other and inform patients of their participation in the OHCA for the purpose of quality improvement in the notice of privacy practices given to patients. Providers who treat patients with substance use disorders must obtain individual patient consents. Non-covered social service entities sign a business associate agreement with the OHCA and inform patients of their participation in their notice of privacy practices. At the end of December 2018, 5 covered entities and 6 non-covered entities identified by the CAN have given their preliminary agreement, 5 are still reviewing, and 1 entity is unable to participate.

To address the challenge of protecting the discussions of a Community QA Committee, Community First mounted a campaign in the 2018 state legislative session to harmonize the definition of a QA committee in 2 different parts of Hawai'i law. Despite opposition from the trial lawyers, Senate Bill 2487 to harmonize the QA definitions was passed unanimously by both House and Senate and was signed by the Governor.¹³ This bill protects the discussions of a QA committee composed of representatives of independent entities. The bill's passage is an illustration of the power of a community working together.

Measuring Outcomes

Measuring data and sharing it in a transparent fashion among all stakeholders is a critical next step in this effort. Plans are currently underway to review the rates of avoidable IP and ED admissions for patients of Bay Clinic, HMC, and local primary care physicians. Additionally, quarterly C-PCMH program progress reviews began in January 2019, with bi-monthly meetings of the Community QA Committee to begin in the second quarter of 2019. These foundational elements will need to be in place and operational before this effort can evolve into a sustainable financial model.

Discussion

The current medical system in East Hawai'i is health plan-centric, with medical and social service providers contracting with or requesting services from 6 different health plans on behalf of their clients. The system must be transformed into one that is community-centric, community-governed, and health plan-enabled. Health plans, which have far greater organizational capacity than local providers in East Hawai'i, must develop management and information systems which enable intelligent initiatives at the community level.

In East Hawai'i, Community First, the RHIC and the CAN have demonstrated how a community can organize itself, create accountability for better health at lower costs, influence policy legislatively, and work collaboratively with the largest health plan and the regional hospital to change payment models and delivery systems. Significant infrastructure has been put in place to support this community-led approach, and clinical outcomes and cost savings with HCHN patients in East Hawai'i will be measured over the next few years.

The next major initiative is to collaborate with additional health plans, creating a social accountable care organization (ACO).^{14,15}

Practical Implications

Organizing a local community may be an effective approach to transform health and healthcare across a population. The legal and financial complexity of organizing independent medical and social service providers along with health plans is a formidable effort. In East Hawai'i, there was a foundation for collaboration due to the involvement of respected and engaged community leaders and broad involvement of medical and social service organizations. Because there is consensus and alignment around monitoring performance and focusing on improvement, co-creation and design of solutions and approaches that could not be achieved by any single stakeholder alone can begin in earnest. The foundations for an accountable and learning health community have been laid in East Hawai'i.

Conflict of Interest

None of the authors identify any conflict of interest.

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References

1. Hansel, J. "Nonemergencies put strain on hospital ER", Hawaii Tribune-Herald. November 6, 2017, available at <https://www.hawaiitribune-herald.com/2017/11/06/hawaii-news/nonemergencies-put-strain-on-hospital-er/>.
2. Heifetz R, Linsky M. *Leadership on the Line*. Boston: Harvard Business Review, 2002:13-15.
3. Hood CM, Gennuso KP, Swain GR, Catlin BB. Relationships between determinant factors and health outcomes. *American Journal of Preventive Medicine*. 50(2):129-135.
4. Enard KR, Ganelin DM. Reducing preventable emergency department utilization and costs by using community health workers as patient navigators. *Journal of Healthcare Management*. 2013 Nov-Dec;58(6):412-27; discussion 428.
5. Gunderson JM, et al. Community Health Workers as an Extension of Care Coordination in Primary Care. *Journal of Ambulatory Care Management*. 2018Oct;41(4): 33-340.
6. Johnson D, et al. Community Health Workers and Medicaid Managed Care in New Mexico. *Journal of Community Health*. 2012Jun;37(3):563-571.
7. American Academy of Family Physicians. Social Determinants of Health: Family Physicians' Role. https://www.aafp.org/dam/AAFP/documents/patient_care/everyone_project/sdoh-survey-results.pdf. (last accessed January 11, 2019).
8. American Academy of Family Physicians. Social Determinants of Health Policy. 2013. <https://www.aafp.org/about/policies/all/social-determinants.html>. (last accessed January 11, 2019).
9. US Dep. Labor Bur. Labor Stat. 2013. Standard Occupational Classification: 21-1094 Community Health Worker. <http://www.bls.gov/soc/2010/soc211094.htm> (last accessed November 22, 2018).
10. Perry HB, Zulliger R, Rogers MM. Community Health Workers in Low-, Middle-, and High-Income Countries. *Ann Rev Public Health*. 2014;35:399-421.
11. Kangovi S, Mitra N, Norton L, et al. Effect of Community Health Worker Support on Clinical Outcomes of Low-Income Patients Across Primary Care Facilities. *JAMA Intern Med*. Published on line Oct 22, 2018. doi:10.1001/jamainternmed.2018.4630.
12. Centers for Medicare and Medicaid Services "Accountable Health Communities Health-Related Social Needs Screening Tool", available at <https://innovation.cms.gov/Files/worksheets/ahcm-screeningtool.pdf> (last accessed January 11, 2019).
13. LegiScan. Hawaii Senate Bill 2487. 2018. <https://legiscan.com/HI/bill/SB2487/2018> (last accessed January 11, 2019).
14. Maxwell J, et al. "The First Social ACO: Lessons from Commonwealth Care Alliance", White Paper – February 2016, published by the Robert Wood Johnson Foundation.
15. Romm I, Ajayi T. Weaving Whole-Person Health Throughout an Accountable Care 12. Framework: The Social ACO. Health Affairs Blog, January 25, 2017. <https://www.healthaffairs.org/doi/10.1377/hblog20170125.058419/full/> (last accessed January 11, 2019).

Adding Social Determinants in the Electronic Health Record in Clinical Care in Hawai'i: Supporting Community-Clinical Linkages in Patient Care

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Abstract

Social and behavioral determinants of health, such as poverty, homelessness, and limited social support, account for an estimated 40% of health burdens and predict critical health outcomes. Many clinical-community linkages specifically focus on addressing such challenges. Given its distinctive history, culture, and location, Hawai'i has unique social factors impacting population health. Local health systems are striving to address these issues to meet their patients' health needs. Yet the evidence on precisely how health care systems and communities may work together to achieve these goals are limited both generally and specifically in the Hawai'i context. This article describes real-world efforts by 3 local health care delivery systems that integrate the identification of social needs into clinical care using the electronic health record (EHR). One health care system collects and assesses social challenges and interpersonal needs to improve the care for its frail seniors (aged 65 and older). Another system added key data fields around social support and inpatient mobility in the EHR to identify whether patients needed additional help during hospitalization and post-discharge. A third added a social needs screening tool (eg, housing instability, food insecurity, transportation needs) to its EHR to ensure that patient-specific needs can be appropriately addressed by the care team. Successful integration of this information into the EHR can identify, direct, and support clinical-community linkages and integrate such relationships into the care team. Many lessons can be learned from the implementation of these programs, including the importance of clinical relevance and ensuring capacity for social work liaisons trained for this work to address identified needs.

Keywords

electronic health record, social factors, acute care, routine clinical care

Highlights

- Hawai'i health systems are integrating social needs into clinical care.
- The electronic health record (EHR) is one mechanism for these efforts.
- One health system identifies social and behavioral needs for critically ill seniors.
- Another system added data fields around social support and inpatient mobility.
- Another system added social needs to the EHR.
- Clinical relevance and institutional capacity to resolve identified social factors are important considerations.

Abbreviations

CMS = Centers for Medicare & Medicaid Services

ED = emergency department

EHR = electronic health record

HPH = Hawai'i Pacific Health

IOM = Institute of Medicine

KPH = Kaiser Permanente Hawai'i

NAM = National Academy of Medicine

QHS = The Queen's Health Systems

SBD = social behavioral domains

SDH = social determinants of health

SWITCH = Social Wellbeings' Impact to Care and Health

Introduction

Social and behavioral determinants of health, such as poverty, homelessness, and limited social support, account for 40% of health burdens¹ and predict health outcomes.²⁻⁹ Health care for high-need patients that does not consider social factors and behavioral health leads to poorer outcomes, less satisfaction, and the feeling that these patients are falling through the cracks.¹⁰⁻¹² Patients commonly report that social needs are critical barriers to optimal health and health care.¹²⁻¹⁵ Approximately 80% of all physicians and 95% of physicians who work in low-income settings believe that addressing patients' social needs is as important as addressing their medical needs.¹⁶ The routine integration of the identification of patient social needs into clinical care holds considerable promise for meeting the triple aims of lower cost, higher quality, and better population health,¹⁷ and reducing health disparities.^{14-15,18} Limited attention to social factors during the design of clinical interventions may help explain the failures of many health care quality improvement efforts.¹⁹

While the social factors of patients' lives have traditionally fallen outside the purview of hospitals and clinics,^{1-4,20} there are increasing efforts to include them as part of innovative health care system models (eg, accountable care organizations, patient-centered medical homes).²¹⁻²² In 2014, the National Academy of Medicine (NAM, previously the Institute of Medicine (IOM)) created standard social and behavioral domains for primary care settings highlighting the importance of capturing these domains in electronic health records (EHR).¹⁴⁻¹⁵ Many innovative efforts to integrate social factors into clinical care delivery are underway.^{13,18,22-25} Successful integration of social and behavioral health information into the EHR can identify, direct, and support needs for clinical-community linkages and integrate such relationships into the care team.

The goal of this article is to describe some of Hawaii's progress in addressing social needs during clinical care based on experiences in 3 large, distinct health care delivery systems in Hawai'i. We describe efforts in integrating these factors into the EHR after first providing national background to contextualize this information.

Background

Efforts to increase the collection of social factor information in health care are growing across many different systems in the United States, including the US Department of Veterans Affairs (VA), academic family medicine, and Kaiser Permanente.^{13,26-28} The VA has a universal assessment of homelessness risk in their

EHRs in all outpatient settings across the country.²⁹ University of New Mexico's primary care clinics are collecting data on patients' social determinants of health as assessed by medical assistants.³⁰ A study of family medicine practices found the process acceptable to patients and the linking of the social factor data with the patient's medical record to be both useful and feasible. They now include a modified survey of all patients.²⁷ In another study, pediatricians queried families about basic resource needs for a new social history section within their EHR.³¹ Numerous other programs are emerging with innovative methods or cross-sector support to improve population health by addressing social factors.³²⁻³⁴

Emerging evidence exists that routinely addressing the social determinants of health during clinical care can improve critical health outcomes.³⁵⁻³⁷ For example, a recently published evaluation of the innovative Health Leads program at 3 academic primary care practices reported that the use of trained volunteers to screen for unmet needs, followed by appropriate education or access to an advocate, improved blood pressure control and lipid profiles.³⁸ New models of care that tie payment to health outcomes while holding providers responsible for patients' health and health costs have created strong incentives for primary care teams to improve capacity to address patients' unmet social factor needs in order to improve their patients' health.²⁶ Social determinants of health have moved suddenly from an academic topic to an on-the-ground reality for providers, clinics, and health systems.^{13,39-44}

However, despite considerable promise and action on this topic, there is limited empirical evidence on how health care systems can most efficiently and effectively collect patient-level social and behavioral information and use it to optimize routine care delivery, including how to best partner with community organizations to resolve their patients' needs.^{13,18, 23-25} Needed evidence includes how to best collect data on social and behavioral health domains, how to use this information most efficiently and most effectively in routine primary care, and how health systems should plan and manage resources in order to address patient-level social issues.^{26,31,41-42}

These are important concerns from the perspective of health systems administration and leadership. Health-related social needs are often difficult for providers to address without support. Many health systems lack the infrastructure, workflows, and incentives to develop systematic screening and also often may not have referral protocols and relationships to connect patients with community service providers to address health-related social needs. This may be particularly true in the acute care setting. Hospitals wishing to collect these measures in their EHRs are faced with the logistical burden of creating custom implementations for their software.^{41,43} Several facilities began their efforts by creating a screening tool via static PDF, which defeated the end-goal of interoperability.⁴⁴ To better address this complexity and uncertainty, key stakeholders (eg, patients, families, health plans, policymakers) have called for more research on the topic of routinely integrating social and behavioral domains into care delivery.^{1-3,23-25}

There are also important questions to answer from the patient and provider perspectives. Patients must find the appropriate time to mention these social challenges in time-limited provider visits and overcome reluctance to share information they may perceive as bothersome to providers about these struggles.⁴⁵⁻⁴⁶ Providers express concern about not knowing how to ask the questions and may feel uncomfortable asking about social challenges, especially in the absence of a standard protocol to address them.^{14-15,24} Efforts to integrate questions of social factors into clinical care can leverage the growing utility of EHRs to potentially help remove the personal discomfort and idiosyncratic variation across patients and providers, while providing flexibility to address patients' unique social needs and to identify and track relevant community-clinical linkages.^{21, 39-41,47-48}

Finally, these are important issues for public payers as well. In October 2018, the Hawai'i Department of Human Services issued a request for information to learn how providers and health plans work to improve care for patients who receive Medicaid and also have social risk factors.⁴⁹ In 2016, the Center for Medicare & Medicaid Innovation initiated the Accountable Health Communities Model with a goal of reducing health care costs and utilization by addressing the critical gap between clinical care and community services with a plan to identify and address health-related social needs through screening, referral, and community navigation services.³¹ These issues are very relevant to our state. A recent study in Hawai'i found that one of the most commonly reported reasons for potentially preventable hospitalizations was extreme social vulnerability (eg, homelessness, poverty, low social support).⁵⁰ In Hawai'i, people who are homeless account for a significant share of emergency department visits.⁵¹

Federally qualified health centers (FQHCs) are on the front-line of a national effort to capture individual-level social factor information using the Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences (PRAPARE).⁵² By systematically collecting standardized questions through EHRs and patient portals, FQHCs can gain better insights into their patient population, target resources to those most in need, and develop population-level strategies for addressing social factors.⁵² Considerable variation can be seen in the social determinants that particular health centers check for, and how they choose to collect social data from their patients.^{44,53} Yet without consistent measures and measurement, the ability to systematically compare and monitor the impact of social factors on health outcomes, health care utilization, and costs across communities will be limited.

Hawai'i Context

Given its distinctive history, culture, and location, Hawai'i has unique social factors impacting population health. Local health systems strive to address these issues to meet patients' health needs. We describe 3 large health care systems in Hawai'i and their real-world efforts to integrate social needs into clinical care using EHR. Kaiser Permanente Hawai'i, Hawai'i Pacific Health, and The Queen's Health Systems represent structur-

ally and operationally distinct health systems; collectively, they serve the majority of the Hawai'i population. Each has developed and implemented programs to collect and address social needs based on resource availability (eg, health IT support) and institutional priorities. Table 1 provides a summary of these programs in the 3 systems.

Kaiser Permanente Hawai'i

Collecting information on social factors is a high priority in Kaiser Permanente; it enables the targeting of patients' unmet social needs as part of their overall health care.⁵⁴ Nationally, Kaiser Permanente is a nonprofit, integrated group-model health care delivery system providing care for nearly 11.3 million people in 8 geographically distinct regions, including Kaiser Permanente Hawai'i (KPH), which reaches more than 255,000 people in approximately 20 facilities and clinics throughout O'ahu, Maui, Hawai'i, and Kauai.⁵⁵ In 2004, KPH implemented a new integrated EHR system to automate its patient files and improve the efficiency and completeness of documentation.

As Hawaii's elderly population continues to grow rapidly, increasing 28% from 2010-2017, KPH continues to address social and behavioral health care needs to improve the care for its older adults (ages 65 and older) with complex chronic conditions who have reached the point of frailty and decline. As a system approach to provide coordinated, patient-centered care, KPH has begun to optimize its EHR to systematically assess social challenges and interpersonal needs of this highly vulnerable population. Built on theory⁵⁶ and evidence,⁵⁷ the SWITCH (Social Wellbeings' Impact to Care and Health) program represents a care delivery movement to prioritize individual member preferences in medical care delivery.⁵⁸⁻⁵⁹ SWITCH centers around "knowing the member first and treating them second." Specially trained, dedicated social work navigators are paired with frail seniors to learn about their priorities for care and what matters most to them. Social worker navigators facilitate and document in the EHR interdisciplinary team discussions with the patient's

primary care physician, nurse, pharmacist, and home health representatives to develop a comprehensive treatment care plan that supports social, interpersonal, and health care needs. This work also involves collaborating with community resources to transform the way health care partners within the community support member wellness.⁵⁹

Older adults with multiple comorbidities who have not reached frailty and decline comprise the vast majority of the US older adult population.⁶⁰ Although these high-needs adults are healthier than those who are frail, a small decline in their functional health status could potentially classify them as critically ill, leading to more extreme healthcare needs and greater expense. While assigning dedicated social workers for everyone with chronic care needs may not be necessary or desired to address social needs, integrating routine collection of social factors into usual clinical care is systematically pragmatic and promising. The distinct social and behavioral needs of critically ill and high-needs older adults and how to best address these needs are areas for future research.

Hawai'i Pacific Health

Hawai'i Pacific Health (HPH) is a nonprofit healthcare collaborative comprised of 4 acute care hospital facilities and more than 50 primary care clinics. HPH is considered an early adopter of EHR technology. In 2010, HPH became one of the first hospital systems in the nation to be awarded the Healthcare Information and Management Systems Society (HIMSS) Stage 7 Certification, attained by only 6.4% of health care systems.⁶¹ This certification is given to organizations that have a fully integrated EHR system that possesses data-mining capability for quality improvement purposes. In both 2012 and 2016, HPH won the Davies Enterprise Award which spotlighted the organization's population-health disease registries and data-driven quality improvement processes.

A recent area of focus for HPH's EHR optimization has been determining how to best incorporate social behavioral

Care Delivery System	Initiative	Why	What	How	Desired Outcome
Kaiser Permanente Hawai'i (a nonprofit, integrated group-model healthcare delivery system)	Social Wellbeings' Impact to Care & Health (SWITCH) Program	To address the social needs of critically ill seniors	Added social determinants of health along with dedicated social workers to address needs	Extended to more clinics following pilot	Better patient health, better patient satisfaction, better provider satisfaction
Hawai'i Pacific Health (a nonprofit healthcare collaborative)	EHR optimization to best incorporate Social Behavioral Domains	To discretely report on SBD measures in order to study their relationship with common acute care outcomes (including Length of Stay and Readmissions).	Added a data fields as an integrated part of software upgrades and quality improvement efforts	Leveraged existing improvement efforts for minimal disruption to staff workflow	Provide actionable data to frontline staff for improved patient care
Queen's Health Systems (a nonprofit healthcare organization)	Implemented the Accountable Health Communities' Health-Related Social Needs Screening Tool, LACE Index, and an artificial intelligence-based prediction tool	To understand these 5 domains of social needs, and identify those patients who likely need additional healthcare services	Added screener and prediction tools to EHR, allowing the healthcare team to identify high risk patients and provide customized services	Integrated in the EHR and administered during primary care visits or during hospital or ED admissions.	Better patient health, better patient satisfaction, better provider satisfaction

domains (SBDs) into the inpatient setting.⁶² HPH wanted the ability to discretely report on SBD measures in order to study their relationship with common acute care outcomes (including length of stay and readmissions). As an organization, they have opted to opportunistically roll out SBD measures when they coincide with ongoing quality improvement measures. This way, the measures are documented in the EHR, included in quality improvement education, and consistently available for reporting purposes.

Two examples of SBD collected at HPH are social support and mobility. As part of a software upgrade in 2015, HPH added a data field for case managers to collect information on social support at home. This information is used to identify whether patients need additional help identifying a caregiver for post-discharge care, giving the data immediate, daily application. In 2016, one HPH hospital made EHR changes with the goal of increasing inpatient mobility. The staff began collecting several physical activity measures: 1) physical activity at home (the IOM recommendation), 2) baseline mobility upon hospital admission, 3) frequency of mobilizations per day while hospitalized, and 4) mobility at discharge. In addition, hospital operations managers developed physical activity education for providers (to encourage documentation) and patient families (to encourage continued activity post-hospitalization).

HPH continues to pursue ways to integrate SBD into acute care EHRs, including soliciting feedback from inpatient staff on barriers and facilitators to implementation. One major finding was that staff believe there are nuances within the inpatient, emergency department, and operating room that may impact when and how SBD is captured. Staff also felt it was easier to convey SBD in a free-text narrative, which suggests the need for continued feasibility research around using natural language processing for the capture of SBD.

The Queen's Health Systems

The Queen's Health Systems (QHS) is a nonprofit healthcare organization that provides health care services at more than 70 locations throughout the Pacific, including its 4 hospitals on 'Oahu, Molokai, and Hawai'i Island. Recognizing the importance of identifying specific populations in order to address health disparities, The Queen's Medical Center (QMC), part of QHS, standardized its registration process in 2008 and created a new EHR field that allowed the identification of Native Hawaiian patients with a high degree of sensitivity and specificity (unpublished data).

More recently, to identify patients with health-related social needs, QHS implemented the CMS Accountable Health Communities' Health-Related Social Needs Screening Tool, which is a 10-item survey that covers 5 domains of social needs: housing instability, food insecurity, transportation needs, utility needs, and interpersonal safety.⁶³ With plans to add supplemental questions that address additional health domains (eg, physical activity, social isolation), this survey is integrated in the EHR and administered at the primary care offices, emergency department visits, or during hospital admissions. Information on available

support services is available on a website created by a consortium of community partners (www.808communityresources.org). This ensures that patient-specific needs that may be difficult to identify can be appropriately addressed by the care team.

Three additional tools have been implemented to identify patients at risk for hospitalization. For patients admitted to the hospital, the LACE index,⁶⁴ which uses routinely collected clinical and administrative data to generate a readmission risk score, is automatically calculated and integrated into the EHR, and helps the transitional case management team identify patients who are at high-risk for rehospitalization. For outpatients, a tool that uses artificial intelligence and predictive modelling based on data from QHS's enterprise data warehouse (EDW) helps the primary care team reach out to patients who may need support services at home or in the office. In a project supported by the Hawai'i Department of Health, the EDW data is also used to identify patients in real-time with undiagnosed diabetes and hypertension, and who are past-due for diabetes screening tests, to help primary care teams work with patients before complications can develop. To further leverage this system, plans are underway to proactively direct patients to appropriate clinical-community resources (eg, physician appointments, case management, diabetes education, dietitian). Such novel partnerships between health care and public health have great potential for making important population-level impacts.⁶⁵

Discussion

Despite differences, these 3 healthcare systems share several key features that have facilitated their progress in addressing social needs: the availability or investment of an electronic data system, leadership vision and support, and a population in need. Other factors may contribute to motivating health care systems to invest in necessary resources. More research is needed to identify those institutional factors. While the health care systems highlighted in this article have adopted a government-certified EHR, not all health care systems have done so.⁶⁶⁻⁶⁷ In addition, hospital systems use different EHR vendors and have their own administrative, quality improvement, and research priorities. This makes it difficult to develop a standardized set of measures across the state. Even so, this article highlights areas in which health care systems in Hawai'i have succeeded in incorporating social and behavioral determinants of health into their EHRs in order to ensure that providers have comprehensive information necessary to make the best treatment decisions.

Since the 2014 NAM (IOM) report highlighting the importance of capturing social and behavioral domains in EHRs and providing practical guidance regarding the domains to consider, the body of evidence continues to grow. This evidence strongly supports a measurable health benefit from primary care teams addressing social determinants generally and specifically in high needs, chronically ill patients.^{10-11,68} Yet despite the evidence of effectiveness of routine social and behavioral data collection in health care, along with widespread (and rapidly proliferating) implementation of this practice, critical evidence is missing, especially in diverse, real-world practice settings.⁴²

More work is needed in Hawai'i with our unique patient populations.⁶⁹ Hawai'i has one of the longest life expectancies in the United States, making addressing the social factors among older adults in the state particularly critical.⁷⁰ Hawai'i also has been ranked one of the most racially/ethnically diverse states in the country with a majority minority racial/ethnic demographic composition.⁷¹ Native Hawaiians, Other Pacific Islanders, and some Asian American subgroups remain understudied yet represent the fastest growing populations in the US with significant health disparities.⁷²

Many lessons could be learned from the detailed implementation of these programs, including the importance of ensuring capacity and training for social work liaisons to address identified needs. Of note, there are still no standardized workflows across health systems for addressing social and behavioral domains among highly vulnerable populations (eg, individuals who visit only the ED).⁷³ Other important considerations include interoperability and plausibility to implement all recommended social and behavioral domains measures at once. Ongoing quality improvement programs and EHR system upgrades may provide opportunities to consider adding meaningful social factor data collection efforts to reach targeted institutional goals.

Practical Implications

Capturing and addressing social and behavioral domains within the context of clinical practice can improve health outcomes and patient satisfaction, while reducing health disparities.^{13,18} This article provides an overview of some efforts to address social and behavioral determinants in Hawai'i contextualized within examples and evidence gaps on the national level. Many clinical-community linkages specifically focus on addressing such social and behavioral health determinants. Successful integration of this information into the EHR in clinical care can identify, direct, and support needs for clinical-community linkages and integrate such relationships into the care team. Currently, the ICD-10 coding system includes social diagnostic codes (Z55-Z65), which can denote reasons for an encounter. These are increasing in use in these 3 health systems and show promise as a systematic approach to identify and target patients in greatest need.⁷⁴ Although these codes have not been widely adopted nor has their use for routine documentation of social factors been standardized, use has been increasing since February 2018 as documentation from any care team member not just the physician (who would not typically assess for social factors) can be used to assign these Z codes. This paper can help inform other health care systems in Hawai'i and elsewhere on potential practices and tested care models to capture social needs routinely during clinical care. Importantly, these programs in Hawai'i are serving one of the most ethnically/racially diverse populations in the country and one of the most geographically isolated populations in the world. We want to ensure that our programs are culturally sensitive and can meaningfully address existing health and health care disparities.

Conflict of Interest

None of the authors identify any conflict of interest.

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References

1. McGinnis JM, Williams-Russo P, Knickman JR. The case for more active policy attention to health promotion. *Health Aff (Millwood)*. 2002;21(2):78-93.
2. US Department of Health and Human Services. Determinants of Health. <https://www.healthypeople.gov/2020/about/foundation-health-measures/Determinants-of-Health>. Published 2012. Accessed January 15, 2018.
3. World Health Organization. WHO | Social Determinants of Health. http://www.who.int/social_determinants/en/. Published 2011. Accessed January 15, 2018.
4. Pincus T, Esther R, DeWalt DA, Callahan LF. Social conditions and self-management are more powerful determinants of health than access to care. *Ann Intern Med*. 1998;129(5): 406-11. doi:10.7326/0003-4819-129-5-19980910-00011
5. Sentell TL, Young MM, Vaver MD, et al. Pathways to potentially preventable hospitalizations for diabetes and heart failure: patient perspectives. *BMC Health Serv Res*. 2016;16: 300. doi:10.1186/s12913-016-1511-6
6. Retrum JH, Boggs J, Hersh A, et al. Patient-identified factors related to heart failure readmissions. *Circ Cardiovasc Qual Outcomes*. 2013;6(2):171-7. doi:10.1161/CIRCOUTCOMES.112.967356.
7. Hu J, Gonsahn MD, Nerenz DR. Socioeconomic status and readmissions: evidence from an urban teaching hospital. *Health Aff (Millwood)*. 2014;33(5):778-85.
8. Hill J, Nielsen M, Fox MH. Understanding the social factors that contribute to diabetes: a means to informing health care and social policies for the chronically ill. *Perm J*. 2013;17(2): 67-72.
9. Berkowitz SA, Hulberg AC, Standish S, Reznor G, Atlas SJ. Addressing unmet basic resource needs as part of chronic cardiometabolic disease management. *JAMA Intern Med*. 2017;177(2):244-252. doi: 10.1001/jamainternmed.2016.7691.
10. Hochman M & Asch SM. Disruptive models in primary care: caring for high-needs, high-cost populations. *J Gen Intern Med*. 2017;32(4):392-397. doi:10.1007/s11606-016-3945-2.
11. Blumenthal D, Chernof B, Fulmer T, Lumpkin J, Selberg J. Caring for high-need, high-cost patients - an urgent priority. *N Engl J Med*. 2016;375(10):909-11.
12. Gawande A. *The hot spotters: can we lower medical costs by giving the neediest patients better care?* New Yorker. 2011 Jan:40-51.
13. Bachrach D, Pfister H, Wallis K, Lipson M. Addressing patients' social needs: An emerging business case for provider investment. http://www.commonwealthfund.org/~media/files/publications/fund-report/2014/may/1749_bachrach_addressing_patients_social_needs_v2.pdf. Published May 2014. Accessed January 15, 2018.
14. Committee on the Recommended Social and Behavioral Domains and Measures for Electronic Health Records, Institute of Medicine (IOM). *Capturing Social and Behavioral Domains and Measures in Electronic Health Records: Phase 2*. Washington, D.C. National Academies Press; 2015. <http://www.ncbi.nlm.nih.gov/books/NBK268995/>.
15. Institutes of Medicine (IOM). *Capturing Social and Behavioral Domains in Electronic Health Records: Phase 1*. Washington, D.C.: National Academies Press; 2014. doi:10.17226/18709.
16. Fenton. *Health Care's Blind Side*. RWJF. <https://www.rwjf.org/en/library/research/2011/12/health-care-s-blind-side.html>. Published 2011. Accessed January 15, 2019.
17. Berwick DM, Nolan TW, Whittington J. The triple aim: care, health, and cost. *Health Aff (Millwood)*. 2008;27(3):759-69.
18. Artiga S, Hinton E. Beyond health care: the role of social determinants in promoting health and health equity. <http://files.kff.org/attachment/issue-brief-beyond-health-care> Published 2018. Accessed January 16, 2019.
19. Leppin AL, Gionfriddo MR, Kessler M, et al. Preventing 30-day hospital readmissions: a systematic review and meta-analysis of randomized trials. *JAMA Intern Med*. 2014;174(7):1095-107.
20. Wilkinson R, Marmot M, editors. *Social determinants of health: the solid facts*. 2nd ed. Copenhagen, Denmark: World Health Organization. [monograph on the Internet]. www.euro.who.int/document/e81384.pdf. Published 2003. Accessed May 15, 2017.
21. Friedman NL, Banegas MP. Toward addressing social determinants of health: a health care system strategy. *Perm J*. 2018;22(18):095. doi: 10.7812/TPP/18-095. PMID: PMC6207437.

22. Frazee T, Lewis VA, Rodriguez HP, Fisher ES. Housing, transportation, and food: how ACOs seek to improve population health by addressing nonmedical needs of patients. *Health Aff (Millwood)*. 2016; 35(11):2109-2115.
23. National Association of Community Health Centers. Addressing the social determinants of health, protocol for responding to and assessing patients assets, risks, and experiences. <http://www.nachc.org/research-and-data/prepare/>. Accessed January 15, 2019.
24. Shier G, Ginsburg M, Howell J, Vollard P, Golden R. Strong social support services, such as transportation and help for caregivers, can lead to lower health care use and costs. *Health Aff (Millwood)*. 2013;32(3):544-51.
25. Taylor LA, Tan AX, Coyle CE, et al. Leveraging the social determinants of health: what works? PLoS ONE. <https://doi.org/10.1371/journal.pone.0160217>. Published 2016. Accessed May 15, 2017.
26. DeVoe JE, Bazemore AW, Cottrell EK, Likumahuwa-Ackman S, Grandmont J, Spach N, Gold R. Perspectives in primary care: a conceptual framework and path for integrating social determinants of health into primary care practice. *Ann Fam Med*. 2016 Mar;14(2):104-8. doi: 10.1370/afm.1903.
27. Pinto AD, Glatstein-Young G, Mohamed A, Bloch G, Leung FH, Glazier RH. Building a foundation to reduce health inequities: routine collection of sociodemographic data in primary care. *J Am Board Fam Med*. 2016;29(3):348-55. doi:10.3122/jabfm.2016.03.150280.
28. Shah NR, Rogers AJ, Kanter MH. Health Care That Targets Unmet Social Needs. *N Engl J Med*. <https://catalyst.nejm.org/health-care-that-targets-unmet-social-needs/> Published April 13, 2016. Accessed January 15, 2019.
29. Montgomery AE, Fargo JD, Byrne TH, Kane V, Culhane DP. Universal screening for homelessness and risk for homelessness in the Veterans Health Administration. *Am J Public Health*. 2013;103(S2): S210-S211.
30. Page-Reeves J, Kaufman W, Bleecker M, et al. Addressing social determinants of health in a clinic setting in New Mexico. *J Am Board Fam Med*. 2016 May-Jun;29(3):414-8. doi: 10.3122/jabfm.2016.03.150272.
31. Gottlieb LM, Tirozzi KJ, Manchanda R, Burns AR, Sandel MT. Moving electronic medical records upstream: incorporating social determinants of health. *Am J Prev Med*. 2015;48(2):215-218.
32. Johnson SR. Hospitals address social determinants of health through community cooperation and partnerships. *Modern Healthcare*. <https://www.modernhealthcare.com/article/20180602/TRANSFORMATION03/180609978>. Published June 2, 2018. Accessed January 15, 2019.
33. Bejan CA, Angiolillo J, Conway D. Mining 100 million notes to find homelessness and adverse childhood experiences: 2 case studies of rare and severe social determinants of health in electronic health records. *Journal of the American Medical Informatics Association*. 2018;25:61-71.
34. Hofschneider A. Doctors and lawyers: an innovative partnership in Kalihi. *Civil Beat*. <https://www.civilbeat.org/2015/05/doctors-and-lawyers-an-innovative-partnership-teams-up-in-kalihi/> Published May 20, 2015. Accessed January 15, 2019.
35. Andermann A; CLEAR Collaboration. Taking action on the social determinants of health in clinical practice: a framework for health professionals. *CMAJ*. 2016;188(17-18):E474-E483. Epub 2016 Aug 8.
36. Daniel H, Bornstein SS, Kane GC; Health and Public Policy Committee of the American College of Physicians. Addressing social determinants to improve patient care and promote health equity: An American College of Physicians position paper. *Ann Intern Med*. 2018;168(8):577-578. doi: 10.7326/M17-2441.
37. Adler NE, Cutler DM, Fielding JE, et al. Addressing Social Determinants of Health and Health Disparities A Vital Direction for Health and Health Care. National Academy of Medicine. Discussion Paper. <https://nam.edu/addressing-social-determinants-of-health-and-health-disparities-a-vital-direction-for-health-and-health-care/>. Published September 19, 2016. Accessed January 15, 2019.
38. Gottlieb L, Ackerman S, Wing H, Manchanda R. Understanding Medicaid managed care investments in members' social determinants of health. *Popul Health Manag*. 2017;20:302-308. doi: 10.1089/pop.2016.0092. Epub 2017 Jan 18.
39. Gold R, Bunce A, Cowburn S, Damburn K, Dearing M, Middendorf M, Mossman N, Hollombe C, Mahr P, Melgar G, Davis J, Gottlieb L, Cottrell. Adoption of social determinants of health EHR tools by community health centers. *Ann Fam Med*. 2018;16:399-407. doi: 10.1370/afm.2275.
40. Gold R, Cottrell E, Bunce A, Middendorf M, Hollombe C, Cowburn S, Mahr P, Melgar G. Developing electronic health record (EHR) strategies related to health center patients' social determinants of health. *J Am Board Fam Med*. 2017;30:428-447. doi: 10.3122/jabfm.2017.04.170046.
41. Adler NE, Stead WW. Patients in context—EHR capture of social and behavioral determinants of health. *N Engl J Med*. 2015;372(8): 698-701.
42. McMullen AM, Katz MH. Targeting unmet social needs - next steps toward improving chronic disease management. *JAMA Intern Med*. 2017;177(2):252-253. doi: 10.1001/jamain-termed.2016.7711.
43. Chung EK, Siegel BS, Garg A, Conroy K, Gross RS, Long DA, et al. Screening for Social Determinants of Health Among Children and Families Living in Poverty: A Guide for Clinicians *Curr Probl Pediatr Adolesc Health Care*. 2016; 46(5):135-153. Published online April 18, 2016. doi: 10.1016/j.cpedp.2016.02.004.
44. LaForge K, Gold R, Cottrell E, et al. How 6 organizations developed tools and processes for social determinants of health screening in primary care: An overview. *J Ambul Care Manage*. 2018 Jan; 41(1): 2-14. Published online 2017 Oct 4. doi: 10.1097/JAC.0000000000000221.
45. Robinson JW, Roter DL. Psychosocial problem disclosure by primary care patients. *Soc Sci Med*. 1999;48(10):1353-1362.
46. Sentell T, Dela Cruz MR, Heo HH, Braun K. Health literacy, health communication challenges, and cancer screening among rural Native Hawaiian and Filipino Women. *J Cancer Educ*. 2013;28(2):325-334.
47. Blumenthal D. Electronic Health Records: The New Lightning Rod in Health Care. *Commonwealth Fund Blog*. <http://www.commonwealthfund.org/publications/blog/2014/oct/ehrs-the-new-lightning-rod-in-health-care>. Published October 17, 2014. Accessed May 15, 2017.
48. Schroeder MO. Hospitals Are Moving (Slowly) to Electronic Medical Records. *US News and World Report*. <http://health.usnews.com/health-news/best-hospitals/articles/2015/10/15/hospitals-are-moving-slowly-to-electronic-medical-records> Published October 15, 2015. Accessed May 15, 2017.
49. American Hospital Association. HHS issues RFI on care for Medicare patients with social risk factors. <https://www.aha.org/news/headline/2018-10-19-hhs-issues-rfi-care-medicare-patients-social-risk-factors> Published October 19, 2018. Accessed May 17, 2017.
50. Quensell ML, Taira DA, Seto TB, Braun KL, Sentell TL. "I need my own place to get better": patient perspectives on the role of housing in potentially preventable hospitalizations. *J Health Care Poor Underserved*. 2017;28(2):784-797. doi:10.1353/hpu.2017.0074
51. Yuan S, Azuma J, & Gauci KT. *Hawai'i Pathways Project: Final Report, August 2014-September 2017*. Honolulu: University of Hawai'i, Center on the Family. 2018.
52. National Association of Community Health Centers. PRAPARE. www.nachc.org/research-and-data/prepare/53. Accessed April 15, 2019.
53. Byhoff E, Cohen AJ, Hamati MC, Tatko J, Davis MM, Tipirneni R. Screening for Social Determinants of Health in Michigan Health Centers. *Am Board Fam Med*. 2017 Jul-Aug;30(4):418-427..
54. Kaiser Permanente's Social Needs Network for Evaluation and Translation (SONNET). <http://sonnet.kaiserpermanente.org/index.html>. Accessed January 15, 2019.
55. Setting the Quality Standard - Kaiser Permanente Hawai'i. https://health.kaiserpermanente.org/static/health/pdfs/quality_and_safety/hihaw_quality_standards.pdf. Accessed January 15, 2019.
56. Bodenheimer T, Wagner EH, Grumbach K. Improving primary care for patients with chronic illness. *JAMA*. 2002;288(14):1775-1779.
57. Brown R. The Promise of Care Coordination: Models that Decrease Hospitalizations and Improve Outcomes for Medicare Beneficiaries with Chronic Illnesses. A Report Commissioned by the National Coalition on Care Coordination (NCC). Mathematica Policy Research, Inc. <https://www.rush.edu/sites/default/files/The%20Promise%20of%20Care%20Coordination-%20Models%20that%20Decrease%20Hospitalizations%20and%20Improve%20Outcomes%20for%20Medicare.pdf> Published March, 2009. Accessed May 15, 2017.
58. The National Committee for Quality Assurance. Goals to Care How to keep the in "person-centered." <http://www.ncqa.org/hedis-quality-measurement/research>. Accessed May 15, 2017.
59. <https://kokuamau.org/kokuamau-monthly-meetings> Accessed January 15, 2019. Presentation by SWITCH leaders: Aleza Matayoshi, MD and Walt Schroeder, PharmD, BCPS.
60. Ward BW, Schiller JS, Goodman RA. Multiple chronic conditions among US adults: a 2012 update. *Prev Chronic Dis*. 2014;11:E62. doi:10.5888/pcd11.130389
61. Cohen JK. How many hospitals are on each stage of HIMSS Analytics' EMR Adoption Model? Published April 16, 2018. <https://www.beckershospitalreview.com/ehrs/how-many-hospitals-are-on-each-stage-of-himss-analytics-emr-adoption-model.html> Accessed January 15, 2019.
62. LaWall E, Wu YY, Fan VY, Ashton M, Sentell T. Living alone and homelessness as predictors of 30-day potentially preventable readmission. *Prev Chronic Dis*. (In press).
63. Billioux AK, Verlander K, Anthony S, and Alley D. Standardized screening for health-related social needs in clinical settings: the accountable health communities screening tool. *NAM Perspectives*. <https://nam.edu/wp-content/uploads/2017/05/Standardized-Screening-for-Health-Related-Social-Needs-in-Clinical-Settings.pdf> Published May 30, 2017. Accessed January 15, 2019.
64. Van Walraven C, Dhalla IA, Bell C, et al. Derivation and validation of an index to predict early death or unplanned readmission after discharge from hospital to the community. *CMAJ*. 2010;182:551-7.
65. Health Research & Educational Trust. (2016, August). Creating effective hospital-community partnerships to build a Culture of Health. Chicago, IL: Health Research & Educational Trust. Accessed at www.hpoe.org.
66. The Office of the National Coordinator for Health Information Technology. Quick Stats. Published September 5, 2018. <https://dashboard.healthit.gov/quickstats/quickstats.php>. Accessed January 15, 2019.
67. Heisey-Grove D, Patel V. National findings regarding health IT use and participation in health care delivery reform programs among office-based physicians. *J Am Med Inform Assoc*. 2017;24(1):130-139. doi: 10.1093/jamia/ocw065.
68. Kaufman A. Theory vs practice: should primary care practice take on social determinants of health now? *Ann Fam Med*. 2016;14(2):100-1. doi: 10.1370/afm.1915.
69. Yahirun J, Zan H. Hawai'i's Older Adults: A Demographic Profile. Honolulu, HI: University of Hawai'i, Center on the Family. 2016. https://www.hawaii.edu/family/2016/06/2016-Hawaii-Older-Adults-Demographic-Profile_HZ_091316_v2. Accessed January 15, 2019.
70. Wu Y, Braun K, Onaka AT, Horiuchi BY, Tottori CA, Wilkens L. Life expectancies in Hawai'i: a multi-ethnic analysis of 2010 life tables. *Hawaii J Med Public Health*. 2017;76(1):9-14.
71. US Census Quick Facts. Hawaii. July 1, 2018, (V2018). <https://www.census.gov/quickfacts/hi>. Accessed January 15, 2019.
72. King GL, McNeely MJ, Thorpe LE, et al. Understanding and addressing unique needs of diabetes in Asian Americans, Native Hawaiians, and Pacific Islanders. *Diabetes Care*. 2012;35(5):1181-8.
73. Cantor MN, Thorpe L. Integrating data on social determinants of health into electronic health records. *Health Affairs*. 2018; 37(4):585-590.
74. Friedman NL, Banegas MP. Toward addressing social determinants of health: a health care system strategy. *Perm J*. 2018; 22:18-095. doi: 10.7812/TPP/18-095.

Interprofessional Education in Hawai'i to Support Community-Clinical Linkages

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“Meeting the needs of people and communities might be considered a primary goal of health professional education.”¹

Introduction

Increasingly, key United States (US) health care system stakeholders have recognized that innovative models of clinical coordination, team-based care, and engagement of the social needs of patients and communities are necessary to achieve optimal health across diverse populations.¹⁻⁴ For instance, the patient-centered medical home can only achieve its promise of coordinated, cost-effective care from strong collaboration and effective communication between interprofessional care team members, which may include social workers and/or lay community health workers.^{2,5} Adding social factors to electronic health records will only be useful if providers understand how this information can improve clinical communication and outcomes, if the collection of these data can fit meaningfully within clinical workflows, and if the identification of social needs at the clinical level is also associated with linkages and relationships established to address these needs.⁶⁻⁷

These new care models place increasing emphasis on health professional training that includes interprofessional education, team-based practice, community-based learning, and a deeper understanding of the role of social factors in health care.¹ Such training opportunities also allow students to better understand the needs of vulnerable or underserved populations. This approach has promise to deliver culturally-relevant care, strengthen trust, and ultimately reduce health disparities.⁸

Community Health Needs in Hawai'i

In December 2018, the Healthcare Association of Hawai'i (HAH) released its Community Health Needs Assessment (CHNA).⁹ CHNAs are required by the Affordable Care Act of 2010 as a means of encouraging hospitals to better understand the health care needs of the communities they serve. Importantly, the intent of this requirement was to guide hospitals and health care systems toward a deeper understanding of the social determinants of health that affect their individual communities, as well as the larger health ecosystems that surround their patients and institutions. The concept underlying this needs-assessment approach is that better health for populations cannot be attained solely through medical solutions, but also requires an understanding of, and interventions directed at, economic, workplace, educational, environmental (including climate), housing, transportation, food and nutritional, faith-based and social justice related factors. The HAH CHNA report suggested a new definition of health that included not just readily available

healthcare, but also the following as key elements: “security, justice, love, hope, time, food, place, community, healthy keiki (children), healthy kupuna (elderly), and care.”⁹

The HAH CHNA report also states that the larger health care ecosystem should try to “generate the non-sickness aspects of health.”⁹ This approach includes addressing key upstream aspects of health by increasing financial security, improving health care access (with a focus on equity and justice), increasing emergency preparedness, building better food and nutritional resources, strengthening local communities (focusing on resources for our youth), strengthening trust in health care, and providing accessible support for those with high health care needs.⁹

Interprofessional Care

Concurrently, another longstanding paradigm is shifting — that of the patient-physician relationship as the basis for optimal patient outcomes. Health care systems are increasingly recognizing that collaborative interprofessional team care is a more efficient and cost-effective route to many positive health outcomes. Both the Institute of Medicine (now called the Health and Medicine Division of the National Academies of Sciences, Engineering, and Medicine) and the World Health Organization (WHO) have highlighted the critical importance of interprofessional care to improve health care quality.¹⁰⁻¹¹ Interprofessional care will also help to address community-related concerns such as health disparities in Hawai'i by providing knowledge, expertise, and skills towards addressing the broad and diverse array of social and physical determinants of health as well as additional access points to health and wellness care.^{8,12} In early 2019, the National Academies of Sciences, Engineering and Medicine published “Strengthening the Connection Between Health Professions Education and Practice: Proceedings of a Joint Workshop (2019).”¹³ This work shares the HAH CHNA view that health care exists in a complex, interconnected ecosystem with communities as foundational elements.

Addressing Community Needs in Education and Research

Several innovative education programs have been established at the University of Hawai'i. The benefits of implementing collaborative interprofessional education (IPE) have been recognized and implemented by leadership at the university's health professions schools and centers (including those of medicine, nursing, dental hygiene, pharmacy, social work, public health, dietetics, and communication and speech disorders). Some schools and departments, including medicine, nursing, social work, pharmacy, and public health, require all entering students

to complete the TeamSTEPPS (Strategies and Tools to Enhance Performance and Patient Safety) web-based training module. Other IPE programs include the Hawai'i Interprofessional Team Collaboration Simulation (HIPTCS), which is based on interprofessional team discharge-planning rounds for a geriatric patient with complex needs; the Hawai'i Interprofessional Simulation Training for Emergency Response (HIPSTER) program, which teaches team collaboration skills to manage common acute emergencies; the Hawai'i Interprofessional Training for End-of-Life Communication (HITEC) program, which has a focus on difficult conversations for end-of-life goal setting for an ICU patient; the Pediatric Inter-Professional Program (PIPP), which focuses on difficult conversations for end-of-life goal setting for a pediatric trauma patient; and the Geriatric Inter-Professional Panel (GIPP), which presents students with a case study of a geriatric patient having complex needs and offers an interprofessional team approach to holding a panel discussion; among many others. These programs mainly use simulations of nuanced real-world experiences to teach students to problem solve, collaborate, and learn across disciplines.

In a similar vein, research at the University of Hawai'i has also emphasized interdisciplinary approaches.¹⁴ This effort is aimed at securing grants to both build local research expertise and to perform health care/service related research that involves, and may potentially benefit, our communities, particularly those with health disparities. One example is Ola HAWAI'I, a specialized research center that includes multidisciplinary teams of investigators (from medicine, social work, public health, nursing, cancer, engineering, pharmacy, tropical agriculture and natural sciences) working together with community collaborators. Ola HAWAI'I supports basic biomedical, behavioral, and clinical research on the causes and treatment of health problems among underserved, multiethnic populations. Another example is the RMATRIX (Research Centers in Minority Institutions Multidisciplinary And Translational Research Infrastructure eXpansion) program, which supports clinical and translational research defining and addressing health disparities in Hawai'i.¹⁵⁻¹⁶

In addition to these existing interprofessional educational and research endeavors, there is a need for new pedagogical approaches. The goals of improving community wellness and co-educating health care professionals in teams, as well as the need to view these efforts towards improved community and individual health in the context of complex social systems should challenge us to consider how we can modify our educational programs and training processes to produce better-prepared health care and community health workers who can work in trust and partnership both with patients and with each other. Specifically, we should look at how to address the public's concerns, as noted in the HAH CHNA report, that the health care system is viewed as "lacking in humanity, empathy, and availability" as evidenced by patients' stories of discrimination, medical mistakes, lack of listening, lack of caring, and other negative experiences.⁹

The HAH CHNA reminds us that patients' stories are an important source of information. Just as rigorously-conducted

scientific studies yield information in the form of scientific data, stories from patients and families provide information about a community's emotional and spiritual state of health, which influence the relationship between our patients and our health care system. Stories from our communities suggest that despite expertise and dedication, our health care workers and the systems used to deliver care are not always connecting optimally with those they seek to serve. Thus, the HAH CHNA proposes as goals "strengthening trust in healthcare" and "proactively providing support for those with high needs."⁹

Solutions

One approach to meeting the need for all health care and community health workers to have strong trust- and rapport-building skills is to provide shared educational programs that address key concepts in emotional intelligence such as self-awareness, self-regulation, social awareness, and relationship-building through a competency-based model. This approach could include helping future health care providers to become skilled at encouraging others to share their stories and kuleana (responsibility) for health, healing, and wellness with patients and other care team members. These trainings could occur in interprofessional learning communities of future providers across complementary and diverse areas of expertise, from community health workers with deep knowledge of their communities, to medical students with growing expertise in the biomedical model. As students progress together as partners in health coaching, they could acquire additional skills in collaboration that would enable them to better connect with patients and clients in the future. These skills could include appreciative inquiry, which focuses on a strength-based perspective, holding patients in unconditional positive regard, empathy, mindful listening, open-ended inquiry, positive reframing, and the concept that patients need to be afforded autonomy as a prerequisite for long-term change.¹⁷ Importantly, learning communities could serve as safe places for students to practice and attain a degree of competency in these critically important skills, which can create an important foundational connection between practitioner and patient.

The concept of community health as a complex social and physical ecosystem that extends beyond traditional health care and the related concept that optimal health care requires teamwork can both be interwoven into interprofessional education. Under the health ecosystems view, UH faculty members with expertise in biological, psychosocial, public health, and environmental/climate-related subject areas could collaborate to create an undergraduate major that would provide students entering a wide variety of professions or higher degree programs with a strong foundation that would contribute to better individual and community health outcomes. This topic is particularly relevant to Hawai'i, given the critical interlinked importance of land to promoting and sustaining health as perceived by many populations in our state, including Native Hawaiians.¹⁸

Health care educators, health care delivery systems, health care payors, and the state government need to work together to create additional opportunities in practice settings for students

to participate in and learn interprofessional care. Funding for interprofessional care programs with an educational focus, and for clinician educators with expertise in interprofessional care are both needed to provide student education and patient care at clinical sites. If health care systems, health care insurers, and the state of Hawai'i see value in interprofessional care, they should provide support enabling our educational programs to create an innovative model of education. Finally, our need for greater access to health care for people living in rural areas suggests that innovative programs of interprofessional clinical education and care could be the basis of care extension beyond urban O'ahu. The development of related pilot projects incorporating interprofessional practice and clinical education, such as found in some federally qualified health centers (eg, Kalihi Palama Valley Health Center) represents a logical first step.

Academic health education, our current health care providers and community health workers, and the health care-delivering organizations of Hawai'i have made great progress in training future healthcare providers and in improving the care of those we serve. Yet, we have farther to go. The recent HAH CNHA report and the proceedings from the National Academies of Sciences, Engineering, and Medicine workshop on interprofessional care should be viewed as an urgent call to closely examine health care education. We need to plan for a future in which interprofessional education and practice bring better care to our patients and communities.

Conflict of Interest

None of the authors identify a conflict of interest.

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References

1. Institutes of Medicine (IOM). Community-Based, Interprofessional, Educational Innovations. Building Health Workforce Capacity Through Community-Based Health Professional Education: Workshop Summary. Global Forum on Innovation in Health Professional Education; Board on Global Health; Institute of Medicine. Washington (DC): National Academies Press (US); 2015.
2. Daniel H, Bornstein SS, Kane GC; Health and public policy committee of the American College of Physicians. Addressing social determinants to improve patient care and promote health equity: an American College of Physicians position paper. *Ann Intern Med.* 2018;168(8):577-578. doi: 10.7326/M17-2441.
3. Artiga S, Hinton E. Beyond Health Care: The Role of Social Determinants in Promoting Health and Health Equity. <http://files.kff.org/attachment/issue-brief-beyond-health-care> Published 2018. Accessed January 16, 2019.
4. Institute of Medicine. Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing. The future of nursing: leading change, advancing health. National Academies Press; 2010. <http://www.iom.edu/Reports/2010/The-Future-of-Nursing-Leading-Change-Advancing-Health.aspx>. Published 2011. Accessed April 12, 2014.
5. Franklin CM, Bernhardt JM, Lopez RP, Long-Middleton ER, Davis S. Interprofessional teamwork and collaboration between community health workers and healthcare teams: an integrative review. *Health Serv Res Manag Epidemiol.* 2015;2:2333392815573312. doi: 10.1177/2333392815573312.
6. Institutes of Medicine (IOM). Capturing Social and Behavioral Domains in Electronic Health Records: Phase 1. Washington, D.C.: National Academies Press; 2014. doi:10.17226/18709.
7. Cantor MN, Thorpe L. Integrating data on social determinants of health into electronic health records. *Health Affairs.* 2018;37:585-590.
8. Kreif TM, Yoshimoto SK, Mokuau N. Insights in Public Health: Ke'A'o Mau: Strengthening cultural competency in interdisciplinary education. *Hawaii J Med Public Health.* 2018;77(12):333-336.
9. Healthcare Association of Hawai'i. The People and Islands of Hawai'i. Community Health Needs Assessment. December 2018. Produced by: Islander Institute for Healthcare Association of Hawai'i (HAH). <http://hah.org/wp-content/uploads/2019/04/2018-HAWAII-CHNA-compressed.pdf>. Accessed June 4, 2019.
10. Institute of Medicine. Community Oriented Primary Care: New Directions for Health Services Delivery. (US) Division of Health Care Services; Connor E, Mullan F, editors. Washington (DC): National Academies Press (US); 1983. <https://www.ncbi.nlm.nih.gov/books/NBK234615/>
11. Institute of Medicine (US) Committee on the Health Professions Education Summit. Health Professions Education: A Bridge to Quality. Greiner AC, Knebel E, editors. Washington (DC): National Academies Press (US); 2003.
12. World Health Organization (WHO). Framework for action on interprofessional education and collaborative practice. Geneva: World Health Organization, Department of Human Resources for Health; 2010. Web site http://www.who.int/hrh/resources/framework_action/en/. Published 2010.
13. The National Academies of Sciences, Engineering and Medicine. Strengthening the Connection Between Health Professions Education and Practice: Proceedings of a Joint Workshop. (2019) <http://www.nationalacademies.org/hmd/Reports/2019/strengthening-connection-between-health-professions-education-practice-proceedings.aspx>. Accessed June 4, 2019.
14. Mokuau N, Hedges J, Boland M, Braun KL, Benham M. Future role of the College of Health Sciences & Social Welfare: Inter-professional cross-cultural diversity. *Hawaii J Med Public Health.* 2015;74(7 Suppl 1):6.
15. Hedges J, Mokuau N. RMATRIX II: Multidisciplinary collaboration in health disparities research in the College of Health Sciences and Social Welfare (CHSSW). *Hawaii J Med Public Health.* 2015 Jul; 74(7 Suppl 1): 10.
16. Shiramizu B, Shambaugh V, Petrovitch H, Seto TB, Ho T, Mokuau N, Hedges JR. Leading by Success: Impact of a Clinical & Translational Research Infrastructure Program to address health inequities. *J Racial Ethn Health Disparities.* Author manuscript; available in PMC 2018 Apr 28. Published before final editing as: *J Racial Ethn Health Disparities.* 2016 Oct 28; 10.1007/s40615-016-0302-4. doi: 10.1007/s40615-016-0302-4 [Epub ahead of print].
17. Moore M., Jackson E, Tshannen-Moran B. (2016). *Coaching Psychology Manual*. Philadelphia: Wolters Kluwer., pp. 34-38, 64-65.
18. Aluli, NE, McGregor D. "Āina: Ke Ola O Na Kanaka Ōiwi, Land: The Health of Native Hawaiians." 2007. <https://www.nlm.nih.gov/exhibition/avoyagehealth/pdf/LandandHealth.pdf>. Accessed June 4, 2019.

Building a Patient-Centered Medical-Legal Home in Hawaii's Kalihi Valley

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Abstract

The Medical-Legal Partnership for Children in Hawai'i (MLPC) has worked to address the social determinants of health for low-income patient-families since 2009. Focused on identifying health-harming legal needs, doctors and lawyers work together to assist families with family law, housing, public benefits, education, employment, civil rights, and other concerns. Providing free, direct legal service in the medical setting allows the medical-legal partnership (MLP) team to identify community-wide concerns such as language access violations, racial discrimination, and unfair policies. These individual concerns then inform systemic advocacy and community engagement efforts. The MLPC Hawai'i team has grown through its experiences working with public housing residents, Micronesian migrant communities, and low-income families, ultimately evolving the national MLP framework to become a patient-centered "medical-legal home." This evolution is possible through the utilization of "rebellious lawyering" concepts of working with, not just on behalf of, community clients. This article will introduce the concept of a medical-legal partnership, provide examples of lessons learned from working alongside vulnerable and resilient communities, and explore the idea of the patient-centered medical-legal home as an innovative program to improve the social determinants of health and reduce health disparities.

Keywords

Medical-Legal Partnerships, Micronesia, Compact of Free Association, medical-legal home

Abbreviations and Acronyms

CHC = community health center
COFA = Compact of Free Association
COFACAN = COFA Community Advocacy Network (COFACAN).
KKV = Kokua Kalihi Valley Comprehensive Family Services
MLP = medical-legal partnership
MLPC = Medical-Legal Partnership for Children in Hawai'i
PCMH = patient-centered medical home

Highlights

- "Legal care" can remedy medical problems rooted in legal problems.
- Doctors and lawyers can partner to improve the health and well-being of patients.
- Hawai'i has had a Medical-Legal Partnership since 2009.
- "Medical-Legal Homes" must ultimately focus on patient power and autonomy.

Introduction

To introduce the concept of a medical-legal partnership (MLP), consider a common clinic example of a child with asthma who also has a housing issue:

A 7-year-old Micronesian boy walks into his pediatric clinic with coughing and wheezing. This is his third visit this year for an asthma exacerbation and he is prescribed yet another round of oral steroids despite being on a good controller regimen. The asthma takes its toll on his health, and each exacerbation

negatively impacts his family's well-being as he misses more school and his parents miss work.

Frustrated by the lack of improvement, the pediatrician asks a few questions about environmental triggers and discovers that the patient's asthma is actually a housing problem: There is a leaky pipe causing moldy walls in the child's bedroom. The parents share that they have reported the problems to their landlord for nearly 2 years, all to no avail.

This is a health-harming legal need.¹ Recognizing this, the time-constrained pediatrician, who has no legal training, could consider writing a letter to the landlord, though in our experience, it would likely be ignored. A lawyer would be able to address this legal need, but this family would likely be unable or unwilling to seek an attorney due to significant barriers such as the cost of private attorneys, the lack of knowledge about available free legal services, the fear of contacting a lawyer, or the lack of the necessary time, transportation, or language skills required to navigate legal services. The MLP legal team, on-site and integrated into the medical practice, can overcome both the medical and legal barriers to addressing this problem as returning to our clinical example will show:

Building on the trust the doctor has established with the patient but also armed with relevant legal language and a "JD" attached to her name, the MLP attorney meets the family during the child's medical visit and subsequently persuades the landlord to repair the pipe and clean up the mold. The apartment is fixed 1 week after the MLP lawyer intervenes. This brief legal intervention results in better health for the child by removing the primary trigger for his asthma. Subsequently, he requires fewer medical visits and no further hospitalizations. He has improved educational stability, more self-esteem, and more friends at school. By reducing missed work days, the parents stabilize their income and improve their economic, housing, and food security. His health-harming legal need is resolved.

In addition to the benefits to the child and family in this example case, consider that there may be societal benefits as well from addressing a child's health-harming legal need. For example, there may be reduced strains on safety-net hospitals due to decreases in emergency room and hospital visits. While to date, no MLP study has measured the return on investments from a societal perspective, several studies have explored the financial impacts to MLP providers (clinics and hospitals) as well as to patient-clients and have found significant return on the original investments in the MLP:

Several studies reference significant return on the investment in a medical-legal partnership model. Rodabaugh and colleagues (2010) found that an MLP targeting the needs of cancer patients generated nearly \$1 million by resolving previously denied benefit claims. Similarly, a rural MLP in Illinois was able to demonstrate a 319 percent return on the original investment of \$116,250 between 2007 - 2009. A 2008 white paper by Knight and colleagues highlighted four MLP programs, each of which demonstrated successful leveraging of health care recovery dollars (reimbursed funds to clinical settings as a result of improperly denied Medicaid or Social Security Disability claims) as a result of their program.²

Returning to our example child, he was fortunate to be seen at a pediatric “medical-legal home.” This concept builds upon the ideas of the traditional medical home. First developed by Hawai‘i pediatrician Calvin Sia, MD, in the 1980s, the patient-centered medical home approach focuses on the relationship between the provider and patient, and treats patients/families as partners in decision-making for both medical and other family resources.^{3,4} It utilizes a team approach that maintains the family at the center and driving the decisions, while the pediatrician assists in coordinating referrals to outside specialists and community partners. This approach has become widely used in health care, and in the pay-for-value movement it is often used as a measure of high-quality care. For example, the National Committee for Quality Assurance (NCQA) offers a medical home recognition program and such certification is often necessary to receive quality incentive payouts or enhanced reimbursements from insurance companies and many state and federal programs.⁵

Our approach goes one step further than the traditional medical home and co-locates and integrates a lawyer into this family-led team. In this article, we will explore how our medical home evolved to become a medical-legal home.

What Is MLPC Hawai‘i?

In 2009, Medical-Legal Partnership for Children in Hawai‘i (MLPC) was established as a collaboration between the William S. Richardson School of Law (University of Hawai‘i at Mānoa) and Kōkua Kalihi Valley Comprehensive Family Services (KKV), a federally qualified community health center, to address the social determinants of health—the social, legal, and environmental problems behind health problems. Following the MLP national framework, MLPC Hawai‘i engages in 3 core activities: (1) direct legal services on-site in a health care setting; (2) provider education about health-harming legal needs; and (3) policy and systemic advocacy work.^{1,6,7}

Each year, MLPC Hawai‘i receives about 130 requests for legal assistance from KKV health care providers and community referrals. MLPC opens about 100 legal cases ranging from brief services to full representation, and the rest receive counsel and advice, general legal information, or referrals to other legal and non-legal resources. In addition to family law and public benefits concerns, MLPC resolves dozens of housing matters. Legal staff prevent evictions, win rent adjustments and mon-

etary recoveries, and train numerous public housing residents about their legal rights. MLPC also provides regular “curbside consultations” to KKV providers and staff. Some consults lead to formal referrals to MLPC, and most strengthen the health providers’ ability to advocate for their patients without further legal assistance from the attorney. MLPC conducts quarterly workshops for KKV primary care providers, psychologists, social workers, case managers, nurses, and other outreach staff on various legal topics, focusing on the common health-harming legal needs of KKV’s patients and community populations. Additionally, MLPC provides valuable inter-professional education to students from various University of Hawai‘i programs such as pediatric residents, medical students, public health students, law students, and law fellows.

Health-Harming Legal Needs in Kalihi Valley’s Micronesian Population

Over the last 10 years, nearly 80% of MLPC clients have been migrants living in the United States under the Compact of Free Association (COFA) from the Federated States of Micronesia, mostly from Chuuk State. This reflects KKV’s Micronesian patient population, which grew from 5.4% in 2004 to over 30% in 2016. Like many immigrant groups arriving in Kalihi Valley before them, Micronesians are resilient, but they are also uniquely vulnerable.

Micronesians in Hawai‘i face numerous institutional and social barriers that significantly increase their likelihood of facing health-harming legal needs.⁸ Indeed, they face discrimination in healthcare, housing, education, social encounters, and in their representation in media images.⁹⁻¹⁷ Families also suffer from the impact of government discrimination by being systemically denied Medicaid and other essential benefits despite paying state and federal taxes and serving in the US military.^{18,19} Additionally, data show there is only one civil legal aid attorney for every 4402 low-income families in Hawai‘i, compared to one private attorney for every 361 residents in Hawai‘i, a 12-fold increase in access to justice if one can pay.²⁰

Traditional legal services for the poor in Hawai‘i have not served Micronesian people well. Until 2007, residents from COFA nations were deemed ineligible for federally-funded legal aid services including the Legal Aid Society of Hawai‘i, the state’s largest legal aid program.^{21,22} Even with access to these services, over two-thirds of Hawai‘i residents who seek legal help are turned away by legal service providers for various reasons (eg, eligibility criteria, legal conflicts of interest, lack of available resources).²⁰ Immigrants frequently face additional obstacles of language access, knowledge of available legal resources, and the inconveniences of accessing services. Members of the judicial system have also demonstrated unfairness towards Micronesians, as when a Hawai‘i prosecutor sought to “send a message to the Micronesian community” by demanding a harsh criminal sentence.^{23,24} These factors increase mistrust in the entire legal system, demanding new approaches to legal interventions for Micronesian communities. MLP is one such innovative approach.

MLP for the Micronesian Community

MLPC Hawai'i delivers much needed legal services to the Micronesian community. Most of the MLPC clients at KKV are Chuukese families living in unstable housing (public housing, doubled up, overpriced rentals) in Kalihi, a suburb of Honolulu, Hawai'i. Alongside the success of individual legal cases, the MLPC team has recognized that additional approaches to legal interventions are needed to best serve this community.

First, from our 10 years of working together, we have learned that MLP works best when the lawyer is fully integrated into the medical team.^{1,26} We focus on the critical transaction between the healthcare provider, patient/family, and the "legal care" provider. In less integrated practices, the transaction between doctor and lawyer might be done by a faxed referral, notice in the medical record, or by providing the family the phone number of the legal team member. Other practices might have a lawyer sitting in the waiting room with the expectation that a family would know they had a legal need and be able to overcome any fear or language barriers to approach the attorney. These "cold" referral systems do not work well for most vulnerable, immigrant community members. MLPC Hawai'i has been recognized as a fully integrated MLP model, engaging in a highly relational intervention that starts with a "warm" hand-off to an on-site attorney in which the physician introduces the lawyer to the patient as soon as a legal need is identified, initially meeting together in the exam room with a trained interpreter.²⁵⁻²⁷

This transaction is critical in working with Micronesian communities as it builds upon the pre-existing trust between the patient and the health care provider and reduces the intimidation of speaking with lawyers. It also removes barriers of inadequate language access, inadequate legal knowledge, and lack of access to a working phone and transportation, by creating a one-stop approach to medical and legal services. MLPC Hawai'i attempts to address the patient's need in the moment it is identified rather than postponing it for another appointment. This can be vital for clients unable to miss additional work days and often is critical for domestic violence victims whose concerns may be unsafe to postpone or for whom it may be unsafe to ask to return another day. Furthermore, too often immigrant families have lost faith from dealing with the various systems around them or even fear repercussions for seeking help. They are often incredulous that there is someone who wants to help them. The immediate warm hand-off breaks down these common yet unseen barriers to accessing legal services.

Second, we look to public health research showing that Micronesian communities respond best to interventions that are highly relational and community-centered, and that foster community empowerment.²⁸ For example, a Pacific Diabetes Today project adopted "culturally appropriate strategies...to gain access to the community, transfer knowledge and skills, build coalitions, and provide technical assistance" with a goal of Micronesian community empowerment.²⁹ As illustrated next, this resonates with the MLPC lawyering approach that honors community power, knowledge, and self-advocacy skills.

Integrated legal services, warm hand-offs, and public health foundations represent MLP best practice, but more can be accomplished. The third and most critical lesson is that the relationship between the family and the legal care provider must evolve to meet the unique needs of Micronesian (and all) community members. Indeed, the national MLP framework has yet to fully embrace the critical role of the patient-client as an essential member of the medical-legal partnership team, and not a mere subject of the medical-legal intervention. Not embracing the patient-client as part of the team risks systemic advocacy being driven without the vision, voice, and action of the community. At MLPC Hawai'i, we draw on community lawyering techniques (developed from "rebellious lawyering" described later) to create a medical-legal home for patient-families at KKV. In our MLP approach, the family is a central and equal partner in legal problem-solving and decision-making, and the community drives policy and advocacy efforts. Three composite examples illustrate MLPC's unique medical-legal home approach with Micronesian communities in Kalihi Valley.

Adapting the MLP Framework Alongside the Micronesian Population: Case Studies From Crisis Lawyer to Family Lawyer

Six months after resolving the leaky pipe and moldy walls, the parents walk into KKV without a medical appointment and ask to see the lawyer again. The father works 50 hours per week at a restaurant in Waikiki but does not receive health insurance or overtime wages. His manager is pressuring him to sign a paper declining health coverage. After discussing his employment rights, including retaliation protections, the MLPC attorney offers to call his employer or to help him file a complaint with the Department of Labor. The father hesitates, saying he will try to resolve the problem on his own. The lawyer then suggests that the father try the magic words, "I need to talk to my lawyer first." After laughing at the notion of having his own lawyer—something only rich people have in the movies—he agrees to try this. Two weeks later, he proudly reports that he now has health insurance and overtime pay, and so do all the other kitchen workers. He has learned valuable self-advocacy skills and he now sees MLPC as his "family lawyer."

What started as a typical MLP referral for legal care has grown into a client-lawyer relationship that resembles a medical-legal home. The client has moved past his early legal emergencies and now engages the MLPC attorneys as he would a medical home provider—for legal check-ups and to ask questions about potential problems before they become crises. Like many MLPC Hawai'i clients, this father has learned the legal tools to resolve his own problems, and he shares them with other members of his family and community. Furthermore, the legal staff has in turn learned from the client about how laws—in this case employment protections and Hawai'i's health care laws—play out in the real world. The lawyers must adjust their advice and solutions in accordance with their clients' wishes or they risk losing their trust and partnership. This is no different

than a patient-centered medical home (PCMH) provider being aware that a \$5 or \$10 co-pay could make a prescription out of reach for a family in poverty. In a patient-centered medical-legal home, like in a PCMH, the patient is an equal partner in determining the treatment plan. Listening and responding to the stories of patients and clients can mean the difference between health or sickness, employment sufficient to pay for housing or homelessness for individuals and families.

Self-Advocacy and Client Empowerment

In 2015, MLPC Hawai'i created an "Advocacy Academy" with the mostly Chuukese women participants of KKV's Seams Wonderful Sewing Program. Advocacy Academy is a series of monthly workshops to educate participants about their basic legal rights in areas of family law, housing, public benefits, and other self-directed topics. The women learn tangible skills through small group activities. Participants practice note-taking skills and role-play various scenarios including asking for an interpreter and requesting documentation. MLPC staff describe Advocacy Academy as "mini law school." Indeed, this project focuses on community empowerment and augments the remarkable self-advocacy already being done by these Chuukese women.

Advocacy Academy participants also learn policy matters so that they understand not only what is happening, but why. The result has been their ability to affect immediate change: They can identify situations in which they can advocate to have an interpreter present, know when to use the phrase, "My lawyer said..." and can better navigate complex systems (housing, benefits, healthcare, courts, etc). Significantly, this work reaches beyond the individual participants. A preliminary evaluation of 10 Advocacy Academy participants found that they had shared their knowledge with dozens more family members, neighbors, and church friends. One Chuukese woman said, "After every class, I go home and share what I learned with my children." Participants told stories of successful self-advocacy in housing, healthcare, and other areas.

As noted earlier, this work closely parallels the public health strategies employed by diabetes educators in Pacific Island communities. With similar goals of community empowerment and engagement, the MLPC Advocacy Academy approach mirrors the culturally-appropriate strategies and outcomes of developing knowledge through collaborative learning, supported by the medical-legal team.²⁹ The result is better individual and population health by stabilizing housing, employment, education, and healthcare.

Community-led Policy and Civic Engagement

During an Advocacy Academy session, several Chuukese participants shared stories about problems with their "Obamacare" health insurance.³⁰ One woman said, "I don't want to use my insurance because they sent me bills before I even saw a doctor." A common message was, "Our community is confused after being switched from MedQuest (Medicaid) to Basic Health Hawai'i (state-funded limited health plan), and now to Obamacare." MLPC staff invited the participants to

join Micronesian-led policy activities organized by the ad hoc group COFA Community Advocacy Network (COFACAN), where they were able to talk about their community's concerns and then share their knowledge with others in the community.

Supporting COFACAN is an example of how MLP has engaged in community-led policy and civic engagement. Since 2009, when the state of Hawai'i began denying COFA residents access to state-funded Medicaid benefits, MLPC Hawai'i has worked with Micronesian community leaders, medical and legal professionals, Med-QUEST (Hawai'i's Medicaid program) patients, students, allies, and policymakers, to address health justice for Micronesians in Hawai'i through educational efforts, community organizing, and supporting community-directed advocacy.^{8,19,27} In 2012, MLPC Hawai'i co-founded COFACAN to support community-led efforts to press for state and federal health policy changes. COFACAN activities have kept discussions about Micronesian health issues alive in local communities as well as in state and federal policy groups.³⁰⁻³²

These activities demonstrate how a team of medical and legal professionals can work together, side-by-side with their patient-client communities, to engage in systemic advocacy and policy solutions that emerge from the ground up. For MLPC, success is not measured solely by objective policy change but rather by community change. For example, the group considers whether more Micronesian patients are becoming active advocates, pressing for improvements in their own lived circumstances and communities, and whether MLPC clients are gaining the legal and health knowledge needed to navigate systems and to challenge agency and governmental policies that affect access to necessary benefits. Vehicles like COFACAN and Advocacy Academy provide avenues for civil engagement and community power.

These case examples illustrate the lessons learned from MLPC's collaboration with COFA families in Kalihi. The 3 lessons—namely, (1) the significance of relationships, as seen in becoming the community's "family lawyer"; (2) the importance of working with and not just on behalf of the community; and (3) the goal of empowering the community to become the advocates themselves—are the foundation of the new MLPC Hawai'i framework. These 3 lessons have guided the evolution of the model into its natural next phase, the medical-legal home.

A "Rebellious" Approach to MLP: The Medical-Legal Home

Contrary to its combative-sounding moniker, the concept of "rebellious lawyering" embodies the collaborative and community (patient)-centered principles evident in the PCMH model.^{3,4} Rebellious lawyering challenges the formal, top-down approach to law that permeates legal education and professionalism, including legal aid services in the United States.³³⁻³⁵ It embraces working with, not just on behalf of, marginalized people. But rebellious lawyering also requires working against subordination, and challenging practices and narratives that maintain inequality. A rebellious approach seeks empowerment for clients as self-advocates and for communities as active agents

of systemic and policy change. Like the public health examples above, it calls for collaborating with other professionals and community members as equal problem-solvers, and for professionals to educate and also to be “educated by all those with whom they come in contact, particularly about the traditions and experiences of life on the bottom and at the margins.”³³

Although the example given above of the child with asthma illustrates the benefits of doctors and lawyers collaborating to improve children’s health, it represents a crisis legal intervention model, analogous to a crisis health care intervention, as would be provided in the emergency department rather than in a preventative setting. Experience practicing in this MLP framework with Micronesian populations informs this call for a rebellious approach. To be successful, MLP needs to connect with families where they are, when they are ready, and follow their lead in care and decision-making.

MLP practice should move from legal care (crisis intervention) to becoming a medical-legal home for vulnerable communities. Getting to an integrated medical-legal home requires adopting practices from rebellious lawyering—principally embracing collaborative problem-solving alongside community members—for patients and clients in a medical home setting.

Conclusion

Since its founding in 2009, the MLPC Hawai‘i model has evolved to become a medical-legal home while working with Chuukese communities in Kalihi Valley. But this evolution holds the promise of addressing health-harming legal needs for other COFA and Pacific Island populations, and vulnerable communities generally. As discussed above, building a medical-legal home together demands highly integrated services, and legal and policy work that is community-informed and frequently community-led, leaving the responsibility and power of systemic change in the hands of those most affected. The innovator of the community health centers (CHC) model, Jack Geiger, MD, stated that the CHC movement was rooted in “the civil rights movement of the 1960s, and its goal of a truly democratic and equitable society.”³⁶ A medical-legal home model is perhaps best suited to realize a public interest lawyering approach that moves us towards that equal society, where patient-clients are the drivers of community change, supported and backed by an interdisciplinary team of professionals.

Practical Implications

This paper highlights the work of one Medical-Legal Partnership program among a network of more than 300 MLP health sites in 46 US states. The medical and legal directors of the Medical-Legal Partnership for Children in Hawai‘i encourage similar collaborations between law and medical/health professionals, as well as other social services and community partners, to promote broader solutions for the social and legal needs of vulnerable patients and communities. Although the core MLP components of direct legal services, professional and community education, and policy work are significant and effective, all of this work must be done in partnership and with the input of those patients-

clients most affected. This is true whether addressing individual medical and legal needs or greater policy matters. As doctors and lawyers, we must partner with vulnerable populations in defining their challenges and obstacles, developing strategies, and promoting their self-advocacy skills. Ultimately, our work is to promote community health, power and autonomy, and the MLP model is one avenue to achieving this goal.

Conflict of Interest

None of the authors identify any conflict of interest.

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References

1. Regenstein M, Teitelbaum J, Sharac J, Phyu E. Medical-legal partnership and health centers: addressing patients’ health-harming civil legal needs as part of primary care. *National Center for Medical-Legal Partnership*. Available from: <https://medical-legalpartnership.org/mlp-resources/health-center-brief/>. Published February 2015. Accessed on January 9, 2019.
2. Beeson, T, McAllister, BD, & Regenstein, M. Making the case for medical-legal partnerships: A review of the evidence. *National Center for Medical-Legal Partnership*. Article and matrix available from: <https://medical-legalpartnership.org/mlp-resources/literature-review/>. Published February 2013. Accessed on January 9, 2019.
3. Sia C, Tonniges TF, Osterhus E, Taba S. History of the medical home concept. *Pediatrics*. 2004;113(5):1473-1478.
4. American Academy of Pediatrics, Medical Home Initiatives for Children with Special Health Needs Project Advisory Committee. The medical home. *Pediatrics*. 2002;110:184-186.
5. Toolkit: Getting Started with NCQA Patient-Centered Medical Home Recognition. National Center for Quality Assurance website. <https://www.ncqa.org/programs/health-care-providers-practices/patient-centered-medical-home-pcmh/getting-started-toolkit/download-getting-started-toolkit/>. Accessed April 13, 2019.
6. Kenyon C, Sandel M, Silverstein M, Shakir A, Zuckerman B. Revisiting the social history for child health. *Pediatrics*. 2007;120:e734-e738.
7. Zuckerman B, Sandel M, Smith L, Lawton E. Why pediatricians need lawyers to keep children healthy. *Pediatrics*. 2004;114(1):224-228.
8. *Broken Promises, Shattered Lives: The case for justice for Micronesians in Hawai‘i*. Policy Brief for Hawai‘i Appleseed Center for Law and Economic Justice. November 17, 2011.
9. Inada MK, Braun, KL, Mwarike, P, et al. Chuukese community experiences of racial discrimination and other barriers to healthcare: perspectives from community members and providers. *Social Medicine*. 2019;12(3):3-13.
10. Yamada S. Discrimination in Hawai‘i and the health of Micronesians. *Hawai‘i J of Public Health*. 2011;3(1):55-57.
11. Vorsino M. Hawai‘i nonprofit fighting rental bias against Micronesians. *Honolulu Advertiser*. November 12, 2007:A1.
12. Matsuda SMW. Public Education for Micronesian Students in Honolulu: Challenges Perceived by Parents, Community Leaders, Teachers, and Principals [doctoral dissertation]. New York: Teachers College, Columbia University; 2016.
13. Terrell J. Micronesian, Hawaiian students most likely to be suspended. *Civil Beat*. July 15, 2015. <https://www.civilbeat.org/2015/07/tongan-micronesian-hawaiian-students-most-likely-to-be-suspended/>. Accessed on January 9, 2019.
14. *We Hold These Truths... The Case for Equality for Micronesians in Hawai‘i* [Video]. YouTube. <https://www.youtube.com/watch?v=hpsPeVuyyE8>. Published May 9, 2013. Accessed January 9, 2019.
15. Blair, C. No aloha for Micronesians in Hawai‘i. *Civil Beat*. June 10, 2011. <http://www.civilbeat.org/2011/06/11650-no-aloha-for-micronesians-in-hawaii/>. Accessed January 9, 2019.
16. Caron W. Racism in Hawai‘i is alive and well. *Hawai‘i Independent*. <http://hawaiiindependent.net/story/racism-in-hawaii-is-alive-and-well>. Published June 2, 2014. Accessed January 9, 2019.
17. Hofschneider A. #BeingMicronesian in Hawaii means lots of online hate. *Civil Beat*. <https://www.civilbeat.org/2018/09/beingmicronesian-in-hawaii-means-lots-of-online-hate/>. Published September 19, 2018. Accessed January 9, 2019.
18. Korab v. Fink, 748 F.3d 875 (9th Cir. 2014) (No. 11-15132), 2014 WL 1302614.
19. Shek, D, Yamada, S. Health care for Micronesians and constitutional rights. *Hawaii Med J*. 2011(11,supp.2):70:4-8.
20. Hawai‘i Access to Justice Hui. *Achieving Access to Justice for Hawai‘i’s People*. 2007.
21. Vorsino M. Micronesians in Hawai‘i can’t get free legal aid. *Honolulu Advertiser*. September 21, 2006:A1.
22. Vorsino M. Legal aid to resume helping Micronesians in aloha state. *Honolulu Advertiser*. July 29, 2007:A33.

23. Daranciang N. Remark about ethnicity wins convict resentencing hearing. *Honolulu Star-Advertiser*. December 17, 2014:B2.
24. Lawrence CR. Local kine implicit bias: unconscious racism revisited (yet again). (2015). University of Hawai'i Law Review, 18, 21.
25. *The Medical-Legal Partnership Toolkit: Phase I: Laying the Groundwork*. Updated February 2014. National Center for Medical-Legal Partnership website. <http://medical-legalpartnership.org/mlptoolkit/>. Accessed January 9, 2019.
26. *Law school's medical-legal partnership for children wins national award*. May 4, 2014. Available at <http://www.hawaii.edu/news/article.php?ald=6479>. Accessed January 9, 2019.
27. Hofschneider A. Doctors and lawyers: an innovative partnership in Kalihi. *Civil Beat*. May 20, 2015. <http://www.civilbeat.com/2015/05/doctors-and-lawyers-an-innovative-partnership-teams-up-in-kalihi/>. Accessed January 9, 2019.
28. Aiatoto N, Braun KL, Estrella J, Epeluk A, Tsark J. Design and results of a culturally tailored cancer outreach project by and for Micronesian women. *Prev Chronic Dis*. 2012;9:100262. DOI: <http://dx.doi.org/10.5888/pcd9.100262>.
29. Braun KL, Ichiho HM, Kuhaulua RL, et al. Empowerment through community building: diabetes today in the Pacific. *J Public Health Manag Pract*. 2003;November(Suppl):S19-S25.
30. Hagiwara MKI, Yamada S, Tanaka W, Ostrowski DM. Litigation and community advocacy to ensure health access for Micronesian migrants in Hawai'i. *J Health Care Poor Underserved*. 2014;26(2):137-145.
31. Viotti V. Spurned by a federal court, Pacific migrants seek justice through politics. *Honolulu Star-Advertiser*. April 27, 2014:E1.
32. Hirono discusses impact of immigration reform with COFA advocates. May 30, 2013. Available at <https://www.hirono.senate.gov/photos/hirono-discusses-impact-of-immigration-reform-with-cofa-advocates>. Accessed January 9, 2019.
33. Lopez G. *Rebellious Lawyering: One Chicano's Vision of Progressive Law Practice*. Boulder, Colorado: Westview Press; 1992.
34. Ancheta, A. Community lawyering. *California Law Review*. 1993;81(5):1363-1399.
35. Lawrence CR. Sustaining the struggle for justice: a program review of the basic rights portfolio. Prepared for The Rockefeller Foundation. August 1, 1992.
36. Geiger JH. Foreword. *AAPI Nexus*. 2014;12(1&2):vii-viii.

Pedals and Pedagogy: Cycles of Hope and Health

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Abstract

The Kalihi Valley Instructional Bike Exchange (KVIBE) is an innovative youth bike program housed in Kokua Kalihi Valley Comprehensive Services (KKV), a community health center in Honolulu, Hawai'i. KVIBE utilizes a popular education model to raise the social consciousness of its youth participants, who are primarily working class, Indigenous, and native to the Philippines or the Pacific Islands, especially Micronesia. Initially designed as a bike repair program where youth could earn a bicycle through sweat equity, KVIBE has grown into an educational space that teaches bicycle mechanics as well as personal history and identity. The KVIBE curriculum incorporates a social determinants of health approach with the Four Connections Framework, an Indigenous health framework developed by KKV and the Islander Institute. This article shares details of this program, as a pedagogical model for programs to engage underserved and marginalized Asian, Pacific Islander and Native Hawaiian youth who suffer from displacement and historical trauma via colonization. Additionally, this article speaks to the importance of seeing marginalized youth not as an at-risk group but as agents in creating community health.

Keywords

popular education, pedagogy, bicycle mechanics, urban education, Indigenous health

Abbreviations

KKV = Kokua Kalihi Valley Comprehensive Family Services
KVIBE = Kalihi Valley Instructional Bike Exchange

Genealogy: Pedals in the Health Center

Kalihi Valley Instructional Bike Exchange (KVIBE) is a program of Kokua Kalihi Valley Comprehensive Family Services (KKV). KKV is a federally qualified health center serving more than 10,000 patients in Kalihi, a diverse neighborhood in Honolulu, on the island of O'ahu. In Kalihi, 93% of the 50,000 residents have Native Hawaiian, Asian, and/or Pacific Islander ancestry.¹ Many are immigrants who made Kalihi their first home upon arriving in Hawai'i. Thus, KKV patients and staff speak more than 27 languages. Kalihi has a high percentage of residents in public housing and many live in poverty or face challenging family circumstances.

KVIBE was born in 2005 out of an Active Living by Design grant from Robert Wood Johnson Foundation that promoted physical activity in communities with high rates of diabetes. In its initial inception under the stewardship of Jared Christenot, KVIBE was a bicycle shop called the Bike Klinik where youth were taught bicycle mechanics. Youth could drop into the Bike Klinik and were given the opportunity to earn a bike by learning how to fix and maintain bikes and then volunteering at the shop. The goal of the program at this time was to model healthy physical activity. KKV believed that the idea of KVIBE

would be relevant to this diverse community, and KVIBE was situated near the 2 largest public housing projects in Kalihi. The bicycle was chosen because bikes offered an affordable and environmentally friendly way of getting around the Kalihi community.

The Bike Klinik is seen as an extension of the health clinic, whose founder and former executive director Jori Watland believed that all community members play a role in caring for patients. The name the Bike Klinik was chosen in order to acknowledge that the shop is a space where healing can take place, and that bike mechanics can be healers too. Over the years, healing activities at the Bike Klinik have included mentoring sessions and culture circles, which are group sessions in which participants form a circle with intention to talk about a particular theme.

Today, KVIBE is managed by Kevin Faller and is based on the pedagogy inspired by popular education and various social movements. Popular education is an idea rooted in social movements for equity, including movements for liberation in Latin America, the Philippines, the United States, and Native/Indigenous movements for sovereignty.²⁻³ Thus, KVIBE is a space where youth can practice sovereignty in their lives, with the motto, "to be the best version of yourself." KVIBE encourages the youth who participate to be confident in themselves, conscious of their gifts, accountable to their community, and connected to the land.

The program has seen success in building bikes and helping youth to grow. According to internal KKV data compiled in a recent report, each year since 2004, 400 donated bikes were refurbished by youth, and about 4000 bikes were repaired though 9000 youth service hours. In a 2018 survey, 90% of KVIBE participants reported biking more often since starting at KVIBE, and 63% reported they have helped other youth to learn how to fix bikes.

This article describes the pedagogical grounding, program examples, and experiences of participants of KVIBE. We provide lessons learned for similar programs and illustrate some of the connections to health. Although KVIBE is not exclusively for young men and boys (as girls and young women also participate), one of our main funding sources guided our focus toward creating healthy spaces for young men and boys. In this article, we will focus on our work with young men and boys of Kalihi. In the context of #metoo, the importance of having healthy young men and boys in a community takes on greater meaning.

Pedagogy in Community Education and Civic Engagement

KVIBE engages primarily low-income, Indigenous youth from the Philippines and the Pacific Islands, primarily from Micronesia. The program's pedagogy comes from the popular education concept that education is not only a manner of delivering instruction, but also the "educational expression of a politics and philosophy" as described by Paulo Friere.⁴ In the program, youth become immersed in creating a narrative that places them as the central characters in a movement toward a more sovereign Kalihi. The pedagogy includes frameworks of healing, social justice, and addressing the social determinants of health.

One of the successes of KVIBE is the impact of its participants on the Kalihi community, including advocating in 2009 for a re-stripping of bike lanes and reduction of car lanes on Kamehameha IV Road. The participants' engagement in petitioning and holding meetings with community members and press conferences ultimately led to changes made by the City & County of Honolulu to re-stripe and slow down vehicular traffic. Our community members have since shared their experiences of feeling safer with one lane in each direction (as opposed to 4 lanes total). Moreover, the youth have also engaged in civic policy in education, housing, health care, immigrant rights, reforestation, and gentrification. They have marched alongside other movements for sovereignty and social equity.

We also place sovereignty and creating a liberatory narrative at the center of the KVIBE program because of how many in our community have experienced the historical effects of colonialism. One of the lasting effects of colonization is to sever connections to critical sources of constant abundance—culture and land. For example, for many of our youth who were born in the Philippines and Micronesia there can be feelings of shame when it comes to identifying as Filipino and Micronesian. Even when this link is not severed, it can be distorted and one's perception of self becomes acculturated by the rites and rituals of colonial culture.

Education in the United States is often based on standardized curricula that reinforce the culture, economy, and spirituality of the colonizer.² In contrast, KVIBE offers a pedagogy of health that uses culture and history to acknowledge and name genealogy, and to see the future through an architecture of hope and resiliency.⁴ KVIBE seeks to reveal to youth the gifts—the skills, insights, and talents—received from ancestors, and the responsibility to hold themselves accountable to their community. For many immigrant, migrant and Indigenous youth in Kalihi, their path toward recognizing their source of abundance is the path towards reclaiming their health. The violence of colonization is swift and lasts for generations, but the reconnection to one's source of ancestral wisdom is slow and takes generations to sustain.⁵

Pathways of Healing

Mechanics of a Culture Circle: Name, Home, and Ancestor

Every day at around 3:30 p.m., just before the Bike Klinik begins assigning the youth their responsibilities for the day, the staff and youth come together and check-in with a culture circle. They sit in a circle, often led by a young person, and open with breathing and mindfulness exercises. They check in, stating their name and home, and call to mind an ancestor who will help the youth to be intentional. For example, "My name is Malcolm, home is Chuuk, Kalihi, Kam IV Housing, and KVIBE, and I'd like to bring my Grandma." (A pseudonym is used to protect the identity of our youth.) When youth are first invited to the circle, they often do not identify their ancestral land and have difficulty identifying an ancestor. Their current lives exhibit a context of displaced peoples, distorted identity, and dehumanized living conditions. We speak together of inequitable conditions of Micronesian peoples affected by the Compact of Free Association, forced to leave their islands to seek medical attention in the United States due to illnesses associated with the nuclear testing in the Pacific. In addition, we speak of the lack of Hawaii's infrastructure to accommodate their living situation, including substandard public housing, sometimes with no hot water and pest-riddled living areas, and a feeling that the Department of Education does not always show cultural sensitivity, which affects the way they are treated in the schools and in the larger state of Hawai'i. These conditions and misperceptions make way for racist and discriminatory remarks that are said openly in the streets, on the radio and social media, in the work place, with no sense of historical context.⁶ We believe our Micronesian youth are reminded of this reality almost constantly.

The culture circle allows for a recognition of their purpose/responsibility, their roots in a homeland, and their guidance by a genealogy of resiliency. The circle offers an opportunity to practice sovereign ways of naming themselves while breaking a generational amnesia that resulted from colonization and internalized oppression. Naming becomes a rite towards the goal of sovereign health.

Lanes of Healing: Men, Boys, and Patriarchy

Similar to initiatives to make Honolulu streets safer for bicycle users, KVIBE aspires for lanes in which men and boys can walk and talk without the tendencies of colonial patriarchy, which assumes the superiority of men over all things. Though KVIBE is open to people of all genders, it tries to articulate what it means to grow up as a boy in a working class environment. The fathers and male figures of these youth are often inundated with work and other family responsibilities; daily challenges can be exacerbated by immigration status and complicated family arrangements. Many immigrant Filipino and migrant Micronesian youth in our community are waiting for their fathers to receive visas to come to Hawai'i and meanwhile look to find father figures in teachers, extended families, and sometimes in gangs.

Responding to this limited availability of male mentors, KVIBE encourages men and boys to find paths that do not replicate the abusive and violent tendencies of patriarchy. The goal is for participants to learn to question the architecture of colonial masculinity and stop the perpetuation of the distortions of manhood. Through programs on sex-trafficking prevention, trauma-informed care, Native Hawaiian practices for cultivating land, story-telling through cultural practitioners, and other activities, the young men and boys are given tools to address mental health and well-being. Moreover, the diverse languages and cultures of the youth are seen as their gifts, to use to create the manhood(s) they envision. KVIBE fosters mentorship and way-making by inviting male figures in hip-hop, poetry, mālama ‘āina (caring for the land), art, business and other sectors of society to model a modern masculinity that respects their own culture.

Four Connections Framework

KVIBE uses a framework developed by KKV and the Islander Institute called Pilinahā: Four Connections Framework.⁷ The Four Connections framework was birthed through formal and informal talk stories that centered on personal and collective health in Indigenous and island peoples. The framework is a process to understand the deeper practices and lived stories that promote health. The Four Connections are: connection to place (to have kinship with ‘āina); connection to community/others (to love and be loved; to understand and be understood); connection to past, present and future (to have kuleana, or a purpose in the world); and connection to your better self (to find and know yourself). The four categories are interconnected. One participant shared a story that illustrates the connections:

When I see people working together on the ‘āina, or in a fishpond, or gathering limu and doing traditional practices, I actually see them get physically stronger. They get connected to who they are, and to each other. And they feel power—not power over others, but power and control over their own destiny.

Lessons Learned

At KVIBE, we have learned that not every youth comes into the Bike Klinik excited about bike mechanics. Rather, what moves the youth to come into the shop is often practical: youth want a bike that they can earn through sweat equity. If they already have a bike, they come in to fix it. The second reason they come is spiritual. They are inspired by their *kuyas* (older brothers) and *ates* (older sisters) as role models or may be invited by their friends to be the best versions of themselves. The aura of learning and accountability permeates the shop and is shown on poster boards displaying reminders that the youth have their own agency to become more whole, healthier and more conscious.

Another lesson was that KVIBE does not have to do everything for everyone; there are other KKV programs equally passionate about holistically educating youth, and that health is a matter of

connection. This lesson came to us after a KVIBE participant remarked, “I only come to KVIBE because I get to go to Ho‘oulu ‘Āina.” Ho‘oulu ‘Āina is a KKV program, based on 100 acres of land leased to KKV, that provides healing through native reforestation, farming, and connection to the land. Ho‘oulu ‘Āina is an Indigenous-based programming rooted in Native Hawaiian values with a philosophy that believes healing the land will heal the people. It is a dynamic program that holds space for all peoples searching for home and figuring out ways on how to hold a healthy tension between Western and Pacific epistemology and ontology.

A recent example was a 17-year-old Chuukese boy who came to earn a bike, but quickly realized (through time spent at Ho‘oulu ‘Āina) that he was most interested in learning to grow food and about Chuukese mythologies and ancestral traditions. Health for him meant a connection to the ‘āina and bettering oneself. Although the staff initially thought that KVIBE was failing this participant by not providing a good experience in the Bike Klinik, they realized that KVIBE could meet other needs by incorporating collaborations with other departments at KKV and with outside institutions.

Ho‘oulu ‘Āina became a partner with KVIBE, and now KVIBE youth go to Ho‘oulu ‘Āina one Saturday a month for cultural and healing activities. The KKV ROOTS program provided guidance to KVIBE youth on ancestral diets, and the Behavioral Health Department also became a connection to a better self. KVIBE has thus become a space to bridge youth to services beyond the capacities of our own program.

Finally, we have learned to keep parents and family members involved, and to share what their kids have been doing in the Bike Klinik. There are pressures on our youth to work for an income, and the KVIBE program may give the appearance that the youth are “just playing with bikes.” We strive for constant communication and updates so that the youth can gain permission from their family to participate in KVIBE. We have found that the majority, although not all, of the family members of our youth support their children coming to KVIBE.

Pedagogy of Presence: Walking Together in Wisdom

KVIBE aspires to be a space where staff and youth can journey together in search for wisdom. It is a learning space where knowing does not rely solely on the teacher, and being present is the gift of both teacher and student to each other. We communicate to our participants that the circle will always be open for them no matter what they have gone through and where they are in life. We provide a space where there is no judgment, and youth can always count on being heard.

In the last 2 years, we have begun to see former youth, now in their 20s, returning. They come back to be part of the check-in circles, realizing the need to be heard and to heal. For them, naming their wounds becomes easier in the circle. The circle, too, walks with them, in and outside of the Bike Klinik.

Implications for Public Health and Clinical Linkages

Health is more than checkups in exam rooms; it must intersect with programs that treat the individual as part of a community. When we invite a boy or young man in Kalihi into KVIBE, they will almost inevitably invite their brother or sister and eventually their parents into our space. One of our goals is to eventually invite primary care providers, so that the community may see that everyone is a care provider in some way.

Participating in KVIBE is a physical activity, and many youth begin to lose weight after several months of participation. But KKV has supported KVIBE throughout the years for the bigger picture goals, because of its engagement with youth and prevention approach to issues that affect the trajectory of their lives. KVIBE invites youth to become co-creators in their health as an important act in decolonizing medicine and population health. When community wisdom and participation are embedded in health clinics, an expansive and nuanced definition of health is created. The KVIBE program attempts to heal a community and restore a spiritual umbilical cord to its history. When the young men and boys feel they belong to a community that has overcome adversity, the narrative of themselves become medicinal, creating a path to turn generational trauma into regenerative *mana* (energy).

Conclusions

The KVIBE program is one pathway to holding a space for working class, Indigenous, and immigrant youth. It aims to uplift, affirm, and dignify their experiences and identity by focusing on their strengths from a history of hope and resilience.³ The Bike Klinik is situated in Kalihi and is thus narrowed through a Kalihi lens. Yet we believe there is some universality in the experience we have tried to create.

Of course, reading about KVIBE will always fall short of the experience of being in the space, breaking breadfruit, and sharing generative stories. We invite you to read, reflect, and then come join our circles in our Bike Klinik.

Conflict of Interest

None of the authors identify a conflict of interest.

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References

1. Mahi D. The children of Kalihi. *Reclaiming Children and Youth*. 2013;22:50-54.
2. Apple MW. *Ideology and Curriculum*. 3rd ed. New York, NY: Routledge; 2004.
3. Macedo D. *Literacies of Power: What Americans Are Not Allowed to Know*. Expanded ed. Boston, MA: Westview Press; 2006.
4. Freire P. *Pedagogy of the Oppressed*. 30th anniversary ed. Ramos MB, translator. New York, NY: Bloomsbury Academic; 2000.
5. James M. *Liberation, Conscientizacao, Pedagogy* [master's thesis]. San Francisco: San Francisco State University; 2014.
6. Meyer MA. *Ho'oulu: Our Time of Becoming, Hawaiian Epistemology and Early Writings*. Honolulu, HI: Ai Pohaku Press; 2003.
7. Blair C. No aloha for Micronesians in Hawaii. *Civil Beat*. June 20, 2011. <https://www.civilbeat.org/2011/06/no-aloha-for-micronesians-in-hawaii/>. Accessed June 17, 2019.
8. Odam SK, Jackson P, Derauf D, Inada MK, Aoki AH. Piilinahā: An Indigenous framework for health. *Current Developments in Nutrition*. nzz001. <https://academic.oup.com/cdn/advance-article/doi/10.1093/cdn/nzz001/5362646>. Accessed June 17, 2019.

Implementing a Health Coaching Curriculum in Hawaii's Community Health Centers

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Abstract

Chronic diseases impact 60% of Americans, with 42% reporting multiple chronic conditions, and account for \$3.3 trillion in annual health care costs. In Hawai'i, about 80% of adults report having at least 1 chronic condition, and more than half of those report having multiple chronic conditions. Health coaching is a technique of engaging patients to help them obtain the knowledge, skills, and confidence to become an active and engaged participant in their health care. Health coaching aims to assist patients with understanding their care plans, exploring their perceptions of their care plans, and working collaboratively with their health care team to implement these plans to improve their overall health. In 2016, the Hawai'i Primary Care Association (HPCA) partnered with the University of California, San Francisco's Center for Excellence in Primary Care to train staff from HPCA and Hawai'i's community health centers (CHCs) in health coaching. This 2-day training focused on using principles of adult learning theory to create interactive sessions aimed at building staff capacity to improve communication and empower patients to become active participants in their health care. The curriculum highlights 6 core elements of health coaching: ask-tell-ask, setting the agenda, closing the loop, know your numbers, behavior-change action plans, and medication adherence counseling. The aim of this case study is to present insights gained from the implementation of health coaching at 1 FQHC in Hawai'i. Health coaching is found to be an effective approach to engaging patients and improving communication with patients and across clinic departments. Health coaching is a promising practice to address the growing chronic disease burden in Hawai'i.

Keywords

federally qualified health centers, care coordination, motivational interviewing, health systems transformation, team-based care, health coaching

Highlights

- Health coaching helps patients become informed, active participants in their care.
- Health coaching promotes high quality team-based care in primary care settings.
- Health coaches can bridge communication gaps between patients and providers.
- Community health workers and other staff may benefit from health coach training.

Introduction

Chronic diseases impact 60% of Americans, with 42% reporting multiple chronic conditions, and account for \$3.3 trillion in annual health care costs.¹ In Hawai'i, the most recent data estimate that about 80% of adults report having at least 1 chronic condition, and more than half report having multiple chronic conditions.² Diabetes impacts 96,000 residents of Hawai'i.³ Further, hypertension impacts 31% of Hawai'i residents.⁴ Obesity-related costs in Hawai'i are estimated at \$470 million annually, with an additional \$770 million spent on diabetes-

related care.⁵ Due to the prevalence and economic burden of chronic conditions, it is imperative to find effective solutions to address this public health concern.

Community health centers (CHCs) are community-based, non-profit health care organizations that provide primary and preventive care with a focus on serving low-income and medically underserved populations. CHCs provide services to all community residents regardless of their insurance status or ability to pay. In Hawai'i, there are 15 CHCs that provide services to more than 155,000 patients annually. In 2017, 79% of CHC clients in Hawai'i were ethnic minorities.⁶ About 26% of patients served had hypertension, 16% were diagnosed with diabetes, and 7% had asthma.⁶ Hawai'i's CHCs are integral to reducing health disparities experienced by immigrants and underserved populations.⁷ Chronic disease management remains a challenge for patients served by Hawai'i's CHCs, as 37% of these patients have poorly-controlled diabetes, and almost 40% have poorly-controlled blood pressure.⁶ One Healthy People 2020 goal is to reduce the rate of poorly-controlled diabetes to 16%.⁸

Team-based care is a health systems-level intervention that employs a multidisciplinary approach to caring for patients that offers a variety of supportive services more efficiently than the provider alone.⁹ The health care team works together to ensure the patient receives appropriate tests, medications, and support to self-manage their condition and make improved lifestyle choices.¹⁰ Research has shown that team-based care interventions are effective in improving blood pressure,¹¹ hemoglobin A1c (HbA1c),¹⁰ and lipid levels.¹⁰ As a result, the US Preventive Services Task Force recommends team-based care as an effective means to improving diabetes and hypertension control.¹⁰⁻¹¹

Further, health coaching is a specific intervention aimed at promoting a team-based approach to caring for patients with chronic conditions. Health coaching engages patients by providing them with information, skills, and confidence to become an active member in their care.¹⁴ This patient-centered approach focuses on working with them to help them understand their care plans and work collaboratively with their health care teams to improve their health.¹² Researchers have identified this model as one of the building blocks of high-performing primary care settings.¹³

A series of studies has shown the effectiveness of health coaching across different diseases. In a recent systematic review, Kivela, et al, found 13 studies that explored health coaching with patients experiencing chronic conditions including type 2

diabetes, heart failure, dyslipidemia, obesity, chronic pain, and cancer.¹⁵ Health coaching improved physiological, behavioral, psychological, and social outcomes. Health coaching improved blood pressure,^{14,16,17} cholesterol levels,¹⁸ and HbA1c levels,^{19,20} and reduced rates of hospitalization among patients with chronic obstructive pulmonary disease.²¹ Linden and colleagues also noted that health coaching among those with chronic conditions improved their self-efficacy, patient activation, lifestyle change score, and perceived health status.²² A systematic review by Olsen and Nesbitt found that health coaching interventions that incorporate goal setting, motivational interviewing, and collaboration with health care providers improved chronic disease self-management and achievement of health behavioral goals.²³

Among patients with diabetes, health coaching may reduce symptoms of diabetes at follow-up,²⁴ improve self-care behaviors related to diet and foot care,¹⁷ increase patient engagement,¹⁵ and reduce perceived barriers to medication adherence.¹⁷ Further, patients with diabetes may be more satisfied with their health care and have reduced levels of stress and perceived illness, and increased awareness of self-care goals and feelings of support from their health care team because of health coaching.¹⁸ Willard-Grace, et al, found that patients with diabetes were more likely to achieve their HbA1c goals when receiving health coaching.²⁵ Oksman and colleagues demonstrated that a telephone-based health coaching program was a cost-effective approach that increased quality-of-life scores for those with type 2 diabetes.²⁶

Research on health coaching within CHC settings and with diverse populations is limited. However, implementation of health coaching by clinical support staff has shown improvements in HbA1c levels among patients with diabetes compared to patients in the control group.^{22,27-29} Ruggiero and colleagues²⁹ explored the use of medical assistant (MA) trained coaches to improve diabetes in one Chicago CHC. Participants with diabetes were randomized into health coaching by MAs or usual care. While the findings did not show statistically significant improvements, researchers noted that those receiving health coaching had a sustained reduction in their HbA1c levels, felt more empowered and decreased their negative perception of diabetes-related problems.²⁹ Van der Wees and colleagues compared health coaching implementation across 12 CHCs in California and found that health coaching implementation varied greatly and was contingent upon available time and competing responsibilities. The researchers underscored the importance of ensuring a flexible implementation that is responsive to the needs of the patient and the clinic practice.³⁰

Although health coaching has been shown to be effective in CHCs in the continental US, health coaching has not been widely tested and evaluated within Hawaii's CHCs. This article intends to provide insight on an innovative, evidence-based approach to promoting team-based care in Hawaii's CHCs, describe the core tenets of health coaching, and present a case study of health coach implementation at 1 CHC. Further, this manuscript highlights community-clinical linkages through the

demonstration of health coaching as a means to conduct outreach to communities, educate them on chronic disease management, and facilitate follow-up with providers at the CHC.

Health Coach Training Curriculum

In 2016, the Hawai'i Primary Care Association (HPCA) partnered with the University of California, San Francisco's (UCSF) Center for Excellence in Primary Care to train staff from HPCA and Hawaii's CHCs in health coaching. This 2-day training focused on using principles of adult learning theory to create interactive sessions aimed at building staff capacity to improve communication and empower patients to become active participants in their health care. The curriculum highlights 6 core elements of health coaching: ask-tell-ask, setting the agenda, closing the loop, know your numbers, behavior-change action plans, and medication adherence counseling.¹² "Ask-tell-ask" is a method of engaging patients by assessing their interests in learning about their conditions and willingness to follow through with treatment recommendations. For example, a health coach asks a patient, "What do you know about diabetes?" Based on the patient's responses, the health coach fills in gaps in knowledge or clarifies any misunderstandings about diabetes. Then, the health coach asks the patient if he or she have additional questions about diabetes. This process continues until the patient receives answers to all their questions about diabetes. "Setting the agenda" is a process by which the health coach gathers the concerns of both patients and health care providers and assists patients in prioritizing their concerns to maximize the medical visit. "Closing the loop" or "teach-back" enables the health coach to assess the patient's understanding of provider recommendations by asking the patient to repeat the recommendations in their own words. In practice, a health coach states, "Just to be clear, tell me what you know about your condition." Then, the patient describes their understanding of diabetes in their own words. "Know your numbers" is a series of questions to help patients understand their baseline and treatment goals for their condition, and to seek clarification from their physician if they did not know. Action planning involves working with patients to create a detailed plan to help them achieve their goal(s). The last element is medication adherence counseling, in which health coaches ask patients a series of questions to reconcile medication and assess patients' knowledge and use of prescribed medications. These 6 core skill sets are reinforced through interactive group activities and role-playing scenarios to apply concepts into practice.

Building Champion Trainers in Hawai'i CHCs

To ensure sustainability of health coaching training in Hawai'i, HPCA staff received additional training and mentorship from UCSF to become "Champion Trainers." Once a request for training was received, HPCA staff worked with CHC health coaches to plan the training for interested staff. CHC staff assisted with securing logistics and participant recruitment, while HPCA provided training materials and facilitated planning sessions with CHC health coaches. Utilizing the techniques

learned from UCSF, HPCA worked with the CHC staff to tailor the content and determine appropriate training frequency to meet the unique training needs of each CHC. For example, one CHC wanted all staff to be trained in brief tobacco intervention counseling, and so that was integrated into the training curriculum. In some instances, HPCA facilitated most of the training and invited key staff (eg, pharmacists, behavioral health specialists) to facilitate portions of the training, relating the content back to the importance of health coaching in their CHC context. Further, HPCA provided training onsite to CHC staff to ensure maximum attendance of frontline staff.

This sustainable training model has resulted in 62 trained health coaches at 9 CHCs. Those trained represent a variety of professions from frontline staff (eg, receptionists, medical assistants, community health workers [CHWs]) to licensed professionals (eg, behavioral health specialists, dietitians, nurse care coordinators). Many of these health coaches have continued to implement this training with new CHC staff. Although a formal evaluation has yet to be conducted on health coaching's impact on patient outcomes, a case study is presented below on health coach implementation at 1 CHC. The case study highlights the most valuable aspects of health coaching at this CHC and describes perceived benefits of health coaching in patient care.

Health Coach Implementation at Lānaʻi Community Health Center (LCHC)

Lānaʻi Community Health Center (LCHC) is an CHC located on the smallest inhabited Hawaiian island, Lānaʻi. LCHC provides comprehensive primary care services including medical, behavioral health, dental, and optometry services.³² LCHC provides a variety of services to prevent and manage chronic conditions, facilitate care transitions and referrals, and support telehealth to increase access to specialty services (eg, telepsychiatry and teledermatology, and telemedicine obstetrics). Additionally, enabling services, such as prescription assistance programs, transportation, and translation are provided to help address the social determinants of health. Although the center's services are available to all Lānaʻi residents, primary targeting is aimed at those whose incomes are at or below the 200% federal poverty level,³² who account for 54% of their patient population.³³

LCHC utilizes an integrative holistic health care approach, which involves looking at the whole health of a patient. In this model, staff within each department is expected to screen, provide brief interventions, and refer patients to other departments when a patient's health concerns require another department's expertise. Because of this integrated approach, LCHC decided to provide the health coaching training to medical assistants, dental assistants, behavioral health providers, and CHWs. Training in health coaching provides staff with an evidenced-based method of communicating with patients about their physical health while assisting to connect with other specialty services (eg, dental, behavioral health). It provides communication skills by teaching both motivational interviewing techniques and basic information about common chronic diseases, for CHWs. This training helps the CHWs understand their responsibilities to

provide self-management support for individual patients with diabetes mellitus, hypertension, and other chronic conditions. When CHWs use appropriate communication techniques, patients progressively learn self-management skills, which can improve health outcomes. Staff are also equipped to assist in helping patients become active members in their treatment and care plans. LCHC staff members believe that if each department is providing the same messages about health, then a patient is more inclined to seek treatment and be more willing to look at treatment options. Health coaching aligns with LCHC's mission of providing patient-centered care with an integrative team approach. As a result, LCHC has required this training as part of onboarding of new clinical staff.

Since participating in the first cohort in 2016, LCHC staff members worked with HPCA to tailor subsequent trainings by removing irrelevant sections and incorporating a section on smoking cessation counseling facilitated by a behavioral health provider. Following the initial training, LCHC staff felt that the curriculum would provide them with a common language to discuss a patient's health concerns (eg, diabetes, hypertension, high cholesterol), medication reconciliation, and follow-up tests (eg, HbA1c levels). Anecdotal feedback from trained staff indicated that health coaching was beneficial in establishing and improving trusting relationships with patients and was a powerful strategy to empower patients to take an active role in reaching their health goals. CHWs confirmed in their monthly meetings the effectiveness of health coaching strategies in establishing great working relationships with patients. Motivational interviewing, medication reconciliation, and closing the loop were the most common strategies that enabled open communication and empowered LCHC patients.

Furthermore, warm hand-offs and follow-up dialogue occurs between CHWs and clinical providers after each patient visit. The meeting includes a debrief and discussion of patient's status. Medication reconciliation, current issues with hypertension and diabetes, and nutritional needs are common topics discussed with patients. Health coaching strategies have been so effective that previously non-adherent patients are now willing to take part in nutrition consultations and exercise classes (group or individual sessions).

HPCA surveyed trained LCHC staff to understand implementation of health coaching techniques and their perceived impact on patients and staff. Feedback from staff indicated that they have integrated health coaching components in their current roles at LCHC. Behavioral health providers noted that "ask-tell-ask" and "closing the loop" helped them assess their patients' understanding of their health, identify their level of motivation to make recommended lifestyle changes, and align treatment goals with their health needs. Trained staff also reported that the training provided non-medical staff with common medical terminology of chronic diseases, understanding goals of clinical metrics (eg, HbA1c levels, cholesterol levels, and blood pressure), and familiarity with the medications prescribed for chronic conditions. CHWs report that the curriculum has provided them with the skills to assist patients, offering a

patient-centered, holistic approach to help patients reach their goals. Health coaching techniques motivate patients and promote a collaborative relationship, which ultimately leads to better health outcomes and improved quality of life.

Although a formal evaluation of health coaching on patient outcomes at Hawaii's CHCs has yet to be conducted, trained CHWs report that health coaching allows patients to be more willing to adopt new behaviors. CHWs can use health coaching strategies to help patients overcome any hesitance to adopt new behaviors by building trust and allowing them to discover approaches that work for them. Patients feel empowered and in control of their own health journey. As trusted health care team members, CHWs help bridge communication gaps between patients and providers by regularly sharing information learned from the patient that could impact treatment outcomes. Because they may see patients more often than primary care provider, they can relay patient concerns back to medical provider, promoting quality team-based care. Additionally, CHWs and behavioral health providers reported that health coaching has improved patient communication. Among CHWs, the "closing the loop" technique helps patients verbalize understanding of their patient care plans. Behavioral health providers note that health coaching has helped ease patient ambivalence, build trust between patient and provider, and increase patients' willingness to be more involved in their care and open to treatment options.

Discussion

Through partnerships with UCSF, HPCA has built the internal capacity to continue the spread of health coaching within Hawaii's CHCs. Health coaching curriculum has enabled HPCA to build the capacity of CHC staff to implement an evidence-based intervention. Although research has demonstrated that health coaching is an effective approach in engaging patients, evaluation of its impact in Hawaii's CHCs patients is still unknown. This case study of Lāna'i Community Health Center's implementation is the first step in understanding the impact of health coaching within CHCs in Hawai'i.

Although not a formal evaluation of health coaching effectiveness within CHCs, the case study of implementation mirrors findings found in the literature. The information gathered from the LCHC staff demonstrates that health coaching is a method of creating quality team-based care, which is vital to promoting high functioning primary care in the current health care environment. Researchers have observed that a provider with about 2,500 patients would have to work almost 18 hours a day to address all aspects of the recommended chronic disease management and preventative care.³⁴ Research also has shown that only half of patients leave their office visit understanding their treatment plans.¹² LCHC's approach of training all staff who interface with patients ensures consistent messaging, as well as multiple opportunities for care plan discussion, and creates the environment for more effective and efficient office visits.

The LCHC staff also shared that the training and techniques enhanced their ability to communicate with and motivate patients. For patients, staff shared that the skills helped to promote a collaborative relationship with patients and providers, allowing them to be active participants in their care. Unfortunately, it is estimated that for 90% of office visits, patients are not involved in the decision-making process, leading to a lack of adherence to treatment plans.³⁵ Providing patients with the opportunity to collaborate in the development of their care plan will lead to improved adherence to treatment recommendations, resulting in enhanced health outcomes.¹²

Community health workers are important members of the health care team, particularly in rural and underserved areas. CHWs are trusted members of the community, provide culturally-competent care, and act as a bridge between the diverse population and professional staff. CHWs, whether fortunate enough to have received a formal CHW certificate or on the job training, may have limited knowledge of complex medical conditions or limited experience in effective communication skills. The health coaching training is an effective curriculum that offered practical tools for effectively developing patient self-management skills. At LCHC, trained staff, particularly the CHWs, confirmed that the health coaching techniques and tools were effective in supporting their ability to help patients. As is frequently the case in health services research, health coach training and implementation is a component of the evolving team-based care at LCHC. While its impact on the clinical metrics of HbA1c levels and blood pressure control remains to be seen, health coaching's impact on the CHWs' ability to assist patients validates the value of this training curriculum.

Practical Implications

Assessments of health coaching implementation at 1 CHC support that it is an effective method of transforming health care systems to provide high-quality team-based care and empower patients to become active members in their health care. CHWs are essential members of the health care team and are ideal staff to receive health coaching training to support their ability to assist the communities they serve. Health coaching skills can also support and enhance other health care team members' abilities to communicate and engage patients in their treatment care planning. Health coaching is not only effective, but it is efficient in leading to better management of patients with chronic and often complex medical conditions. Demonstration of the value of health coaching requires continued case studies and model refinement to develop an affordable high-quality health care system. Therefore, it is vital to evaluate the effectiveness of health coaching on improving patient outcomes, identify effective health coaching models, and sustain health coaching efforts through health insurance coverage. Health coaching is a promising practice to address the growing chronic disease burden in Hawai'i.

Conflict of Interest

None of the authors identify a conflict of interest.

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References

- Centers for Disease Control and Prevention's National Center for Chronic Disease Prevention and Health Promotion. Chronic Diseases in America. <https://www.cdc.gov/chronicdisease/resources/infographic/chronic-diseases.htm>. Updated October 25, 2018. Accessed November 10, 2018.
- Hawai'i State Department of Health Community Health Division. Chronic Disease Disparities Report 2011: Social Determinants. http://health.hawaii.gov/chronic-disease/files/2013/12/CD_BurdenReport_FINAL.pdf. Accessed November 10, 2018.
- Hawai'i Health Data Warehouse. Hawaii's Indicator Based Information System. http://ibis.hhdw.org/ibisph-view/query/result/brfss/DXDiabetes/DXDiabetesAA11_.html. Updated June 5, 2018. Accessed November 10, 2018.
- United Health Foundation. America's Health Rankings. High Blood Pressure in Hawaii in 2018. <https://www.americashealthrankings.org/explore/annual/measure/Hypertension/state/HI>. Accessed November 30, 2018.
- Hawai'i State Department of Health Chronic Disease Prevention and Health Promotion Division. Hawai'i Coordinated Chronic Disease Framework. <https://health.hawaii.gov/chronic-disease/files/2014/09/CDFrameworkLR.pdf>. Accessed November 30, 2018.
- Health Resources & Services Administration Health Center Program. 2017 Hawaii Health Center Data <https://bphc.hrsa.gov/uds/datacenter.aspx?year=2017&state=HI>. Accessed November 10, 2018.
- Association of Asian Pacific Community Health Organizations. The Health of Asian Americans, Native Hawaiians, and Other Pacific Islanders Served at Federally Qualified Health Centers. <http://www.aapcho.org/wp-content/uploads/2015/10/AAPCHO-Access-Report-2015-FINAL.pdf>. Accessed November 30, 2018.
- U.S. Department of Health and Human Services. Office of Disease Prevention and Health Promotion. Healthy People 2020. <https://www.healthypeople.gov/2020/topics-objectives/topic/diabetes/objectives>. Accessed November 10, 2018.
- National Association for Community Health Centers. Value Transformation Framework Action Guide: Team-based Care. http://www.nachc.org/wp-content/uploads/2017/09/Action-Guide_Care-Teams-Sept-2017.pdf. Accessed November 30, 2018.
- The Community Preventive Services Task Force. Task Force Recommends Team-Based Care for Diabetes Management. <https://www.thecommunityguide.org/content/task-force-recommends-team-based-care-diabetes-management>. Accessed November 11, 2018.
- The Community Preventive Services Task Force. Cardiovascular Disease: Team-Based Care to Improve Blood Pressure Control. <https://www.thecommunityguide.org/findings/cardiovascular-disease-team-based-care-improve-blood-pressure-control>. Accessed November 11, 2018.
- Bodenheimer T, Ghorob A. Health coaching. University of California San Francisco Department of Family & Community Medicine, Center for Excellence in Primary Care: San Francisco, CA: University of California San Francisco; 2014.
- Bodenheimer T, Ghorob A, Willard-Grace R, Grumbach K. The 10 building blocks of high-performing primary care. *Ann Fam Med*. 2014;12(2):166-71.
- Bennet H, Laird K, Margolius D, Ngo V, Thom D, Bodenheimer T. The effectiveness of health coaching, home blood pressure monitoring, and home-titration in controlling hypertension among low-income patients: protocol for a randomized controlled trial. *BMC Public Health*. 2009;9:456.
- Kivela K, Elo S, Kyngas H, Kaariainen M. The effects of health coaching on adult patients with chronic diseases: a systematic review. *Patient Educ Couns*. 2014;97(2):147-57.
- Hersey JC, Khavjou O, Strange LB, et al. The efficacy and cost-effectiveness of a community weight management intervention: a randomized controlled trial of the health weight management demonstration. *Prev Med*. 2012;54:42-9.
- Margolius D, Bodenheimer T, Bennett H, et al. Health coaching to improve hypertension treatment in a low-income, minority population. *Ann Fam Med*. 2012; 10(3):199-205.
- Selvaraj FJ, Mohamed M, Omar K, et al. The impact of a disease management program (COACH) on the attainment of better cardiovascular risk control in dyslipidaemic patients at primary care centres (The DISSAMINATE Study): a randomized controlled trial. *BMC Fam Pract*. 2012;13:97.
- Wolever RQ, Dreusicke M, Fikkan J, et al. Integrative health coaching for patients with type 2 diabetes: a randomized clinical trial. *Diabetes Educ*. 2010;36:629-39.
- Navichareem R, Aunguroh Y, Thanasilp S. Effects of multifaceted nurse-coaching interventions on diabetic complications and satisfaction of persons with type 2 diabetes. *J Med Assoc Thai*. 2009;92:1102-12.
- Benzo R, Vickers K, Novotny PJ, et al. Health coaching and chronic obstructive pulmonary disease rehospitalization: a randomized study. *Am J Respir Crit Care Med*. 2016;194(6):672-80.
- Linden A, Butterworth SW, Prochaska JO. Motivational interviewing-based health coaching as a chronic care intervention. *J Eval Clin Pract*. 2010;16(1):166-74.
- Olsen JM, Nesbitt BJ. Health coaching to improve healthy lifestyle behaviors: an integrative review. *Am J Health Promot*. 2010;25(1):e1-e12.
- Sacco WP, Malone JL, Morrison AD, Friedman A, Wells K. Effect of a brief regular telephone intervention by paraprofessionals for type 2 diabetes. *J Behav Med*. 2009;32:349-59.
- Willard-Grace R, Chen EH, Hessler D, et al. Health coaching by medical assistants to improve control of diabetes hypertension and hyperlipidemia for low-income patients: a randomized controlled trial. *Ann Fam Med*. 2015;13:130-138.
- Oksman E, Linna M, Horhammer I, Lammintakanen J, Talja M. Cost-effectiveness analysis for a tele-based health coaching program for chronic disease in primary care. *BMC Health Serv Res*. 2017;17(1):138.
- Two Feathers J, Kieffer EC, Pamisano G, et al. Racial and Ethnic Approaches to Community Health (REACH) Detroit partnership: improving diabetes-related outcomes among African American and Latino adults. *Am J Public Health*. 2005;95:1552-1560.
- Thom DH, Ghorob A, Hessler D, et al. Impact of peer health coaching on glycemic control in low-income patients with diabetes: a randomized controlled trial. *Ann Fam Med* 2013. 11:137-144.
- Ruggiero L, Moadsiri A, Butler P, et al. Supporting diabetes self-care in underserved populations: a randomized pilot study using medical assistant coaches. *Diabetes Educ*. 2010;36(1):127-31.
- Van der Wees PJ, Friedberg MW, Guzman EA, Ayanian JZ, Rodriguez HP. Comparing the implementation of team approaches for improving diabetes care in community health centers. *BMC Health Serv Res*. 2014;14: 608.
- Bodenheimer T, Ghorob A. *Health Coaching*. San Francisco, CA: University of California San Francisco Center for Excellence in Primary Care; 2014.
- Lāna'i Community Health Center. About Lāna'i Community Health Center. <https://lanaihealth.org/about-us/>. Accessed December 29, 2018.
- Health Resources & Services Administration Health Center Program. 2017 Lāna'i Community Health Center Health Center Profile. <https://bphc.hrsa.gov/uds/datacenter.aspx?q=d&bid=0931570&state=HI&year=2017>. Accessed December 10, 2018.
- Yarnall KS, Ostbye T, Krause KM, Pollak KI, Gradison M, Michener JL. Family physicians as team leaders: "time" to share the care. *Prev Chronic Dis* 2009;6(20):A59.
- Braddock III CH, Edwards KA, Hasenberg NM, Laidley TL, Levinson W. Informed decision making in outpatient practice: time to get back to basics. *JAMA*. 1999;282:2313-20.

Greater Community-Clinical Linkages and Attention to Patient Life Stage: Recommendations to Improve Diabetes Self-Management Education in Hawai'i

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Abstract

Patients with diabetes regularly carry out multiple disease-management behaviors—taking prescribed medications, following diet and exercise regimens, self-monitoring their blood glucose concentrations, and coping emotionally with the condition—that may require ongoing support from community and clinical resources. Diabetes self-management education (DSME) is an ongoing, patient-centered process that helps provide the knowledge, skills, and ability for self-care. Evidence suggests that DSME is most effective when reinforced by community resources, through what are called community-clinical resources. We conducted a series of qualitative key-informant interviews with DSME coordinators/managers from all counties in Hawai'i to document the landscape of DSME services in the state, focusing specifically on challenges and recommendations. We analysed the results using the socioecological model in order to chart these factors by levels of influence on health care providers, in terms of service provision, and on patients, in terms of DSME utilization. Many interviewees highlighted concerns about low utilization of DSME services, as well as practical implementation challenges (eg, group versus 1-on-1 sessions). Nonetheless, DSME coordinators/managers offered numerous recommendations to improve DSME across Hawai'i, highlighting opportunities for improved community-clinical linkages. Finally, emergent from the interviews were anxieties about increasing numbers of youth with diabetes and insufficient resources for them in DSME or other community-clinical resources. This paper offers suggestions to expand community-clinical linkages and to adapt services provided by DSME to meet patient and community needs. It is particularly timely as Hawai'i is rapidly increasing the number and diversity of DSME programs available.

Keywords

Diabetes Self-Management Education; Community-Clinical Linkages; Socioecological Model

Abbreviations

AADE = American Association of Diabetes Educators,
ADA = American Diabetes Association
CDC = Centers for Disease Control and Prevention
DEEP = Diabetes Empowerment Education Program
DSME = diabetes self-management education
DSMES = diabetes self-management education and support
DSMP = Diabetes Self-Management Program
HDOH = Hawai'i Department of Health
SEM = socioecological model
T2D = type 2 diabetes

Highlights

- DSME in Hawai'i has grown rapidly in the past 5 years.
- Despite expansion, DSME is underutilized in the state.
- Greater community-clinical linkages may improve service provision and utilization.
- Adaptation of DSME to the varied populations of Hawai'i affected by diabetes may improve services.
- Numerous recommendations to improve DSME in Hawai'i are provided.

Introduction

Population aging, combined with increasing rates of overweight and obesity contribute significantly to type 2 diabetes (T2D), which is a serious and growing public health concern in the United States (US).¹ T2D is common among older adults, with more than a quarter of those aged 65 and older experiencing the condition.^{1,2} It is estimated that diabetes costs the US over \$300 billion each year.³

T2D is a significant concern in Hawai'i. An estimated 5% to 15% of the state's population has diabetes.⁴ This is based on self-report and underestimates the true disease burden, as diabetes is frequently undiagnosed. The Centers for Disease Control and Prevention (CDC) estimates that 1 in 4 adults with T2D are unaware of their condition.⁵ T2D prevalence in the US and Hawai'i is expected to increase as obesity trends continue to track upwards and the population ages.⁶ Hawai'i already has one of the largest proportions of older adults in the US.⁷ Although recognizing that prevention of new diabetes cases is essential, given current epidemiological trends, effective treatment and management of the condition are also crucial.

Type 1 and type 2 diabetes are complex chronic conditions. Although diabetes intervention efforts often focus on clinical settings, most diabetes care happens outside of the hospital or clinic. Patients with diabetes regularly carry out multiple disease management tasks: taking prescribed medications, following diet and exercise regimens, self-monitoring their blood glucose, and coping emotionally with the condition.⁸ Many patients face difficulties performing these tasks.⁸ Critical timepoints in diabetes management—diagnosis, annual assessment, emergence of new complicating factors, and care transitions—often require additional medical, nutritional, educational and/or emotional resources.⁹ Diabetes self-management education (DSME) is an ongoing, patient-centered process to address the needs of the individual with diabetes. The knowledge, skills, and ability

for self-care gained from DSME are important tools that help patients with diabetes to effectively manage the condition, prevent complications, and take control of symptoms such as fatigue, pain, and depression.¹⁰

Historically, DSME has been provided through formal outpatient services conducted at a hospital or other health facility.⁹ It is now recognized that outpatient clinic and hospital-based support can often be insufficient for meeting ongoing patient needs, which may be better served by community resources.⁸ In fact, community resources are one of the pillars of quality improvement in the original and Expanded Chronic Care Models and are important for disease self-management and self-management support.^{11,12} The involvement of community groups in diabetes self-management activities and programs decreases costs to health systems and improves participants' knowledge and self-efficacy.¹³ Provision of DSME has evolved considerably over time and now takes place in a variety of settings in and out of the formal health care sector.⁹

Despite recent expansion of DSME beyond the formal health care sector, at a 5% participation rate, DSME is underutilized in Hawai'i.¹⁴ This may reflect insufficient linkages between clinical services and community resources; however, the landscape of DSME in Hawai'i is currently unmapped. The objective of this study was to chart DSME services in the state and to document challenges to and recommendations for DSME including those related to improving service provision and increasing uptake. In doing so, the study authors examined opportunities for greater community-clinical linkages using the Agency for Healthcare Research and Quality definition, which states that community-clinical linkages "help connect health care providers, community organizations, and public health agencies so they can improve patients' access to prevention and chronic care services."¹⁵

Methods

Context

This study emerged from an evaluation of DSME programs in Hawai'i as part of a 5-year CDC cooperative agreement: State public health actions to prevent and control diabetes, heart disease, obesity and associated risk factors and to promote school health (CDC 1305).¹⁶ The Hawai'i Department of Health (HDOH) was awarded the agreement in 2013 and collaborated with numerous partners from across the state. HDOH implemented a wide variety of interventions, including the provision of technical assistance to providers of DSME. As part of a nearly 20-year collaboration, the HDOH requested an evaluation of its activities by the Office of Public Health Studies at the University of Hawai'i. The work described here is part of those evaluation efforts.

Examples of DSME in Hawai'i include programs led by licensed health-care professionals and recognized by the American Diabetes Association (ADA) or accredited by the American Association of Diabetes Educators (AADE). These are known as diabetes self-management education and support services (DSMES). Other examples of DSME include the Diabetes Self-Management Program (DSMP) and Diabetes Empower-

ment Education Program (DEEP).¹⁷ The text box summarizes the various diabetes self-management acronyms and programs included in this evaluation study.

Text Box

DSME: All-encompassing umbrella term for general diabetes self-management. There are three main types of DSME in Hawai'i: DSMES, DSMP, and DEEP.

DSMES: Delivered by licensed health professionals, DSMES is either AADE-accredited or ADA-recognized and is covered, at least in part, by almost all types of insurance. DSMES is often held in traditional outpatient settings.

DSMP: Originally developed at the Stanford Patient Education Research Center, DSMP is currently housed under the Self-Management Resource Center. DSMP is community-based and is provided by a pair of lay educators.

DEEP: Developed at the University of Illinois at Chicago and delivered in community settings, DEEP is covered by the Centers for Medicare and Medicaid Services and delivered by the state's Quality Improvement Organization.

Study Design

This is a qualitative evaluation, informed by the socioecological model (SEM). The SEM is popular in the field of health promotion and applied to research on program implementation in public health.¹⁸ The visual metaphor for the SEM is a series of concentric circles, similar to the layers of an onion, representing the levels of influence on the outcome.¹⁷ The SEM conceptual framework draws attention to individual and environmental determinants of a behavior, including service provision and utilization.¹⁸ Of specific interest were issues related to DSME coordinator/managers' perceptions about the provision of DSME and patient utilization of their services. The SEM has been applied when examining macro- (eg, societal structures including policy), meso- (eg, institutions and communities), and micro-level (eg, personal networks and behaviors) activities related to implementation of diabetes self-management strategies across Europe¹³ and has been recommended for the surveillance of chronic disease self-management programs.¹¹

For this study, evaluators conducted 17 in-depth key-informant interviews with DSME coordinators/managers across all counties in Hawai'i. Interviewees were selected because of their involvement in daily DSME operations and leadership roles in their organizations' self-management programs. Interviews ranged from 45 minutes to 1.5 hours and employed semi-structured interview guides. Because the key informant interviews served explicit evaluation purposes for the HDOH, the questions aimed to: (1) record services provided by each DSME program, (2) learn about the relationship between the program and the HDOH, and (3) document successes and failures. General questions about the resources needed for people living with diabetes, at both the DSME site and community levels, were included. The SEM framework was applied to better understand challenges to DSME provision and uptake by patients, as well as opportunities for improved community-clinical linkages given the recognized importance of these linkages to DSME success.

Data Analysis

Interviews were transcribed verbatim using a professional transcription service (Rev.com, San Francisco, California) and thematic analysis applied. Two authors (NV and SC) coded the interviews deductively by challenges and facilitators and organized the results according to levels of the SEM. CP reviewed the codes and further organized the findings with the assistance of DS. Interviews were also coded inductively to capture emergent themes.

Ethics

This study was approved by the Institutional Review Board of the University of Hawai'i at Mānoa (2018-00180). All participants provided informed consent.

Results

Landscape of DSME Service in Hawai'i

At the time of manuscript submission (May 2019), there were 18 ADA-recognized and AADE-accredited DSMES organizations in the state, spanning all 4 counties. Four coordinators/managers representing 5 sites on O'ahu (4 hospital/clinical sites and 1 federally qualified health center [FQHC]), did not respond to our request for interview. Among DSMES service providers, 7 are based in large hospital systems and 5 are at FQHCs. Also, 3 are provided by community pharmacies, and 3 are in specialized settings (eg, for pregnant women). DSMES services are concentrated on O'ahu and Kaua'i and absent on Maui, as 1 provider recently retired and another site no longer has accreditation. On Hawai'i Island, services are concentrated in the north, but 1 pharmacist commutes regularly to Kona/Kailua. There is also a pharmacy DSMES on Moloka'i. Hospital systems tend to provide 1-on-1 services, whereas pharmacy and specialized providers often opt for group sessions. FQHCs offer a combination of 1-on-1 and group service programs. Additional community-based DSME include DSMP and DEEP. Originally developed by the Stanford Patient Education Research Center and now housed under the Self-Management Resource Center, DSMP is delivered by lay health workers under the coordination of non-profit organizations including the National Kidney Foundation of Hawai'i and Alu Like, Inc., as well as the HDOH's Office on Aging in all 4 counties. DEEP was originally developed at the University of Illinois at Chicago and is delivered in Hawai'i by Mountain-Pacific Quality Health, the state's Quality Improvement Organization. We interviewed several coordinators/managers of the DSMP and DEEP services.

Challenges to DSME Provision and Utilization

Table 1 presents challenges, across levels of the SEM, identified by the DSME coordinators/managers. These were divided into 2 broad categories: clinical service provision and community/patient utilization. Clinical or service-provision challenges covered issues from overcoming patient fatalism about diabetes to health systems' challenges related to reimbursement structures and payment models. Interviewees brought up concerns about

how DSME programs are structured, including the composition of the program (group versus 1-on-1 classes), classes/visit frequency, and the duration over which services are offered. Some program implementation concerns, such as scheduling, echoed those also categorized as community/patient challenges to DSME utilization. One person said, *"That's another reason why group sessions cannot work, because you're trying to accommodate their schedule with the times that we're here."*

Patient/community challenges to service utilization largely reflected perceived issues with the potential or actual DSME user. Most of the challenges raised encompassed uptake issues, such as a lack of interest in the program or family support to participate, limited transportation options, and scheduling difficulties. As one key informant put it, *"...how do you translate, 'I know there's plenty of people who have diabetes,' into getting their asses into the chairs [for diabetes self management]?"* To a lesser extent, the program coordinators/managers discussed barriers to patients following DSME behavior-change recommendations, should they enroll in the program. Some of these included misconceptions about the cost of healthy foods, challenges to adopting healthy behaviors like exercise, and competing priorities.

Further examining challenges through the 5 layers of the SEM (individual, interpersonal, institutional, community, and policy), the majority of community/patient utilization challenges were concentrated in the individual and interpersonal layers of the SEM, while service provision challenges were well-represented across all layers. Key informants frequently highlighted institutional issues, especially getting sufficient referrals to financially support their programs and enough patients to provide group classes:

It's [referrals] fallen off mainly because I think the [physician association] case workers have been focusing on something else.

We're trying to create relationships with the American Diabetes Association and physicians and stuff like that. Referrals, themselves, from doctors ... I think that's something we could definitely work on.

Although institutional issues reflected challenges getting patients into DSME programs, most key informants did not make explicit linkages between referrals and enrollment challenges and low patient utilization of DSME. And although insufficient referrals from other health care providers were mentioned by numerous key informants, when asked further about the topic, many key informants were unaware of the actual numbers of patients referred to their services. Some informants also felt that referrals and enrollment could be improved with awareness campaigns run by the HDOH. There was a general sentiment that awareness of DSME was lacking in the health care sector and broader community.

Table 1. DSME Coordinator/Manager Perceptions of Challenges to Service Provision and Utilization of DSME, and Supporting Quotes, According to Levels of the SEM

	Explanation	Clinical (Service Provision)	Community/Patient (Service Utilization)
Individual	Refers to patient-level beliefs or behaviors that may be reflected in or affect service provision and/or utilization	<p>Patient Fatalism <i>I guess just getting the word out there, how diabetes can be managed because it is something that a lot of people, some cultures think that they can't do anything about it and just accept the fact.</i></p> <p>Frequent and Sustained Visits to Support Behavior Change <i>So it's really to up that frequency...give them enough time so they can develop healthy habits and healthy lifestyle modification.</i></p> <p><i>It's lifestyle change. It's behavior change. And over the span of a month, it's not going to happen. Even with our current structure, for three months. I think that's enough time for it to happen.</i></p>	<p>Generating Patient Interest in DSME <i>...the biggest challenge is getting people interested and come to the classes, right?</i></p> <p><i>... how do you translate: I know there's plenty of people who have diabetes, into getting their asses into the chairs?</i></p> <p>Patient Knowledge on Healthy Behaviors Such As Diet <i>...patients always tell us, "Health food is expensive." ... But it doesn't have to be. But it perpetuates the idea that, you know, like a pile of broccoli is going to cost you 3.69 versus you get a whole box of saimin for like \$1.99 kind of thing.</i></p> <p>Competing Priorities <i>... or they feel it's not important or they have other issues going on and they can't make it to their appointment. So it might be childcare or taking care of elderly parents.</i></p> <p><i>Sometimes it's a matter of patients coping with problems at home ...</i></p>
Interpersonal	Refers to the effects of family, partners, or friends on service provision or utilization	<p>Assuring Interpersonal Support <i>"You need to bring a support person." You can bring a couple of support people if you want, but we consider it a family issue ...</i></p> <p><i>Yes. We really encourage care givers to come as much as we do the older adults.</i></p>	<p>Lack of Support from Family and Partners <i>... Dad is out there sitting in the car. We have the pregnant girl in here and the father is in the car. Having a cigarette...with our juveniles, a parent at least is required to be in with them, but we can't force [adults] to ...</i></p> <p><i>The barriers...It could be numerous reasons, a lot of times, babysitting. It could be just not enough support at home, various things.</i></p>
Institutional	Refers to factors that directly affect the delivery and uptake of DSME at the site in which it is delivered (hospital/clinic, pharmacy, etc)	<p>Insufficient Referrals to DSME from Other HealthCare Providers <i>We have flyers at our pharmacies. And really word of mouth. We're trying to create relationships with the American Diabetes Association and physicians and stuff like that. Referrals, themselves, from doctors ... I think that's something we could definitely work on.</i></p> <p><i>It's [referrals] fallen off mainly because I think the [physician association] case workers have been focusing on something else.</i></p> <p>Getting Newly Diagnosed Patients into DSME <i>I don't know if it's a matter of money really, but I wish we had a way to capture those folks who are newly diagnosed, and to hook them up more quickly.</i></p> <p>Large Enough Class Size for Group Delivery <i>You know, after we pay the rent, we pay the manpower and all that stuff. We don't need big classes. To keep it going, we just need constant, I guess, attendance. That's the other thing too. I think, yesterday, only one person showed up.</i></p> <p><i>I hear that statewide, and nationally, they struggle with getting small groups. So I've just decided, just to go on one on ones.</i></p> <p>Accommodating Patient Schedules <i>That's another reason why group sessions cannot work, because you're trying to accommodate their schedule with the times that we're here.</i></p> <p>Institutionalized Peer Support <i>One thing that's coming to mind is that, in talking to you, one thing that the patients have expressed a lot of interest in that we're not really able to supply ... at least not at this point, is support classes. Basically, that just comes down to having a place to meet and maybe somebody with some knowledge of diabetes being able to coordinate it.</i></p>	<p>Finding Resources for Non-Clinical Activities <i>The problem comes in on the business side of things when ... How can you pay someone to go with this patient for an entire week to do an exercise? But I think that's the kind of patient-specific care that's really needed.</i></p> <p>Busy Schedules <i>The barriers, I think it could be the date, the wrong day that it doesn't fit them.</i></p>

Table 1. DSME Coordinator/Manager Perceptions of Challenges to Service Provision and Utilization of DSME, and Supporting Quotes, According to Levels of the SEM (Continued)			
	Explanation	Clinical (Service Provision)	Community/Patient (Service Utilization)
Community	Refers to factors that affect the availability and accessibility of DSME, as well as supportive services outside of the healthcare sector	<p>Support Groups in the Community <i>We get calls quite a bit about support groups asking for support groups. It's a chronic disease that every day you deal with. The most, I think, we get asked for is support. Why is there no support groups?</i></p>	<p>Unaffordability of Diabetes-Friendly Foods <i>So, they need access to cheaper and healthier foods because patients always tell us ...</i></p> <p>Getting To and From DSME <i>Transportation is one of the barrier ...</i></p>
Policy	Refers to county or state-wide facilitators (or barriers) to DSME provision or utilization, including activities or efforts to change social norms about the program	<p>Legitimization of DSME Promotion <i>It's a different message when a private organization like us are trying to "Come to our class." Compared to the Department of Health making an overall awareness campaign saying how important the issue of taking care of your diabetes is, and then here are the resources.</i></p> <p>Reimbursement/Payment for Services <i>the payment model isn't really there. We have to work through some of these other hoops ... I think we have the structure and the network and the ability to provide education on a huge scale. It's just the payment's not always there. Unfortunately, at the end of the day, the concept that I keep running into is ... We could teach as much as want or we could ... We want to spend time with the patient and we do create these good relationships with them, even after a month. But after that, unfortunately, the financial part limits what we can do.</i></p> <p><i>So, basically, this reimbursement we get, it's just a subsidy.</i></p>	<p>Limited Ppromotion of DSME <i>Well I think... I think a lot of people don't know about these programs that exist.</i></p> <p><i>... public education, you know, issues where we don't see everybody. I'm aware that... even though in our world we see a lot of the diabetes patients, that there's a bunch out there that we're not hooked up with.</i></p>

Community-Clinical Linkages

Key informants offered a number of recommendations to improve service provision. At no point were interviewees asked to identify community-clinical linkages explicitly and yet, many of the recommendations addressed this topic:

I think [the patients] need a peer group. They seem to take advice from peers more liberally than they do with professionals. I think that's kind of already known, but, more so in this rural environment, you know. So, getting together peer groups, that is facilitated by a health professional... But the health professional, actually, I take that back. It can be a health professional or paraprofessional... Community health worker... Like, a community health worker [CHW], because there's some models out there, I think, that they're using CHW used to do this. They've done it in the past, and they seem to get good outcomes from it... Yeah, they seem to do well when they have groups, with CHW's facilitating it.

Table 2 summarizes recommendations made by the DSME coordinators/managers who identified community-clinical linkages as a means to improving service provision. In this table, we indicate the levels of the SEM addressed by each recommendation. Notably, most recommendations to improve DSME incorporated 3 or more levels of the SEM. For example, one participant stated, *"I know a lot of the senior citizen centers they offer exercises. I think it's run by the county Enhance Fitness program, right? Those things are great for diabetes patients."* This recommendation explicitly acknowledged a community resource being offered by the county that addressed a clinical need (eg, improved diabetes outcomes) and incorporated both interpersonal and individual levels of the SEM, as the program

targets individual behavior (ie, physical activity) in a group setting.

Life Stage Specific Issues

Worries about increasing numbers of youth with T2D emerged as a theme from the interviews. Concerns were raised about the enduring effects of diabetes, especially among at-risk youth or those who already have diabetes at a young age. Additional concerns were raised about the lack of DSME services for young people.

Diabetes can start at a very young age. All these people, all these young folks that I'm seeing that are like 10 years old that are going to be your 40-year-old dialysis patient but recognizing that diabetes is a lifespan of disease...

However, they only take them from 18 years old and over. There's really nothing for kids. I think there needs to be more health education for kids too...

In addition to concerns about diabetes in youth, especially growing numbers with T2D, key informants discussed barriers to addressing the varying needs of participants according to life stage. These types of barriers were largely interpersonal, reflecting the home environment and relationships between family members: *"Somebody who is elderly can't sit through with diabetes class or it doesn't grab their interest enough. Maybe the person I really should be talking to is the caregivers, the people that are involved in their care."*

The intersection of life stage specific issues and community resources was less discussed by participants, with the exception of older adults. Some informants implied that greater community resources were needed for kids and working-age adults, but specifics about what was missing or should be done were lacking: *"There's no support for these kids and the parents."*

Table 2. Quotes of Participant-Identified Community-Clinical Linkages, According to the Levels of the SEM that They Address					
Quotes	Ind	Int	Ins	Com	Pol*
They're really trying hard to reach out to the patient, but the other half of the story is the patient needs to do their part, too. Yeah. Just I feel that we're trying really hard here and we're promoting it as a class, offering it as often, especially in between classes, we're trying to offer it to them and yeah, if they have excuses or if they can't make it for any reason, that is on their part where they need to make that decision, my health comes first or not. I think as a provider, we're doing a lot and I hope that we can do a lot more and just to push the issue, but sometimes, it takes the other half to do their part.	X				
So for the support group they do...we give them time to you know peer to peer socializing, talk to the teacher about how things are going.	X	X			
For our population I think it's getting the...like it would be nice to have classes for them in their language. I think that would be really helpful.					
Resources...Probably like more group education in their language, that would be helpful.	X		X		
I think they need a peer group. They seem to take advice from peers more liberally than they do with professionals. I think that's kind of already known, but, more so in this rural environment, you know. So, getting together peer groups, that is facilitated by a health professional...But the health professional, actually, I take that back. It can be a health professional or paraprofessional...Community health worker...Like, a community health worker, because there's some models out there, I think, that they're using. CHW used to do this. They've done it in the past, and they seem to get good outcomes from it...Yeah, they seem to do well when they have groups, with CHW's facilitating it.	X	X	X		
...experience with the nurse that did the visits. I think that was really important for the patient and I find that a really huge value...Someone goes there and they feel cared for and it might give them a little more motivation to take care of themselves.	X	X	X		
Someone who could put the patient, bridge a patient provider and the program and the patient.		X	X	X	
I know in San Francisco, where I saw it work phenomenally, it was the doctor...So this one pharmacist had great relationships with, let's say 10 doctors, 10 endocrinologists or whatever it might be, in the area. And basically the doctors would tell their patients, they would write them out a prescription, "You need to go take this class from this pharmacist." And so it was really the physician directing it. Because the patient had so much respect for the physician, there was no question. They went. And then the physician and the pharmacist had a really great working relationship too. And so they were helping each other, to manage the patient.	X	X	X		
I think people ask for cooking classes a lot. ...but they're always asking about food.	X	X	X		
And so we have a program called Double Bucks, but that's only for people who have SNAP. And a lot of the patients that have diabetes don't have SNAP because they're the Micronesians. They don't qualify for food stamp[s]. So I'm not sure how we're going to be able to, but having the food bank in our community is helpful.	X	X	X	X	
We actually have a van?...that will hopefully decrease that barrier [transportation].	X	X	X	X	
I know a lot of the senior citizen centers they offer exercises. I think it's run by the county enhance fitness program, right? Those things are great for diabetes patients.	X	X	X	X	
Maybe potentially more exercise events? Like community exercise events? A lot of the patients I see, they'll go to the mall here.	X	X	X	X	
Public education, you know, issues where we don't see everybody. I'm aware that...even though in our world we see a lot of the diabetes patients, that there's a bunch out there that we're not hooked up with. And I think that ... just public education, you know, public service announcement kinda things, where if you have diabetes and you haven't seen a diabetes educator, contact your local whatever.	X	X	X	X	X
Yeah. We see how the media affects everything, whether it be positive or negative. I think any type of campaign like that, while it might not help in the moment, at least it catches the eye of participants who don't know the program exists.	X	X	X	X	X
So, okay, I have some ideas. So one is, community awareness.	X	X	X	X	X
I guess community collaboration. I remember...I guess it was the DOH. I forget exactly. But, they had a seminar here in Maui, where they were talking about diabetes, and got a whole bunch of definitely people together...But that was really helpful. The content of the presentation was really, really good. They were just talking to other people in the community, other Directors and executives. I guess I'm just a big collaboration type person. So, I think getting people together in one room and having types of seminars to bounce ideas off each other. Hear barriers and suggestions, things like that, I benefit from.	X	X	X	X	X

*Ind- individual, int- interpersonal, ins- institutional, com- community, pol- policy

Discussion

This paper examined the DSME landscape across Hawai‘i, challenges to service provision and utilization, and recommendations for greater community-clinical resources. Service utilization is affected by both provider/health system characteristics and patient perceptions. By applying the SEM to examine factors perceived to affect DSME utilization, opportunities for programmatic improvement are highlighted across multiple levels of influence on both DSME service providers and their patients. Finally, emergent from the interviews were anxieties about increasing numbers of youths with diabetes and insufficient resources for them.

As previously mentioned, at a 5% participation rate, use of DSME in Hawai‘i is low, as it is across the United States, where it rarely exceeds 10%.¹⁴ DSME coordinators/managers highlighted numerous challenges to attracting enough patients to use their services. At the individual level, DSME service providers were concerned about the lack of interest expressed by potential participants, while at the policy level, they highlighted a broader lack of knowledge about the program by both physicians and the population at large and related this lack of awareness to insufficient public advertising. The implications of these challenges are clear. At an organizational level, low recruitment of patients into DSME is perceived to threaten program sustainability, while at a population level, it impacts public health and health system functioning. One potential solution, as indicated by several key-informants, is greater use of awareness campaigns. Increased engagement of community resources such as CHW to directly reach out to potential DSME participants and assure services are culturally adapted to meet participant needs may be another solution. Additional tailoring or adaptation efforts might include addressing participant demographic characteristics, such as age. DSME managers highlighted concerns about service provision for both extremes of the demographic spectrum: older adults and youth. DSME for youth appears to be a significant gap in the repertoire of diabetes management tools available in Hawai‘i. Overall, limited research has been conducted on diabetes self-management for youth. Current studies indicate that providers are uncertain of the appropriate management guidelines for youth with T2D, and the few existing guidelines appear to be inferred from research on adults.¹⁹

Challenges to service provision were more commonly mentioned by respondents than patient utilization issues. This should be expected because health care providers know best the challenges facing their workplace, but may be less knowledgeable about broader patient and community concerns. Moreover, providers' discussions with patients likely focus on clinical challenges to diabetes management rather than interpersonal, organization, or community ones. However, research on diabetes self-management indicates better success for patients in these

programs when integrated with community resources.¹³ One large study of self-management activities and programs across 6 European countries found, compared to formal services alone, community groups' involvement resulted in better reach through networking and referrals, improvements in meeting practical patient needs (diet, foot care, physical activity, transportation, etc.), and greater perceptions of humanized and holistic care by patients.¹³ This is consistent with the Expanded Chronic Care Model, which places self-management support at the intersection between the health system and larger community, recognizing productive interactions and linkages between the two result in better clinical outcomes.¹²

This study has limitations and strengths. Because the key-informant interviews were designed to respond to program evaluation needs, the study did not explicitly examine community-clinical linkages or life stage specific issues related to DSME. These were emergent themes, largely discussed when participants were asked about successes and failures and the resources needed for people living with diabetes in their communities. As such, this study may not capture the totality of participant reflections on these topics. Despite this limitation, participants provided rich information on both topics. A particular strength of this study was the sample of DSME coordinators/managers interviewed. Interviewees represented diverse DSME sites and had strong representation from all counties in Hawai‘i. However, it should be noted that those who did not respond to the request participate were exclusively from O‘ahu, which may affect the generalizability of our findings to that island.

Practical Implications

Diabetes is one of the most pressing public health issues facing the state of Hawai‘i and the nation. Rates of diabetes are expected to climb in the foreseeable future and people with this condition will require ongoing support in order to effectively manage their condition and prevent complications. DSME, which is cost-effective, limits hospital admissions and readmissions, and reduces lifetime healthcare costs;⁹ is important to helping patients control their diabetes, but often works best when supported by strong community-clinical linkages. Work that highlights areas for improvement in DSME service provision and offers suggestions for improved community-clinical linkages is particularly timely as the state of Hawai‘i is currently and rapidly increasing the number of programs available, as well as diversifying the contexts in which these are provided. This trend is mirrored across the US, as the CDC continues to promote DSME through more recent cooperative agreements.

Conflict of Interest

None of the authors identify any conflict of interest.

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References

1. Kirkman MS, Briscoe VJ, Clark N, et al. Diabetes in older adults. *Diabetes Care*. 2012;35(12):2650-64. doi: 10.2337/dc12-1801.
2. Centers for Disease Control and Prevention. National Diabetes Statistics Report: Estimates of Diabetes and Its Burden in the United States, 2014. Atlanta, GA: U.S.: Department of Health and Human Services; 2014.
3. Herman WH. The economic costs of diabetes: is it time for a new treatment paradigm? *Diabetes Care*. 2013;36(4):775-6 doi: 10.2337/dc13-0270.
4. Hawaii Health Data Warehouse; Hawaii State Department of Health, Behavioral Risk Factor Surveillance System, Diabetes prevalence (categorical) for the year(s) 2011, 2012, 2013, 2014. Report Created: 1/20/16
5. Prevalence of Both Diagnosed and Undiagnosed Diabetes. Centers for Disease Control and Prevention Web site. <https://www.cdc.gov/diabetes/data/statistics-report/diagnosed-undiagnosed.html>. Updated February 2, 2018.
6. Robert Wood Johnson Foundation. The State of obesity in Hawaii. State of Obesity. <https://stateofobesity.org/states/hi/>. Published 2018.
7. QuickFacts United States. United States Census Bureau. <https://www.census.gov/quickfacts/fact/table/US/PST045217>. Published 2018.
8. Heisler M. Different models to mobilize peer support to improve diabetes self-management and clinical outcomes: evidence, logistics, evaluation considerations and needs for future research. *Fam Pract*. 2010;27 Suppl 1:i23-32. doi: 10.1093/fampra/cmp003
9. Powers MA, Bardsley J, Cypress M, et al. Diabetes Self-management Education and Support in Type 2 Diabetes: A Joint Position Statement of the American Diabetes Association, the American Association of Diabetes Educators, and the Academy of Nutrition and Dietetics. *Diabetes Care*. 2015;38(7):1372-82. doi: 10.2337/dc15-0730.
10. Self-Management Education: Learn more and feel better. Centers for Disease Control and Prevention Web site. <https://www.cdc.gov/learnmorefeelbetter/programs/diabetes.htm>. Updated December 2018.
11. Brady TJ, Sacks JJ, Terrillion AJ, et al. Operationalizing surveillance of chronic disease self-management and self-management support. *Preventing Chronic Disease*. 2018; 15:170475.
12. Barr VJ, Robinson S, Marin-Link B, et al. The expanded Chronic Care Model: an integration of concepts and strategies from population health promotion and the Chronic Care Model. *Hosp Q*. 2003;7:73-82.
13. Portillo MC, Kennedy A, Todorova E, et al. Interventions and working relationships of voluntary organisations for diabetes self-management: Across-national study. *Int J Nurs Stud*. 2017;70:58-70. doi: 10.1016/j.ijnurstu.2017.02.001.
14. ADA/AADE. DSME State Data 2015-2017; 2018.
15. U.S. Department of Health & Human Services. Community-Clinical Linkages. Agency for Healthcare Research and Quality. <https://www.ahrq.gov/professionals/prevention-chronic-care/improve/community/index.html>. Published February 2013. Updated December 2016.
16. Rutledge GE, Lane K, Merlo C, Elmi J. Coordinated approaches to strengthen state and local public health actions to prevent obesity, diabetes, and heart disease and stroke. *Prev Chronic Dis*. 2018;15:E14.
17. Self management: Diabetes self-management education and training. National Association of Chronic Disease Directors. https://www.chronicdisease.org/mpage/domain4_selfm_diabet. Updated 2018.
18. Richard L, Gauvin L, Raine K. Ecological models revisited: their uses and evolution in health promotion over two decades. *Annu Rev Public Health*. 2011;32:307-26 doi: 10.1146/annurev-publhealth-031210-101141.
19. Eva JJ, Kassab YW, Neoh CF, et al. Self-care and self-management among adolescent T2DM patients: a review. *Front Endocrinol (Lausanne)*. 2018;9:489. doi:10.3389/fendo.2018.00489.

A Culture-Based Family-Centered Health Navigation Intervention for Chronic Disease Management in Native Hawaiians

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Abstract

Greater medical and psychological concerns coupled with disparities in income and education and experiences with cultural distress have created an unprecedented demand for health and mental health services for Native Hawaiians. With 75% of the healthcare system moving to a value-based system within the next 2 years, a low-cost workforce that brings added value will be in high demand. The addition of community health navigators to an existing integrated patient-centered medical home may result in a culturally congruent, preventive, and responsive model of wellness that promotes health equity. The purpose of this paper is to discuss the culturally-based navigation framework we used to implement a pilot program in an integrated primary care setting, describe the intervention that was used, and examine the lessons learned throughout the process. Outcomes will be provided at a later date. We believe that our model will not only redesign an existing clinical practice but also will provide a reproducible model that can be translated into other settings to increase the health care utilization among Native Hawaiians and lead to improved outcomes.

Keywords

Community health navigators, Native Hawaiians, underserved, health equity

Abbreviations

CHN = community health navigator

EHR = electronic health record

FQHC = federally qualified health center

HbA1C = hemoglobin A1C or glycated hemoglobin

NH = Native Hawaiian

OCTP = 'ohana centered treatment plan

PCM = Physician Center Mililani

PCMH = patient centered medical home

PCP = primary care provider

PIKO = patient informed knowledge to optimize outcomes

UHP = University Health Partners

Highlights

- Community health navigator presence resulted in high satisfaction for patients and providers.
- Culturally-based case management was highly acceptable to patients.
- Community health navigators are a low-cost workforce providing added value.

Introduction

Native Hawaiians (NHs) experience much higher risks for chronic disease and poorer health status than other ethnic groups in Hawai'i.¹ They have the highest inequalities in income and education and less access to quality health care and education programs to help manage their diseases and disorders.² They suffer the highest rates of untreated medical and psychological conditions, including diabetes, hypertension, chronic kidney disease, depression, and substance use disorders, and those who do seek services often rely on state- and federally-sponsored

services for health care.² These health disparities, social determinants of health, and experiences with cultural distress have created an unprecedented demand for services.

Additionally, while the rate of NHs with adequate commercial insurance has increased in recent years, this has not translated into increased utilization of existing services in this population.³ This may be due to a clinical setting that is not in line with the needs or values of NH patients, resulting in patients delaying care until acute intervention is required.

With 75% of the healthcare system moving to a value-based system by 2020,⁴ a low-cost workforce that brings added value will be in high demand. The addition of community health navigators (CHN) to an existing integrated patient-centered medical home (PCMH) may result in a culturally congruent, preventive, and responsive model of wellness that promotes health equity. CHNs, as opposed to medical case managers, are recognized for their connection to the specific community served.⁵ They are familiar with the needs of the community as well as the resources available within the community.⁶ CHNs should reflect the cultural and linguistic diversity of the community they serve.⁵ CHNs are trained to engage in shared decision making with patients. A 2009 study in which CHNs worked to increase colorectal screening rates in a low-income, ethnically-diverse population served by a federally qualified health center (FQHC) was able to double the likelihood that patients participated (12% to 24%).⁷

Healthcare providers working in underserved communities are acutely aware of the high number of non-health related problems that impact the patients' ability to prioritize their health.⁸ Patients may work 2 jobs to bring in additional money, lack access to reliable transportation, or may be caring for an elderly parent or grandparent. In all of these cases, the patient's health frequently falls to the bottom of the priority list. Only when the health problem becomes advanced or they have a significant illness do they seek help.⁹ Our model, the Patient Informed Knowledge to Optimize Outcomes (PIKO): 'Ohana-Centered Health Care Navigation to Reduce Barriers to Care, was designed for these patients.

The purpose of this paper is to describe the PIKO pilot program and the cultural framework upon which it is based. In addition, we comment on lessons learned during the pilot program and provide suggestions to others interested in implementing similar interventions for NH populations. We believe that our model may not only redesign existing clinical practice in our clinic but could also provide a reproducible model that could be translated into other settings to increase the health care utilization among NHs, contributing to improved outcomes.

Additionally, while the PIKO model is based on NH values, the approach could be applied to other indigenous populations or similarly marginalized groups.

Developing a Culturally-Based Navigation Framework

Despite more than 20 years of concentrated funding to fight health disparities, NHs continue to have major health and social burdens that are disproportionately greater compared to other ethnic groups in Hawai'i.¹ Much of this money has been spent bringing Western medicine clinics and providers to underserved areas, assuming that the main reason for the disparities is reduced access to care. Other initiatives have focused on providers' cultural competency.¹⁰ In the PIKO program, the use of a framework including Hawaiian language and native concepts led to questions that more comprehensively gathered information regarding health promotion strategies and barriers to health equity for this population.

Previous focus groups with NHs revealed that many mistrusted their doctors and had negative personal interactions with physicians (for example, NHs have reported that physicians focus on finances rather than care, seem rushed and/or make them wait, ignore them, discriminate against them, or don't listen to them) which prevented them from seeking care.¹¹

PIKO describes a family-centered health care navigation intervention to reduce barriers to care. Piko is also the Hawaiian word for navel or umbilical cord. NHs believe the piko connects individuals to their family and ancestors. NHs identify 3 pikos: (1) piko po'o or manawa at the top of the person's head (fontanel), which is thought to connect them to the past (2) piko waena, or the navel, the remnant of the umbilical connection during gestation, represents the connection to the individual's parents, and also to the current time, and (3) piko ma'i or the genitalia, which is the link to the future or their descendants.¹² This particular intervention utilizes the piko concept along with a family-centered treatment planning approach facilitated by CHNs. 'Ohana is the Hawaiian word for family, both immediate and extended. The resulting intervention is called an 'ohana-centered treatment plan (OCTP). Inclusion of the family in treatment planning is crucial. Many patients will not make changes for themselves but will make significant changes if they impact the lives of their family.

The focus of PIKO was NH patients with a previous diagnosis of type 2 diabetes. This patient population was selected as a target because NHs have the highest diabetes mortality rate in the state.¹³ The PCMH selected was Physician Center at Mililani (PCM), a family medicine primary care clinic and residency teaching site run by the faculty practice of the University of Manoa's John A. Burns School of Medicine, University Health Partners (UHP). PCM is a team-based primary care clinic serving 5000 patients (14% NH) from the areas of Mililani, Wahiawa, Waipahu, and the North Shore. PCM has received a designation of PCMH Level III from the National Committee for Quality Assurance, indicating the highest level of population-based health care and quality based practice. As a family practice, PCM

provides the full spectrum of medical care, from prenatal care and obstetrics to geriatrics, in both an outpatient, inpatient, and nursing home setting. The team-based clinic includes faculty physicians, family medicine residents, medical assistants, 3 part-time clinical psychologists (the equivalent of 1 full-time psychologist) and a part-time clinical pharmacist.

Community Health Navigator

The role of a CHN is not a new one. It first emerged in the United States in the 1960s as a way to better reach underserved communities.⁵ However, only within the last 10 years has the role become a more common addition to the care team in the United States,¹⁴ and even more recently in Hawai'i. Also called community health workers, or outreach workers, they work to connect patients to providers as well as other resources, including housing, transportation, and finances.¹⁵ The inclusion of CHNs in the healthcare team allows the team to address any barriers to care. Educational requirements for CHNs vary across states and settings, ranging from a certificate program to a bachelor's degree.

In the current program, a CHN was added to the interdisciplinary team within the clinic. She lived in the clinic's catchment area and had knowledge of existing resources and services. She also had previous experience working at an FQHC. The primary responsibilities of the CHN were to prepare the PCMH to deliver the PIKO initiative, assist identified patients and their 'ohana in the development of an OCTP, facilitate goals by connecting patients with necessary services to achieve OCTP goals, monitor patients on a quarterly basis to review progress and update plans as needed, and assess objective and subjective measures of health and wellness of all patients with OCTPs.

Intervention

An 'ohana-centered health care navigation protocol, consistent with a NH cultural framework,¹² was developed to guide the CHN in gathering information and assisting patients in developing their own OCTP. An interview based on values immediately recognized by and resonating with NH patients helped to overcome assumptions that healthcare providers are coming from a strictly Western perspective. Allowing the patients additional time to spend with the CHN beyond the traditional 15-minute primary care visit promoted the qualities of patience and active listening. As part of the plan, the patients set initial goals to work on. The CHN provided the patients with resources or referrals based on the goals and needs identified. The resulting OCTP was a coordinated plan with specific objectives developed by the patient with goals of strengthening the 'ohana's capabilities to manage their health and wellbeing. The OCTPs varied broadly based on the needs of the specific 'ohana, their goals, and the range of services or interventions available or accessible. The OCTPs were shared with the rest of the treatment team so the other providers had a better understanding of the system in which their patient was currently functioning and their capacity to focus on health. The plan was monitored and reviewed quarterly with the patient,

to assess progress and celebrate success. The OCTPs were the key document for tracking progress, both for the patients and their ‘ohana, as well as the PCMH.

The OCTPs were focused on their 3 “PIKOs”; the PIKO po‘o, PIKO waena, and PIKO ma‘i. The first section or the PIKO po‘o, connection to the past, included questions such as, “What has your behavior been like in the past?”, “What have your relationships (including relationships with healthcare providers) been like in the past?”, and “How has your health been in the past?” The second section or the PIKO waena, connection to the present, included questions such as, “What kind of supports do you need at the present time?” and “How do you want to connect to your ‘ohana? Your community? Your providers?” Finally, the PIKO ma‘i, or connection to the future included questions such as, “Where do you see yourself in 6 months, 1 year, 3 years from now?” and “What do you need to change to get there?” The resulting OCTP included information on access to basic resources such as healthy foods, housing, or social support. It addressed ways to increase access to health care, such as assistance with insurance, medications, and referrals. After the initial assessments and the first OCTP session, the CHN established a resource list for each participant.

Community Health Navigator Experience

Initially, the CHN worked to standardize the PIKO questions and visit with community programs to develop a resource list. The CHN also met with individual patients and any desired members of their families for a 1-hour planning session. During these sessions, the CHN assisted the patient in mapping out current stressors, barriers to care, and access to basic needs. The patients were asked to set personal goals to accomplish between visits. The CHN provided each participant with a personalized plan with contact information for any identified resources. In many cases, the CHN directly facilitated referrals by calling agencies on behalf of the participants. The CHN assisted patients in identifying jobs to apply for and attended quarterly job fairs to gather information on who was hiring. The CHN organized meetings at the clinic for partnering agencies to meet with participants to facilitate housing. For example, the CHN was able to get one of the clinic’s high utilizer patients, who had been homeless for more than 16 years, his own apartment.

After the initial interview and the provision of the OCTP, the CHN continued to follow-up with participants over the phone or during regularly scheduled clinic visits. The CHN met each morning with the medical assistants and the clinic manager as part of the clinic huddle to identify the PIKO participants who would be seen that day and other patients who were not in the PIKO program but were in need of navigation services.

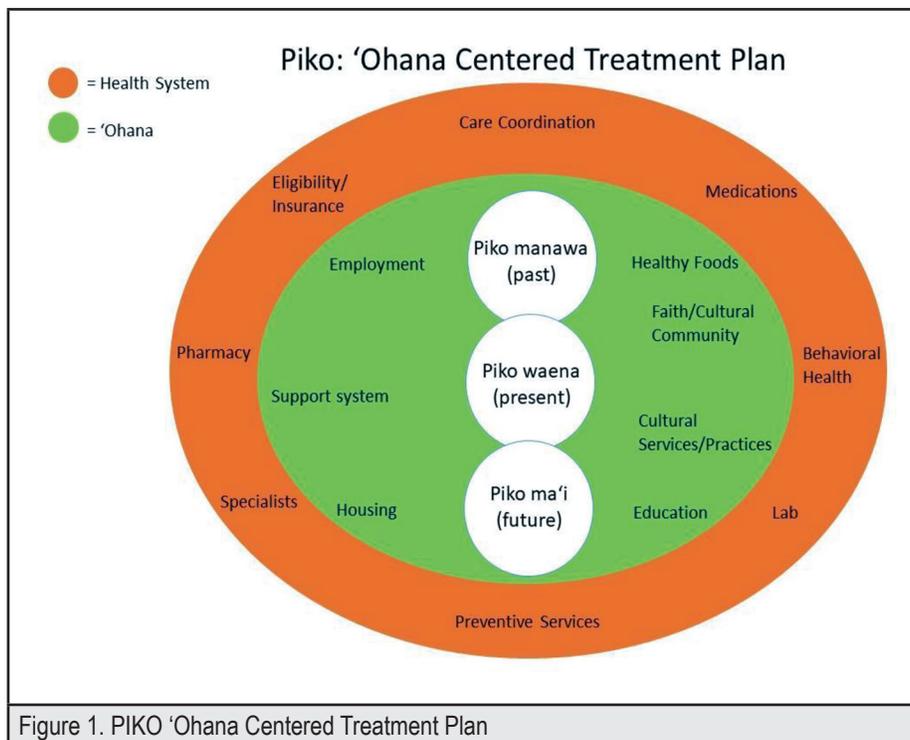


Figure 1. PIKO 'Ohana Centered Treatment Plan

Patient Experience

Patients completed a PIKO evaluation as well as a CHN evaluation at the end of the intervention. The average rating was a 3.92/4 for the PIKO evaluation, which indicates high levels of satisfaction with the PIKO program. The average rating was a 1.13/5 (with 1 being excellent and 5 being poor) for the CHN evaluation, which indicates that participants felt that the CHN's services were extremely useful or excellent. Some of the comments provided to the question, "What did you like about having a community health navigator in our clinic?" included: "I really appreciate all the help [our CHN] done to help me get better," and "She's very good at giving me any services I need to better my health," and "The suggestions and ideas that was most needed at the time of services."

Challenges and Lessons Learned

We had multiple challenges throughout the project. The IRB approval took almost a year and significantly delayed the start of the project. The CHN was hired and started several months before recruitment could begin. During this waiting period, discussion of the project with the primary care providers (PCPs) at the clinic revealed they did not understand the role of the CHN or the education and training the CHN had completed. Over time, we were able to clarify the education, skills, and role of the CHN.

Once recruitment began, patients were skeptical about talking to someone new. Sharing their story or situation with a provider other than their PCP or psychologist caused some anxiety and/or resistance. However, once they met with the CHN, their hesitation quickly subsided. Recruitment was also challenged by the requirement of multiple meetings and assessments and the low incentive rate (\$10). Despite these challenges, the evaluations demonstrate high acceptability of the CHN by NH and non-NH patients.

Although it was initially a challenge, getting the CHN access to the electronic health record (EHR) system was imperative to the success of integration of the CHN into the care team. With EHR access, the CHN was able to access participant lab results, medications, and upcoming appointments, and write notes about participants' visits so that the rest of the team could monitor their progress. Access to and charting of patient interactions in EHR systems has been previously identified as a key factor to the success of CHN integration.⁶

It was extremely valuable to have the CHN determine her own schedule each week (within 40 hours). This allowed her to meet with participants on Saturdays or during evening hours if that was most convenient for the participant. The flexible schedule allowed her to meet participants at their homes. The CHN attended community events including church food drives, job fairs, and housing programs.

The CHN had previous FQHC experience and was from one of the communities served by PCM. Her familiarity with the area and its resources and her ability to develop rapport very quickly with patients was key to the success of the program. She also took it upon herself to increase her knowledge regarding

the NH population and the challenges they face.

This was the first time a CHN has been placed in one of the UHP clinics and there were varying expectations of the value the CHN would bring. Once the CHN was welcomed as part of the interdisciplinary team, she quickly demonstrated her skill set. Her services became highly sought after because of the personalized care she delivered and also because her work allowed the PCPs to focus on the patients' medical conditions instead of their multiple social stressors. It became apparent that having the CHN participate in the morning clinic huddle and work closely with the medical assistants allowed her to identify patients in need of assistance. This also allowed her to assist in the development of clinical tools, such as a social needs questionnaire that allowed the clinic to gather specific information on the social determinants of health impacting the patients. Consistent with the CHN trend across the country, we feel this CHN model is most helpful for patients with cardio-metabolic conditions or cancer as well as ethnic minorities and underserved populations.¹⁴

When the PIKO grant came to an end in July 2018, we lost the CHN position. However, the impact of the services made an impact on the faculty and a future position for another CHN became a high priority. Using the data gathered through this study, we were able to secure another full year of CHN salary through another mechanism. We are proposing an alternative payment model for behavioral health that would mirror reimbursements to FQHCs. The additional funding could mean a sustainable funding source for a permanent CHN.

Practical Implications

As the changing healthcare system continues to place increasing responsibility on the primary care setting, and the available number of primary care providers decreases, systems are searching for ways to improve team-based care and use every member of the team to the top of their license. The inclusion of non-reimbursable providers, such as CHNs, presents some financial challenges, but the impact on patient outcomes can often result in decreased cost of care and improved quality payments.¹⁶ In addition, in an underserved area with a diverse patient population composed of a number of ethnic minority groups, CHN acceptability and effectiveness has been shown to be high.¹⁷ Hawai'i is the perfect setting for successful integration of CHNs. CHNs provide an opportunity to build clinical-community linkages between primary care and the communities in which our patients live, work, and play. For practices and clinics considering this model, the biggest barrier is often sustainability of the CHN salary.¹⁵ Grant funding is a great way to get the position started. Once patient outcomes and provider satisfaction begin to improve, funding for the position can often be sustained through cost-savings and quality payments.

Conflict of Interest

None of the authors identify a conflict of interest.

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References

1. Look MA, Trask-Batti MK, Agres, R, Mau, ML, Kaholokula, JK. Assessment and Priorities for Health and Well-Being in Native Hawaiians & Other Pacific Peoples. Honolulu, HI: Center for Native and Pacific Health Disparities Research, University of Hawai'i; 2013.
2. Native Hawaiian Data Book. <http://ohadatabook.com/DB2013.html>. Accessed September 12, 2015.
3. Galinsky AM, Zelaya CE, Simile C, Barnes PM. Health conditions and behaviors of Native Hawaiian and Pacific Islander persons in the United States. *National Center for Health Statistics. Vital Health Stat.* 2014;3(40).
4. Health Care Transformation Task Force Report. <https://hcttf.org/2017-member-transformation-progress-report/>. Accessed October 16, 2018.
5. Witmer A, Seifer SD, Finocchio L, Leslie J, O'Neil EH. Community health workers: integral members of the health care work force. *Am J Public Health.* 1995 Aug; 85(8): 1055-58.
6. Valaitis RK, Carter N, Lam A, Nicholl J, Feather J, Cleghorn L. Implementation and maintenance of patient navigation programs linking primary care with community-based health and social services: a scoping literature review. *BMC Health Serv Res.* 2017;17(1):116.
7. Percac-Lima S, Grant RW, Green AR, et al. A culturally tailored navigator program for colorectal cancer screening in a community health center: a randomized, controlled trial. *J Gen Intern Med.* 2009; 24(2):211-217.
8. Rural Health Information Hub. Social Determinants of Health for Rural People. <https://www.ruralhealthinfo.org/topics/social-determinants-of-health>. Accessed April 15, 2019.
9. McLaughlin, L, Braun, K. Asian and Pacific Islander Cultural Values: Considerations for Health Care Decision Making. *Health Soc Work.* 1998; 23(2):116-26.
10. Kamaka ML, Paloma DS, Maskarinec GG. Recommendations for medical training: a Native Hawaiian patient perspective. *Hawaii Med J.* 2011;70(11 Suppl 2):20-24.
11. Hughes C. Factors associated with health-seeking behaviors of Native Hawaiian men. *Pac Health Dialog.* 2004;11(2): 176-182.
12. Blaisdell K. Historical and philosophical aspects of lapa'au traditional Kanaka Maoli healing practices. In Motion Magazine. <http://www.inmotionmagazine.com/kekuninf.html>. Published November 16, 1997. Accessed date January 14, 2019.
13. Pobutsky A, Balabis J, Nguyen D-H, Tottori C. Hawaii Diabetes Report 2010. Hawaii State Department of Health, Chronic Disease Management and Control Branch, Diabetes Prevention and Control Program. Honolulu, Hawai'i.
14. Kim K, Choi JS, Choi E, et al. Effects of community-based health worker interventions to improve chronic disease management and care among vulnerable populations: A systematic review. *Am J Public Health.* 2016;106(4):e3-e28.
15. Mailloux, C. Halesey, E. Patient Navigators as Essential Members of the Healthcare Team: A Review of the Literature. *J Nurs Patient Care.* 2018;3:1
16. Enard, K, Ganelin DM, Dent, R. Reducing preventable emergency department utilization and costs by using community health workers as patient navigators. *Journal of Healthcare Management.* 2013;58(6):412-27
17. Natale-Pereira A, Enard KR, Nevarez L, Jones LA. The role of patient navigators in eliminating health disparities. *Cancer.* 2011;117(15 Suppl):3543-3552.

Ke Ku'una Na'au: A Native Hawaiian Behavioral Health Initiative at The Queen's Medical Center

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Abstract

Although acute care facilities have not typically focused on resolving the psychosocial determinants of health, new models are emerging. This article provides details of the Ke Ku'una Na'au (KKN) Native Hawaiian Behavioral Health Initiative implemented in 2016 at The Queen's Medical Center in Honolulu, Hawaii. The program is focused on reducing hospital readmissions for socially and economically vulnerable Native Hawaiian adults and improving their health care outcomes after hospitalization. The program was piloted on 2 medical units to assist patients who identified as Native Hawaiian, were ages 18 and older, and living with chronic diseases, psychosocial needs, and/or behavioral health problems. The program model was developed using a team of Native Hawaiian community health workers referred to as navigators, who were supported by an advanced practice nurse and a project coordinator/social worker. Navigators met patients during their inpatient stay and then followed patients post discharge to support them across any array of interpersonal needs for at least 30 days post-discharge. Goals were to assist patients with attending a post-hospital follow-up appointment, facilitate implementation of the discharge plan, and address social determinants of health that were impacting access to care. In 2017, 338 patients received care from the KKN program, a number that has grown since that time. In 2015, the baseline readmission rate for Native Hawaiians on the 2 medical units was 16.6% (for 440 Native Hawaiian patients in total). In 2017, the readmission rate for Native Hawaiians patients on the two medical units was 12.6% (for 445 Native Hawaiian patients, inclusive of KKN patients) ($P=.092$). This decrease suggests that the KKN program has been successful at reducing readmissions for vulnerable patients and, thus, improving care for Native Hawaiians in the health system generally. The KKN program has offered relevant, culturally sensitive care meeting a complex, personalized array of needs for over 338 patients and has shown demonstrated success in its outcomes. This information will be useful to other acute care organizations considering similar programs.

Keywords

patient navigators, Native Hawaiian, health care system, hospital

Abbreviations

APRN = advanced practice nurse
CMS = Centers for Medicare and Medicaid Services
DRGs = diagnosis-related groups
ED = emergency department
FQCHC = federally qualified health centers
KKN = Ke Ku'una Na'au
NHHP = Native Hawaiian Health Program
P4 = Pauahi 4th floor medical unit
PTSD = post-traumatic stress disorder
PCP = primary care providers
QET9 = Queen Emma Tower 9th floor medical unit
QHS = Queen's Health System
QMC = Queen's Medical Center
SW = social worker

Highlights

- The Native Hawaiian value-based approach taken by Ke Ku'una Na'au is unique in acute care.
- The program supports psychosocially vulnerable Native Hawaiians after hospitalization.
- Non-clinical community health workers partner with patients in the acute care setting.
- Post-discharge, these community health workers remove resource barriers to impact gaps in care continuum.
- After one year, readmission rates decreased.

Background

Because of payment penalties imposed on hospitals with high readmission rates by the Centers for Medicare and Medicaid Services (CMS), there is a growing interest in reducing unnecessary hospital readmissions.¹ Such efforts can improve quality of care, reduce health disparities, and lower health care costs.²⁻³

The Queen's Health System's (QHS) mission calls for a special emphasis on the health and well-being of Native Hawaiians.⁴ In fiscal year 2015, Native Hawaiians under Queen's medicine clinical service line represented 21% of total readmissions in the QHS.⁵ The top 5 common readmission diagnosis-related groups (DRGs) for Native Hawaiians were psychosis, chemotherapy-related events, alcohol/drug abuse or dependence, sepsis, and cellulitis.⁵ These diagnoses are often accompanied by many co-morbidities and may be influenced by social determinants of health.⁶⁻⁷

Previous work in Hawai'i and elsewhere has found that social and behavioral vulnerabilities are related to preventable hospitalizations and readmissions.⁶⁻¹⁰ A qualitative study within The Queen's Medical Center (QMC), an entity of QHS, found that the precipitating factors for many preventable hospitalizations were psychosocial in nature.⁸ Factors included inadequate medication reconciliation (eg, not refilling medication, improper usage), logistical problems (eg, difficulty in getting to primary care follow-up visits), and individual challenges including lifestyle and self-care factors, such as homelessness, hygiene problems, and high-risk behaviors.⁸⁻⁹

Although acute care facilities have not typically focused on addressing the social determinants of health, new models are needed.^{8,11-13} In December 2016, QMC implemented the *Ke Ku'una Na'au* (KKN) a Native Hawaiian Behavioral Health Initiative, which is focused on reducing hospital readmissions for socially- and economically-vulnerable Native Hawaiian adults. The phrase *Ke Ku'una Na'au* has many different meanings in the Hawaiian language. The translation the program chose to

utilize is “to put one’s mind and heart at ease or to let down gently.” The name helps to illustrate the traditional, Indigenous concepts of caregiving and shows the ethos of the program, which is built on strong relationships of trust and care. The program vision was to improve the healing of Native Hawaiian patients after discharge by using patient community navigation to bridge the transition from hospital to home by supporting patients in traversing the health care system and connecting with follow up medical care and support. This article describes the structure, history, and impact of the KKN initiative. A companion article in this issue discusses the program from the first-person perspective of the patient navigators.

Program Structure

The initial program structure included 4 Native Hawaiian community health workers called the navigators, who were supported by an advanced practice registered nurse (APRN) and a project coordinator/social worker (SW). The navigator team was expanded to 5 in December 2017. Navigators were non-clinical staff of the hospital who met patients during their inpatient stay and followed them post discharge to support an array of their needs.

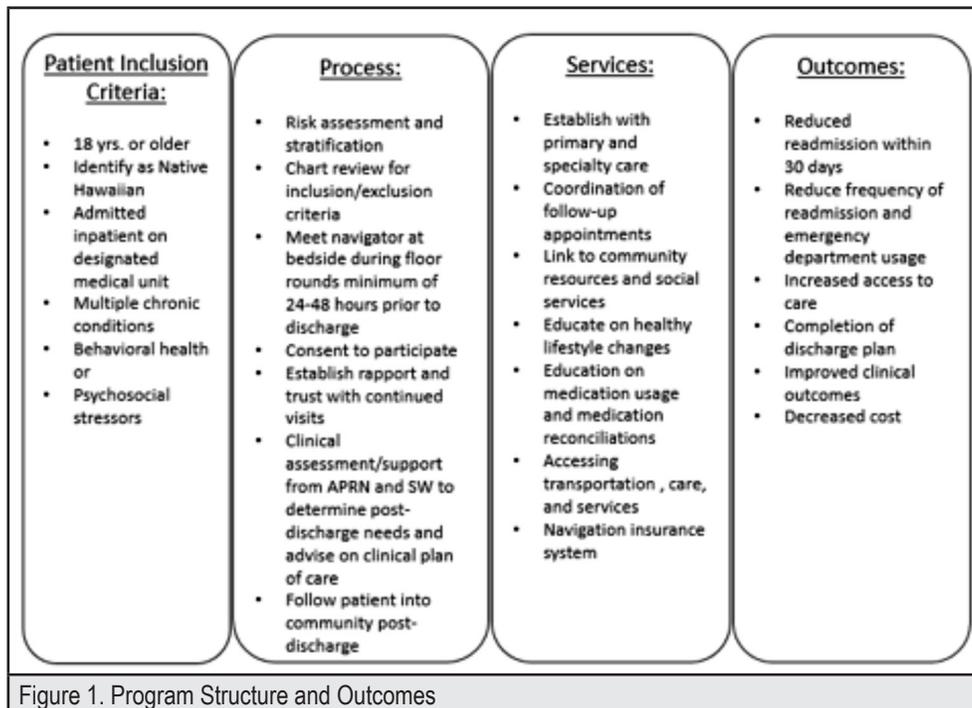
Patients were followed for a minimum of 30 days post-discharge. The program goals were for the navigators to coordinate and attend follow-up appointments in primary and specialty care, educate on healthy lifestyle changes, support medication use and medication reconciliation, help with accessing transportation, assist in negotiating insurance access, and provide linkages to community resources for an eventual handover of the patient to other community-based supportive services. Given the importance of primary care for patients with complex

health needs, a major objective of the project was to connect a discharging patient with an established or new primary care physician (PCP). Figure 1 summarizes eligibility, processes, services, and outcomes.

An established relationship between the navigator and the patient was a major component of KKN’s Native Hawaiian values-based strategy. Starting with the initial visit at the bedside during the hospital stay, navigators built strong, trusting, non-judgmental relationships. Navigators encouraged patients to focus on healing during their inpatient stay, knowing that after discharge the navigator would help them transition back into the community. No day-of-discharge referrals were allowed as it was critical for navigators to have at least 24 - 48 hours prior to discharge to meet the patient and form a relationship. The recommended approach was to refer a patient as soon as there was a sense they might benefit from post-discharge support, or to call for a consult to determine whether patient navigation services were appropriate.

Program History

The KKN program was funded by the Native Hawaiian Health Program (NHHP) at QHS. Deeply committed to the mission set forth by its founders Queen Emma and King Kamehameha IV to provide in perpetuity quality healthcare services to improve the health and well-being of Native Hawaiians and all of the people of Hawai’i, QHS started the NHHP in 2006. The NHHP was equipped with the vision to enhance the *ola pono* (health, well-being) of Native Hawaiians by elevating their overall health status to a level comparable with that of other ethnic groups in Hawai’i.



In August 2015, 2 nursing directors with clinical mental health experience met with the director of the NHHP to discuss the possibility of designing a project to address the increasing numbers of inpatient medical patients with psychosocial and/or behavioral health issues who were returning to the hospital within 30 days. These nursing directors were encouraged to submit a grant to the NHHP to support a pilot project. Throughout the grant writing and submission process from August 2015 to February 2016, a small interdisciplinary team met monthly to develop the pilot intervention. The team considered metrics being tracked across the behavioral health and medicine service lines and reviewed literature. Data showed that 21% of patients in the medicine service line at QMC who were readmitted within fiscal year 2015 reported Native Hawaiian ethnicity.⁵ Therefore, 30-day readmission was selected as the outcome of interest. Project goals were:

1. To significantly impact persistent, unmet healthcare needs in the Native Hawaiian community.
2. To reduce readmission rates and emergency department (ED) utilization among Native Hawaiian patients with medical and psychiatric co-morbidity, and improve their quality of life.

Much of the literature described successful interventions involving registered nurses (RN) or APRNs who followed patients post-discharge.¹⁻² For this program, a decision was made to develop a para-professional patient community navigator role to support Native Hawaiian patients in their transition from the hospital to the community. Navigators were to be supported clinically by an APRN and a SW.

In February 2016, the Native Hawaiian Health Committee, which provides oversight to the NHHP and is comprised of the QHS Board of Trustees and senior leadership, unanimously approved 3 years of funding for this project. The team then piloted a readmission prevention intervention on 2 medical units to assist patients who identified as Native Hawaiian, were 18 years and older, and were living with chronic diseases, psychosocial needs, and/or behavioral health problems.

Program success was to be measured by outcome and process measures. Outcome measures included reducing 30-day readmissions, frequency of readmissions, and ED usage. Process measures included attending a follow-up appointment with PCP and completing a discharge plan. There was an expectation that this program would also provide cost savings and that a reduction in the readmission rate for the KKN program would drive a reduction in readmissions of Native Hawaiian patients overall in the health system.

Program funding was awarded during the first part of fiscal year 2017 (starting July 2016) and the first few months were spent managing logistical concerns (Figure 2). The initial navigators began training in November 2016. In January 2017, the navigators began officially assisting patients who were newly discharged. Services were piloted on 2 medical units, with the 4 patient navigators supported by an APRN who provided clinical support to navigators and holistic care to patients. In July 2017, a project coordinator/SW was hired to assist with program development and offer necessary support to the navigators and APRN on addressing psychosocial needs in a team-based approach. The team worked with providers at QMC and communicated in person and through the electronic medical record with these providers.

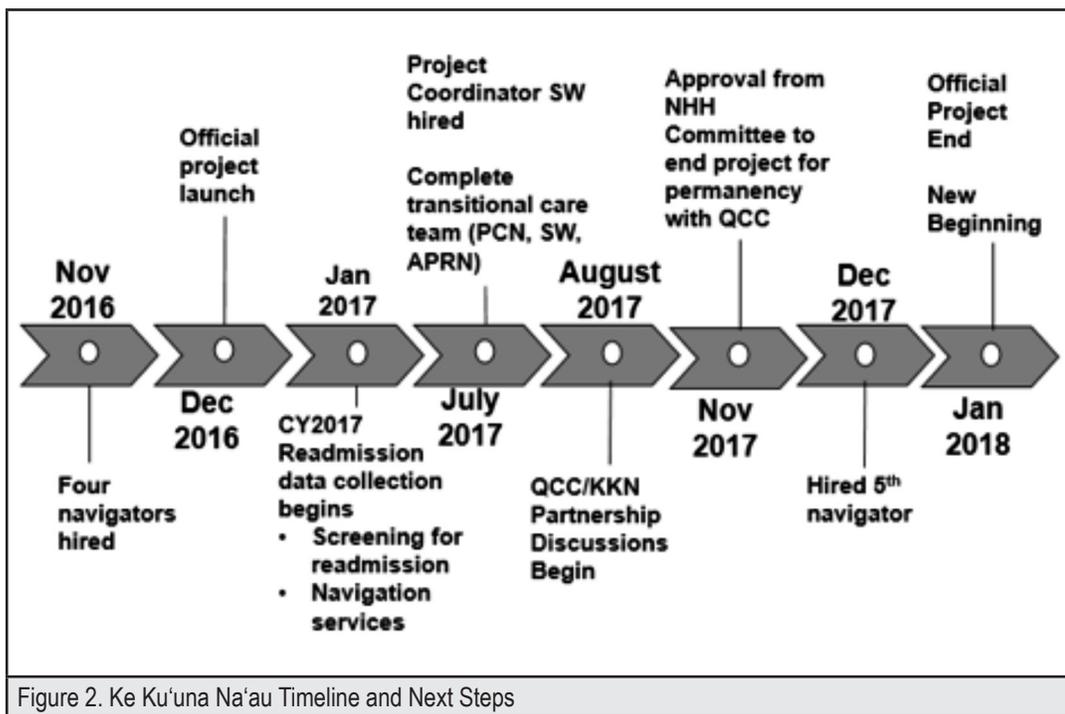


Figure 2. Ke Ku'una Na'au Timeline and Next Steps

To continue the collaboration with the community, the navigation team including the APRN, as well as the nursing director visited each of the federally qualified health centers (FQHCs) to establish a working relationship that would foster seamless transition from the hospital setting to the community. The APRN and SW had experience working with medically underserved Native Hawaiians because both had previously worked at the largest FQHC in the state.

Changes in Readmission Rates

In 2017, 338 Native Hawaiian patients were screened at bedside and deemed eligible for care through the KKN program. The monthly 30-day readmission rates were calculated for the KKN patients (Figure 3). At the beginning of 2017, the rate of readmissions for patients in the KKN program was 21%. By December 2017, the KKN readmission rate was 12%, after a relatively steady downward trend. In January 2018, no Native Hawaiian patients from KKN were readmitted to the hospital, resulting in a 0% 30-day readmission rate for that month.

In 2015, before the KKN program began, the annual 30-day readmission rate for Native Hawaiian patients on the 2 medical units was 16.6% (n=440). In 2017, the annual 30-day readmission rate for Native Hawaiians on the 2 medical units was 12.6% (n= 445; this number includes the 338 KKN patients and the other 7 Native Hawaiian patients admitted to the two medical units during that time) ($P=.092$). This decrease suggests that the KKN program is successful at reducing readmissions for vulnerable patients on the 2 medical units, thus, improving care for Native Hawaiians at QMC generally. This is a highly

relevant outcome for QMC, which had as a goal for the KKN program of a reduction in readmission rates for Native Hawaiian patients on the 2 medical units.

Patient Stories

A unique and powerful way to see how KKN has been effective in the lives of patients is through their stories. Although each KKN patient has his or hers own set of distinct challenges, 3 key themes emerged in considering the impact of KKN on patients: (1) removing barriers to community resources, (2) building relationships and trust, and (3) employing Native Hawaiian values in practice.

Theme #1 – Removing Barriers to Resources

One patient with an extensive list of co-morbidities related to obesity experienced 3 hospital admissions and 1 ED visit in 1 month. He entered the KKN program during his second hospital admission. At the time of this admission, he was homeless and living in constant pain in his vehicle after being evicted for failure to pay housing fees. He was receiving no public assistance and had no relationship with a PCP, social services, or a homeless outreach team, and had a strained relationship with his inpatient providers.

The KKN navigator met the patient at bedside and assisted the family with obtaining food stamps while the patient was hospitalized. The navigator also assisted the patient in obtaining official documents and setting up transportation for all necessary follow-up appointments. The navigator referred the patient to a FQHC where the patient was able to receive primary care

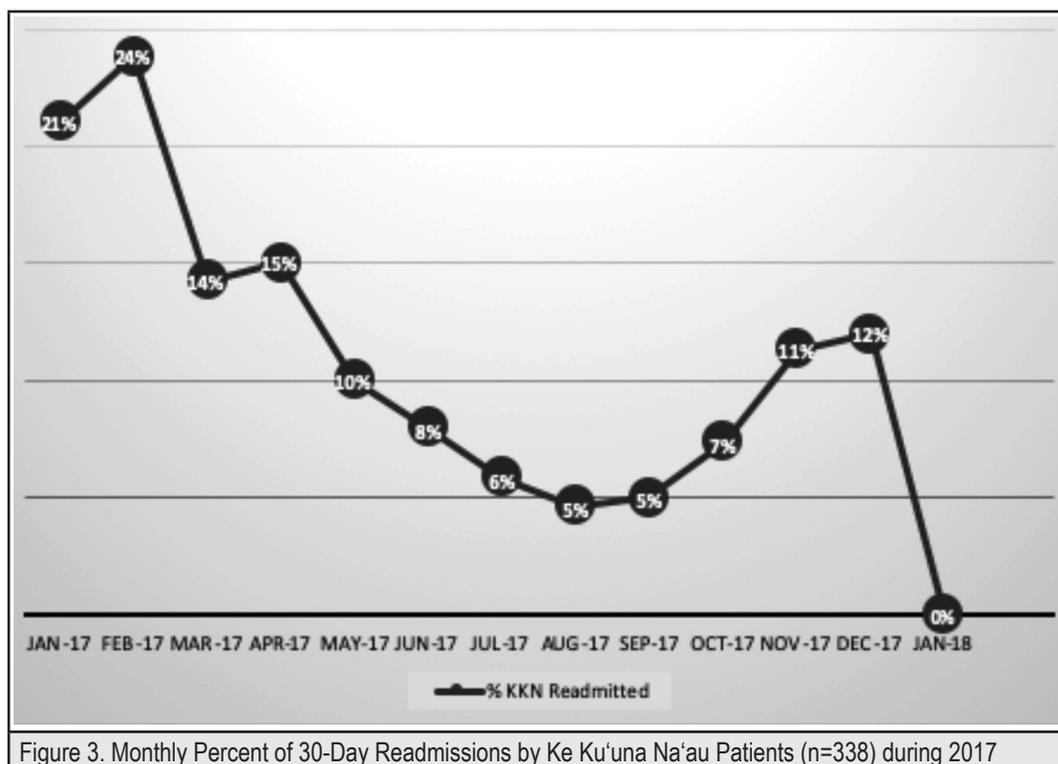


Figure 3. Monthly Percent of 30-Day Readmissions by Ke Ku'una Na'au Patients (n=338) during 2017

with the navigator present for support. The FQHC provided additional support services to address other social issues. The navigator supported the patient and the family in securing a new apartment, moving, and obtaining furniture and other necessary supplies. The navigator also provided life skills training, such as grocery shopping. The patient has had no ED visits or hospital admissions at QMC since-graduation from the KKN program.

Theme #2 – Building Relationships and Earning Trust

Another patient was a male in his 30s and a decorated veteran who had returned from active duty with post-traumatic stress disorder (PTSD) for which he never received treatment. He was admitted to QMC after a suicide attempt. The navigator visited the patient during his admission and became a trusted confidante of the patient and his family. The patient had no prior relationship with a PCP at his preferred facility. The navigator assured the family help with establishing connections to appropriate support services to address needs. The navigator facilitated linkage to the patient's preferred facility and organized and scheduled all necessary appointments with follow-up and specialty care. The navigator also assisted the patient in navigating through a complex insurance system to ensure the patient obtained support for payment of hospital fees. Throughout the process, the navigator encouraged positive goal setting, and the patient maintained weekly check-ins.

After graduation from the KKN program, the navigator maintained contact with the family and had the privilege of seeing the patient continuing to pursue his goal of returning to school to obtain his bachelor's degree. At his graduation, as the keynote speaker, the patient shared his story of success in overcoming challenges. He invited his navigator to his graduation and credited her in his testimonial as a huge part of his success, thanking her for her dedication and aloha. In a later interview, he stated, "If it wasn't for her and Queen's, I might not be alive today to see my children." The patient is now enrolled in a master's degree program.

Theme #3 – Native Hawaiian Value-Based Approach

An elderly, widowed female who lived alone and had no history of psychiatric conditions came to the QMC Emergency Department with abdominal pain. She was transferred to another medical facility for care but returned to QMC reporting suicidal ideation after discovering she would be evicted from her rental unit which she had lived in for many years. She was terrified at the prospect of becoming homeless and of not having the skills or resourcefulness to survive on the street. While in the ED, she denied all offers of temporary housing out of concern that she would not be able to keep her belongings. She was eventually admitted to the adult psychiatric unit where she began refusing treatment. The patient was referred to the KKN program and was visited by a navigator who used traditional values to connect with her and gain her trust by treating her in a familial way, referring to her as "Aunty," and speaking to her in her native tongue. The navigator remained with her during her

hospitalization and promised to support her after discharge as well. The navigator was successful in encouraging compliance with treatment whereas others in the medical setting were not. The discharge planning team incorporated the navigator and the KKN program approach into a successful plan for this patient, which contributed to timely discharge. The navigator followed through with his promises and helped the patient move into her new home and reconnect with her primary care facility. She has not returned to the hospital since graduation from KKN.

Lessons Learned

Timely follow-up with primary or specialty care after discharge is crucial to support healing outside of the hospital environment. Wide gaps exist in continuity of care from in-patient to outpatient care. Patients with significantly poor social determinants of health are extremely vulnerable within this time period.¹⁵ Several lessons were learned during the KKN program intervention relevant to these delays in care and how to resolve it.

One lesson is how poor linkages of patients to both community resources and health care often impede a healthy transition back into the community, putting patients at-risk for readmission. Patients are often discharged without an understanding of, or connection to, the appropriate services (including housing, transportation, and nutrition) that can properly reinforce their pathway to healing. Health care system barriers include challenges in communication, limited time with patients, complex medical language, and complex insurance systems dictating a patient's access to care. This can make it hard for a patient to sustain the health gains they make while in the inpatient setting.

The navigation team has seen all these barriers directly impact their patients' continuity of care after discharge. In particular, the navigators observed a lack of culturally-relevant approaches within health care settings, particularly for Native Hawaiian patients within inpatient acute care settings. Lack of cultural competence may impair successful engagement or gaining a patient's trust, which can compromise long-term behavioral change. Alternative approaches are needed because traditional primary care approaches (eg, appointment cards, phone reminders, brief appointments) may not be sufficient for patients living with severe mental illness, homelessness, and/or substance abuse problems.

Another lesson learned was that the navigator role expanded in scope over time. Navigators often went beyond following the discharge plan to address needs related to social determinants of health, such as helping homeless patients obtain housing and build skills for long-term success. For instance, the navigator in the first story worked with the family to build life skills (eg, grocery shopping, cooking). Although these activities were not the original intent of KKN, it was essential to engage the family in self-care to mitigate the risk of readmission and further health decline.

The group's effectiveness in supporting patients to address social determinants of health created additional pressure to shift the focus of the group to serve Native Hawaiian patients at the highest risk for readmission with the most complex psy-

chosocial and/or medical needs. By January 2018, the KKN program was integrated as a permanent program at QMC and services were expanded to 13 additional medical units in order to capture those at greatest risk of readmission. To accommodate this shift, KKN adjusted their recruitment process to include a referral-based system in which patients at the highest risk for readmission were referred by hospital staff for navigation support. Given the intensity of each case and the amount of time necessary, the average caseload per navigator was eventually reduced from 16 to 10 patients. The importance of finding the right individuals to work as navigators proved to be critical for long-term sustainability, due to the high emotional and practical demands placed on these individuals.

Finally, readmission risk assessment and risk stratification in identifying social determinants prior to discharge can promote positive discharge planning and successful implementation of plans after discharge. Such processes can allow for patients who might need navigators to be offered to them during the hospital stay so trust can be built in this setting, as in the KKN model.

Discussion

The KKN program has offered relevant, culturally-sensitive care meeting a complex, personalized array of needs for more than 338 patients at QMC and has demonstrated successful outcomes, including sustainability. The goal of the project was to enhance Native Hawaiian health using a culturally-based model, encourage quality patient care, and positively impact lives. Both data and stories provide compelling evidence that the program is achieving its goals.

The project has many strengths, and some limitations. It was designed to meet a hospital's operational goals, not as a traditional research study. Thus, there are limitations in the data available for analysis. For instance, 30-day readmission is a relevant metric to health systems, and QMC has a system that calculates 30-day readmission rates by race/ethnicity, including Native Hawaiian. However, this data system is not able to identify KKN patients specifically. In order to track readmission rates for KKN patients during the first year of implementation, program staff used the data system available at QMC to identify all Native Hawaiian patients discharged from the 2 units each month. Staff then manually identified each KKN patient's record and separated the KKN patients from the Native Hawaiian patients who did not participate in the KKN program in order to calculate the monthly 30-day readmission rate for KKN patients (Figure 3). One of the limitations of the project is that staff are unable to provide a retroactive comparison of the readmission rates of the non-KKN Native Hawaiian patients with the readmission rates of the KKN patients. KKN patients make up over three-fourths of the sample on the 2 medical units, therefore heavily influencing the trend of reduced readmissions for all other non-KKN Native Hawaiians. On the other hand, this trend line is relevant to QMC in which the intent of the program was to drive down overall Native Hawaiian readmissions and improve care for this population.

In addition, there are other factors that were not measured that may have impacted the reduction in readmission rate such as patient demographics, disease profiles, treatment course, and changes in medical technology or medication use. In this article, only 30-day readmission rates are discussed. However, with the expansion of the patient navigation program at QMC, additional evaluations are being conducted to determine the full impact to readmission, ED utilization, access to care, and cost.

Although scientific evidence around metrics like readmission rates is important, this is only part of the impact of the navigation team. The patient stories illustrate the true value of the program which includes helping patients heal even after they leave the hospital. The holistic model of aloha and the values of the founders of QMC are embedded in the infrastructure of KKN and at the root of the program's success.

Since January 2018, the KKN division is now included as part of the Queen's Care Coalition, which includes patient navigation for ED "super utilizers" and a CMS-funded division called My Connections, which serves Native Hawaiians and non-Native Hawaiians. These programs focus on navigation for patients who have high utilization of the ED or hospital, are at a high risk for readmission, or have screened positive for needs related to the social determinants of health. Additional staff have been added including 11 additional full-time patient community navigators and 4 full-time patient screeners.

Practical Implications

Many patients admitted to the hospital have social and behavioral needs that can prevent effective healing after discharge and lead to re-hospitalizations. In addition, hospital stays are often short and require that the patients are discharged to a safe environment which is not always available, particularly among patients with low household incomes or homelessness.

The literature includes reports of effective post-discharge initiatives that follow patients at home.¹ These initiatives often rely on phone contact and often involve clinical staff who focus on physical healing.¹ Although these programs can be quite useful for patients with a strong support system, they do not fit all patient needs. Particularly for patients who face multiple life stressors or are from Indigenous or marginalized communities, a more comprehensive, culturally-competent approach may be needed. This community navigation project demonstrates that assisting patients with their basic needs through a compassionate, culturally-based approach staffed by non-clinical community health workers (navigators) with clinical support can impact readmission rates in an acute care hospital.

Conflict of Interest

None of the authors identify a conflict of interest.

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References

1. Leppin AL, Gionfriddo MR, Kessler M, et al. Preventing 30-day hospital readmissions: a systematic review and meta-analysis of randomized trials. *JAMA Intern Med.* 2014;174(7):1095-107.
2. Kripalani S, Theobald CN, Anctil B, Vasilevskis EE. Reducing hospital readmission: current strategies and future directions. *Annu Rev Med.* 2014;65:471-485.
3. McHugh MD, Carthon JMPH, Kang XL. Medicare readmissions policies and racial and ethnic health disparities: a cautionary tale. *Policy Polit Nurs Pract.* 2010;11:309-316.
4. Queen's Health Systems Native Hawaiian Health Program. The Queen's Health Systems Native Hawaiian Health Program Report. <https://www.queens.org/media/file/QHS-Native-Hawaiian-Health-Report-2015.pdf>. Accessed January 12, 2019.
5. Queen's Medical Center Electronic Medical Record data analyses by Decision Support Services. December 2015.
6. King GL, McNeely MJ, Thorpe LE, et al. Understanding and addressing unique needs of diabetes in Asian Americans, Native Hawaiians, and Pacific Islanders. *Diabetes Care.* 2012;35:1181-8.
7. Mau M, Sinclair K, Saito E, Baumhofer KN, Kaholokula JK. Cardiometabolic health disparities in Native Hawaiians and other Pacific Islanders. *Epidemiol Rev.* 2009;31,113-129.
8. Sentell TL, Young MM, Vawer MD et al. Pathways to potentially preventable hospitalizations for diabetes and heart failure: patient perspectives. *BMC Health Serv Res.* 2016;16:300.
9. Quensell M, Juarez DT, Seto TB, Braun K, Sentell TL. "I need my own place to get better": patient perspectives on the role of housing in preventable hospitalizations for diabetes and congestive heart failure. *J Health Care Poor Underserved.* 2017;28:784-797.
10. Calvillo-King L, Arnold D, Eubank KJ, et al. Impact of social factors on risk of readmission or mortality in pneumonia and heart failure: systematic review. *J Gen Intern Med.* 2013;28:269-282.
11. Kwan BM, Rockwood A, Bandle B, Fernald D, Hamer MK, Capp R. Community health workers: addressing client objectives among frequent emergency department users. *J Public Health Manag Pract.* 2018;24:146-154.
12. Phalen J, Paradis R. How community health workers can reinvent health care delivery in the US. Health Affairs Blog. DOI: 10.1377/hblog20150116.043851. Published January 16, 2015. Accessed January 12, 2019.
13. Daniel H, Bornstein SS, Kane GC; Health and Public Policy Committee of the American College of Physicians. Addressing social determinants to improve patient care and promote health equity: an American College of Physicians position paper. *Ann Intern Med.* 2018;168(8):577-578.
14. The Queen's Medical Center Data from EMR. Honolulu, Hawai'i. Population Explorer. June 2016.
15. Bisognano, M, Boutwell, A. Improving Transitions to Reduce Readmissions. *Front Health Serv Manage.* 2009;25:3-10.

“It starts with ‘Aloha...’” Stories by the Patient Navigators of *Ke Ku‘una Na‘au* Program at The Queen’s Medical Center

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Abstract

The *Ke Ku‘una Na‘au* (KKN) navigators were first hired in 2016 at The Queen’s Medical Center (QMC) in Honolulu, Hawai‘i, with a focus on reducing hospital readmissions for socially and economically vulnerable Native Hawaiian adults. To our knowledge, QMC was the first acute care hospital in the state to implement the use of community health workers into the health care system as navigators for patient needs in the community following discharge. This article tells the story of our experiences as the 5 patient navigators from the Native Hawaiian community during the first 2 years of the program. The article describes how we ended up in this vocation and a summary of what we have learned. We also describe walking with our patients through their journey of healing, a journey which begins at the bedside during hospitalization starting with the moment we say, “Aloha.” (A companion article in this issue describes the KKN program history, design, and clinical outcomes in more detail.) We hope these stories are inspirational to others who fill the community health worker role and may walk in our shoes in other health care organizations and/or help support the planning and implementation of similar programs to meet other communities’ health needs. We consider the implications for community-clinical linkages.

Keywords

patient navigators, Native Hawaiian, health care system, hospital

Abbreviations

QMC = Queen’s Medical Center

KKN = Ke Ku‘una Na‘au

PCP = primary care provider

Highlights

- We share the perspectives of our diverse, shared experiences as patient navigators.
- We describe the privilege to serve our community and our *kūpuna* (elders).
- We highlight the community-clinical linkages needed by our patients.
- We discuss the distinct ways we maintain self-care to be able to sustain our work.
- We provide guidance for similar programs starting in other settings.

Introduction

The *Ke Ku‘una Na‘au* (KKN) Native Hawaiian Behavioral Health Initiative was implemented in 2016 at The Queen’s Medical Center (QMC) in Honolulu, Hawai‘i with a focus on reducing hospital readmissions for socially and economically vulnerable Native Hawaiian adults. To our knowledge, QMC was the first acute care hospital in the state to implement the use of community health workers into the health care system in this way. (A companion article in this issue describes the program history, design, and clinical outcomes in more detail.) Inclusion criteria to participate in this program required that patients self-identified as Native Hawaiians, were admitted to the hospital on

inpatient units, and identified psychosocial vulnerabilities. From January 2017 to January 2018, 338 patients were enrolled in the KKN program with an average of 37 patients meeting inclusion criteria per month. These patients often had a complex array of health needs or were estranged from friends, families, and any notable social supports. Many would have been considered “difficult to treat” by their providers or the health care system. Given the complex nature of each case, as well as the intense assistance given to each patient, our average initial case load per navigator was 16, which was reduced to 10 in the second year of the program to allow us to fully meet patient needs.

We are the 5 patient navigators from the Native Hawaiian community who have been the liaisons between the hospital and community to support a safe transition after discharge and assist our patients in obtaining the resources they need to support healing. We are members of the direct clinical care team and in this article, we each describe how we have arrived in this vocation through stories of our experiences and lessons learned over the last 2 years. We have been supported in our journey by our project coordinator/social worker, who has been our *ho‘okele* (steersman) and is also the lead author of this article. We describe our experiences of walking with our patients on their own health and healing journeys, starting with the moment we said *aloha* at the patients’ bedsides during hospitalization. In our conclusions, we share implications for community-clinical linkages and designing effective programs to meet diverse community needs (cultural, practical, and clinical), particularly in vulnerable communities. Our team can be seen in Figure 1.

The overarching theme across all our individual stories that have brought us to this caregiving role and sustained us during these patient journeys is a Hawaiian worldview, a perspective that tells us we are all connected. Through this lens we understand that *lōkahi* (harmony) in the relationship between spirituality, mankind, and environment is important.^{1,2,3} This worldview guides us in our work with patients, acknowledging the importance of the body, the mind, and the spirit.^{1,2,3} A description of this concept is provided in this quote, which was gifted to one of us by a wise *kāne* (man) many years ago.

The community is like a reef. Everything in the reef is connected. The fish rely on the reef to survive. The fish, the water, the reef, and the land are interconnected. There is lōkahi when the ecosystem is healthy. In western culture we sometimes see a sick fish and we try to heal the fish without fixing the ecosystem. We remove the fish from the ocean and put it in a bowl (similar to the healing a patient in the hospital). Once the fish is healthy



Figure 1. The Ke Ku'una Na'au care team at The Queens Medical Center, including (from left to right): Anthony Hereari'i Negrillo (Patient Navigator); Damien Hanake'awe (Patient Navigator); Lisa Garrett (Nurse Practitioner); Jonna "Minky" Ho'opai (Patient Navigator); Laura Kau'ionlani Nishizaki (Project Coordinator/Social Worker); Robert Naniole (Patient Navigator); Kehau Pu'ou (Patient Navigator).

we put the fish back into the water. But then the fish gets sick again. We forget that the water is polluted. The reason the fish is sick is because the reef is sick. We don't address the root of the problem.

As Native Hawaiians and as navigators, we recognize the importance of building a strong community, or in this metaphor, the ecosystem, so our people can thrive. We understand that in order to heal the fish, we must *mālama* (care for) the reef, the water, and the land so that the ecosystem is healthy and the reef can heal the fish (*i'a*). Even a fish in polluted water often finds a way to adapt and survive. In the same way, we are inspired by the resilience in our patients, despite obstacles and challenges.

When we look to the history of QMC, we learn that Queen Emma and King Kamehameha IV founded the hospital in 1859 in part, due to the sharp decline in the population of Native Hawaiians due to infectious disease. King Kamehameha IV stated we must, "...stay the wasting hand that is destroying the Hawaiian people...But let me remind you that so long as sickness shall exist, there will be a duty imposed upon us."⁴ In this quote, he reminds us of our *kuleana* (responsibility) to our community which drives us in the work we do.

The QMC mission to improve the health of Native Hawaiians and people of Hawai'i is still relevant today.⁵ Recent statistics show that Native Hawaiians continue to experience high mortal-

ity and morbidity due to chronic disease.⁶⁻⁸ As navigators, we often play the role of guardians or caretakers of our *i'a* (the patients and our people). We strive to build the *kahua* (foundation) of our community and *mālama* (care for) our *kānaka* (people). In order to accomplish this, we look to the values and practices of our founders, *ali'i* (ruler, monarch), and *kāpuna* (ancestors); values of *aloha* (love, affection, compassion, mercy, sympathy, kindness, grace, charity), *ha'aha'a* (humility) and *ho'opono* (righteous, to behave correctly), which enabled the Hawaiian people to maintain health and harmony (*lōkahi*), individually and as a community.^{1-3,8}

The importance of collaboration is clearly illustrated in the name of our program, *Ke Ku'una Na'au* which means to let down gently. This describes a traditional practice of healing. *Ku'una* (to let down the fish net) describes the gentle laying of the net to catch fish. The *maka* (mesh of a net) are joined together by the knots. As navigators, we recognize we are simply one knot. The other knots represent the other community partners, as well as the patients' family or friends. Together we ease the patients' transition out of the hospital and into the community. If one part of the net is broken all are impacted.^{1-3,9} We understand that we are not alone in carrying this *kuleana* to serve and *mālama* our people and our land. We need to work together with our patients and as a community and an 'ohana (family) to see healing occur.

Our Stories

We now tell our individual stories from our journey in the KKN program, highlighting some important themes in addition to the overarching worldview that can be found from our experiences: providing aloha with open arms, *hilina'i* (trust), unconditional love and nurturing care; building on the foundation of our kupuna to mālama our people and to sustain health for future generation; *ha'aha'a*; *ho'omana* (empowerment); *kuleana* (as a privilege as well as a responsibility); and *ho'okahua* (building the foundation for our community).

Here's Story

My name is Anthony Hereari'i Negrillo. I was a unit secretary at the Queen Emma Clinics for 14 years. I decided to apply for this program because I wanted to work more directly with patients. I love having the opportunity of working 1-on-1, having a connection and building a trusting relationship. I provide support and care with the intentions to create a healthier and enhanced quality of life for our patients. Simply providing the resources they need, like helping patients obtain food stamps is very rewarding for me. It makes me happy that I can make them happy.

My approach is simple: I am present with open arms, humble heart, open mind, caring thoughts and prayers, honesty, and consistency. When I meet a patient at the bedside, I explain the purpose of our program. If they agree to allow us to help them, then we provide resources and support without judgment.

About 98 percent of my patients have connected with me and have accepted my services. Many come from broken families, have families that are not able to help them, or are not able to be there to give them the love, support, and encouragement they need. I make sure that they know I am here for them and will always provide support as long as they need it. Although our program is intended to be for 30 days, I never look at that 30-day window. When you build a relationship with these patients, they become like family. You don't just throw away your family away after 30 days.

Once the 30 days are up, I explain to my patient what they have accomplished, what we've done together, and how they have succeeded. I am clear and open with them. I say "your service plan is complete. But, if you need me at any time, whatever you need, call." I leave it open, and they do call, sometimes just to say hello or for help. For instance, one of my patients recently received a letter from the State Department requesting information. He didn't understand the letter. I patiently explained it to him and we went to obtain the document he needed. He was able to fulfill his requirement on time and obtain his benefits. This was a monumental success for us.

Success Story

Another success story is a male in his 30s who was admitted to Queen's for nearly 6 months, undergoing many procedures with multiple diagnoses including paranoid schizophrenia. Prior to admission, he had been homeless and had lost all of his social, financial, and healthcare benefits, along with his family and his home.

This was a challenging case, as his mental illness delayed his healing process. Teamwork between case managers and social workers on the floor helped put the pieces of the puzzle back together. Despite months of healing in the hospital and preparation for successful discharge, he was discharged to the street with nothing, in part because of system barriers and delays. There was much to follow-up on after discharge in order to help him access care.

After only days at a respite home, he left and never returned. A family member finally found him wandering at a bus stop and took him home. This reunion offered him a safe space to heal. The day after discharge, I went with him to obtain financial help. I went to his medical appointments once his health insurance kicked in. I sat with him for 8 hours in the state office to help him get identification. During this process we attended numerous medical and psychiatric evaluations to support approval of long-term social security benefits. I'm so grateful that soon he will also be receiving retroactive pay for close to a year's worth of disability benefits. I know this will help the family.

Trust

We have a very trusting relationship which started when I first met him at bedside. He knows who I am. He always has a big smile when he sees me. Our relationship is very good. When you show him consistency, the trust gets even better. When you show him love and nurturing care, it helps the healing and growing of trust. I constantly remind him that I will always be there for him.

Hawaiian Focus

For me, Hawaiian or not, we're all human and we should be treated equally with respect. This is how we *mālama* our people. It is not only important to care for the physical body, but also for the entire being, body, mind, and spirit.² I am Hawaiian. This is a priority for me. The connection comes from our *piko* (the navel, where life begins, connection to ancestors), to perpetuate our culture and our lifestyle, our language and our wellbeing.³ To teach one another, to help however we can to sustain our health and for our future generations to come, and to be humble!

Advice for New Navigators

I truly believe we must approach each patient with an open mind and an open heart to have that compassion to do this work, and to be strong enough to separate work, your feelings, and self. Patient navigators need a passion and compassion to serve the underserved. Our patients can be difficult. It can be tough to see the circumstances in which they live. Navigators must prioritize self-care because it can be easy to burnout.. Our patients can see if you genuinely care. They know if the compassion is real and if you truly care about their community.

Robert's Story

My name is Robert Naniolo. In 1996, I started working at a local social service agency which helped low-income individuals and families become economically self-sufficient. That is how I

started as a helping professional. This work experience allowed me to work with the local community, including collaborating with social service providers to better provide services to the homeless. I have also helped my own family members navigate the health system (my mom, my paternal grandmother, my mother-in-law, and father-in-law). Due to my community services background and my own personal experience, I thought I could contribute to implementing community health navigation services for patients, individuals, and families.

One major challenge in this role is getting patients to their community clinics or private physician appointments. Transportation is a barrier for many of the people we serve. Working with transportation services on coordinating pick-ups from homes, shelters, and at times, the street, can be a difficult. The amount of time a navigator may put into a patient's appointment can vary, and can sometimes be 3 or 4 hours. Patients are often burned-out from the experience of dealing with transportation services (being put on hold for phone reservations, waiting during multiple stops to pick-up other patients, transportation delays, breakdowns, and human error). Nevertheless, many patients are still appreciative of receiving free transportation through Medicaid.

To soften the burden for my patients, I often make the transportation reservations at discharge. Eventually I teach and encourage the patient to call on their own, in order to empower the patient. We try to encourage the patient to do as much as they can on their own, support them to do so, and, eventually, they are successful.

Rewards of the Work

One of our goals is to keep patients out of the hospital by making sure they're connected to: (1) transportation, (2) their health providers, and (3) social services.¹⁰ We help people find financial resources through state and federal aid programs (such as state financial assistance, food stamps, and social security benefits). It is often surprising to see how disconnected our patients are from resources. Therefore, it is very rewarding to see them finally receive the resources available to them. In particular, it is rewarding to see a homeless patient receive housing. We spend much of our time working with local non-profit housing programs. Having a roof over their head goes a long way to improving their health and healing in the community.¹⁰ Our patients get better right in front of our eyes—it is remarkable and gratifying.

Success Story

One of my patients who was very difficult for others to deal with because of his non-compliant behavior. This patient was homeless for many years, living at a bus stop. Recently, I helped him move into a new apartment with a supportive housing program. It was a long journey of nearly 12 months. Initially, he was non-compliant with taking his medications. I helped him re-connect with his primary care provider (PCP) who was able to help him understand his medication and the side effects of not taking his medication. Now, he takes his medicine because

he understands it better. I have had to encourage him a lot. I go to his doctor's appointments and coach him on questions to ask, which allows him to be more comfortable in communicating with his doctor.

Another patient was a male in his 60s who was homeless for many years. He would stay with family and friends intermittently. He has a long history of chronic health problems. One major barrier to housing was he did not have the appropriate legal documents. I helped him obtain and prepare more than 6 different types documents, including his housing application. I worked with another agency to get one additional document. This patient uses a walker, and it would have been very difficult for him to get these documents on his own. He often expressed frustration with the long lines of people waiting to get documents. I accompanied him to various agencies and waited in line with him. Often, I was able to expedite the process on his behalf. It took about 8 months to obtain all of his documents. These documents allowed the patient to enroll in a subsidized housing program. Now, he has his own home and pays only a portion of his income for rent.

At first, I didn't anticipate spending so much time helping patients get documents for their housing applications. However, it became apparent that housing was very important to support our patients' healing process and help them stay out of the hospital.¹⁰

Advice for New Navigators and Building a Program Like This

It helps if the program is appropriately funded. Additionally, it helps to have a supportive team like we do, members who are community-oriented and are sincerely concerned about people. It is useful to spend time doing some community development work to build a repertoire of community resources. This is needed as a resource net to ensure results in meeting the goals of our patients. It is important to be tolerant of other providers who have different approaches, mainly because our community is made up of diverse groups of people with different perspectives about helping others.

Kehau's Story

Aloha, my name is Kehau Pu'ou. My background is in the medical field and social services. Prior to becoming a navigator, I was an EMT in the hospital setting. It was then that I knew I wanted to be closer to the Native Hawaiian population. I transitioned to the social service field where I worked closely with at risk *keiki* (youth) on the West side of O'ahu. I truly enjoyed working in both medical and social services. They complimented each other. I later returned to school. When it was time to be part of the work force again, a navigator position at QMC crossed my path. At first, I wasn't sure it was for me, but I liked that it was something new at QMC which involved working in the hospital and in the community.

Being chosen to carry this *kuleana* is truly a privilege. It is an honor to represent my *kāpuna* and the mission and vision they set forth. That alone is truly something our team holds at the forefront. We, as navigators, are mission-driven and grounded

in our *kūpuna*. This *kuleana* allows us to *aloha* our patients at the bedside. It is the first contact we have with them to form a relationship. From there, the journey begins. For the most part, by the time they are discharged, our patients are familiar with us and our program, which makes the transition into the community a comfortable start.

Relationships in the Community

Being with our patients in the community allows us to meet service providers, spend time at community health centers, and learn the services out there for our patients. We also see the barriers that prevent our patients from staying connected, or getting connected to the services they need. Establishing *pono* (good, upright, righteous) relationships and working through barriers that occur during our journey are essential for our patients' well-being.

Self-Care

I am grateful to be part of a team that prioritizes cultural *huaka'i* (excursion), which is something we participate in and gather as a team for once a month. A *huaka'i* is an opportunity for us individually and as a team to focus on cultural grounding. We immerse ourselves in Native Hawaiian history and culture by engaging in a culturally-rich activity together. During this time we spend time with one another in reflection and connect to our ancestors and founders. This practice really focuses us, and allows us to nourish our *na'au* (of the heart or mind), which involves spending time with our *'āina* (land), *kai* (ocean), our founders, our *kūpuna*, and with each other. Although we each find our own way to self-care individually, it is when we are together and reflect on our *kuleana* that I am most certain that I am in the place I am supposed to be.

Advice for New Navigators

Our team is diverse in our personalities and life experiences. When we are working together, it is evident that we always have a common goal to serve our people and our community. For someone new, the first thing that comes to mind is to be humble. To be sure that you present yourself with genuine *aloha* and to listen. Our team is well aware of our purpose and our *kuleana*. Regardless of the attention we receive because of the positive outcomes we are achieving for our patients, we are humble. This purpose and *kuleana* is bigger than us. It's about our *kūpuna* and the foundation they built to *mālama* our people and the people of Hawai'i. It is our *kuleana* to continue this and to carry it forward.

Damien's Story

Aloha my name is Damien Hanakeawe. My background is in Hawaiian Studies and Hawaiian Language. Before becoming a navigator, I worked at the Family Treatment Center, which is the child and adolescent behavioral health unit here at QMC. I was recruited from my role there to help start the Native Hawaiian health navigation team. When the navigator role was proposed to me, I asked for an explanation of a day in the life of a navigator, and was told "we're not really sure." I was of-

fered the opportunity to help build the program from scratch, which was very appealing to me.

One of the more meaningful aspects of my job is applying my cultural knowledge to helping patients heal. There is a very specific way Hawaiians communicate with each other when we first meet. Before even mentioning our name, we talk about our *'ohana*, where we were born, and what part of the island we come from. This is done to see what familial connection we share. Once that has been established, we can continue with pleasantries of stating our name and what we do. Even if we are not related, we have learned so much about each other and feel like family. If our patients feel that we share the same values and beliefs, it is the first step in opening the door to allow us to assist them.¹² Once that connection is made in the hospital, it is very easy for the navigator to reconnect with the patient once they have been discharged to the community.

Because of the cultural trauma that has happened to Hawaiians, a lot of the *kūpuna* (elders) have a difficult time trusting Western institutions, especially when it involves health and healing.¹ For Hawaiians, hospitals are often viewed as places devoid of culture and life, where people come to die, sterile institutions filled with people that don't look like them, or talk like them. All they see are medical staff with an agenda, whether it is taking vitals or checking a pain scale. For us as navigators, in the beginning, it is very important that we skip all that. It is more beneficial that we create a connection that is rooted in our Hawaiian-ness.

For example, recently I was called to assist an elderly Hawaiian woman on one of our units. She was refusing to eat, and requested to speak with someone who was fluent in Hawaiian. Upon arrival, a doctor introduced us, and I immediately began speaking Hawaiian to her. Her eyes glossed over, and I quickly realized that she did not understand anything I was saying. She said, "Baby, my Hawaiian isn't that good, can we talk story in English?" "Of course!" I said. "What were you saying?" she asked. I began telling her of my family from Moloka'i. Then she told me about her family and where they were from. Before we knew it, 45 minutes had gone by. We realized we were not related, but in that short time we knew everything about each other. I looked like her. I spoke like her. I thought like her. We shared an understanding that is very unique and special to this place. She realized that although her hospitalization was very difficult, she could depend on me to treat her like I would treat my own *Tātu* (grandmother). Once that connection happens, the rest is easy.

Also, in the beginning it is very important that our patients know that we are here to serve them-- not the doctors, or nurses, but them. We want to understand their needs and hopes, and what it means to be healthy in their eyes. Our job is to support them and help that vision come to fruition.

Challenges

During the genesis of our program, we spent a lot of time meeting with other organizations in the community in hopes of building alliances to better serve our patients. Unfortunately, we have learned which organizations were good at their work, and

which were unreliable. Often we see organizations shut down, or change in the way they function to serve the community. It is important as a team that we stay agile, able to change as the community changes. I'm grateful for my fellow navigators because we can learn from each others' experiences.

Another challenge is trying to assist our patients in a more holistic way. Often our patients suffer from psycho-social detriments that exacerbate their health. For example, one of my patients was constantly being hospitalized for respiratory issues. However, this patient primarily suffered from bouts of depression and often faced conflict within his family. When conflict arose, it would affect his breathing and often lead to hospitalization. I talked with him about the triggers that led to his respiratory failure, and the coping mechanisms he could establish to address those situations.

One of the struggles we face is defining the scope of our practice. If another navigator were to say: "Oh, I went to this homeless encampment and couldn't find my patient, then I walked a mile up the beach hoping to find her," it would not surprise me. That is how we function. Much of what we do goes unseen. Our patients know the dedication we have to them. They know they can call us. To me that is very honorable. It can be hard to know where to draw the line. What are the boundaries for what we do, and how do these boundaries impact the health and well-being of each navigator? These are questions we have not fully answered yet.

Advice for New Navigators

To be a great navigator, you must have a passion to serve the weak and destitute, and to stand and fight for those who cannot fight for themselves. Compassion fatigue is a real thing that affects all of us. However, the greatest lesson I have learned about how to remain compassionate is to constantly root myself in humility. It is not a duty to serve this population; it is a privilege. A bad day in my life is nothing compared to the challenges my patients face daily. That, coupled with the *kuleana* I was taught to serve my *kūpuna*, enables me to serve unconditionally. Patients know the difference between people who help them because it is their job and people who serve them because they care.

For example, I have one patient who becomes tearful and is constantly apologetic because he vents all his frustrations to me. But I remind the patient that it is okay. That is why I am here and I am not going anywhere. I am willing to carry the burden so his family or doctor does not have to. I tell him "You're stuck with me!" It is much better that I take the brunt of his frustration, versus a caregiver refusing to see him because then they would see him as having a bad attitude.

Minky's Story

My name is Jonna "Minky" Ho'opai. I was working for The Queen's Health Systems for some time, both at Punchbowl and on Moloka'i, but I was looking for my purpose in the organization. I had not found my niche. I knew I wanted to be a servant, but I just did not know in what area. So one day I was looking

in human resources and I saw a position as a patient navigator, and the term kind of struck me. Everyone is a navigator in their own way, but we need to identify how we can apply our abilities and skills to serve others. I thought "this is a great program," especially when it stated that we would be serving our Native Hawaiian population.

Most people think navigation is simply about showing others where to go, because the definition of navigation is "wayfinding." In Polynesian navigation or wayfinding, you know your destination, you know your route, and you know how to navigate using the elements around you.¹¹ In patient navigation, we take the time to listen to our patients and to their *'ohana*. The majority of my patients become my family. When I go to appointments, my patient tells the physician, "This is my niece." It is heart-warming.

When I look at the modern Western medical practice, I realize that healthcare has changed dramatically from when I was a little child. The doctor rarely takes time to ask, "How's life? What can we do to help you?" Visits are often about typing on a computer in the electronic medical record instead of engaging. There is a disconnect between the physician and the patient which causes detriment.¹³ As a navigator, I can be the buffer and interpret what the physician is saying to my patient in their language so they understand. I say, "Uncle you have cellulitis." But uncle doesn't know what cellulitis is. So I say, "Uncle you have a *puka* (hole, opening, issue) on your leg. Take this antibiotic to help you. Take care of it by wrapping it and keep it elevated." Then he understands. I reinforce this understanding through weekly engagement, "Uncle, how you doing? How's the leg swelling? Did you elevate it?"

For example, I attended an appointment with a patient and he graduated from his treatment at the wound clinic. He was elated when he got his certificate of care completion. He was even more proud that I pushed him and said, "You can do this. You can care for yourself." As navigators, we don't take the role of a parent, sibling, or family member to do the tasks for our patients. Instead, we give them the tools and encourage their ability to do it for themselves. It is their responsibility to care for themselves. I am here as a support system to advocate when needed. I truly feel that this is my purpose. I was put on earth to be a navigator.

Connecting with Patients

When I meet my patients at the physician's office, I ask the patient to meet me 10 to 15 minutes early so we can connect prior to going in. I want to know: How did they get there? Are they feeling all right? Often, we walk into a physician's office and the patient gets their vitals done and their blood pressure is sky rocketing because they are nervous about the visit. They are wondering: "What am I going to hear today? Is it bad or good news?" So, before the visit, I take time with the patient. We joke around and talk story. I usually start with: "How's the weather today? Did you eat?" It is vital to take the time to put the person at ease, to reassure them it is okay and focus on the human connection. Then I sit with them when they talk to

the doctor. The doctor is speaking directly to the patient. As navigators, we try not to interrupt. It is the physician's time. We listen. It is funny because often my patients will continuously look up at me, looking for that reassurance, with a question on their face of: "Is that right or is that okay?"

How to Empower Patients

One of the things that I do when I am meeting with my patients at bedside is bring an intake form and a goal sheet, with short term goals for their hospital stay as well as goals post-discharge. It is important to identify attainable goals. I want patients to feel they have accomplished meaningful goals within the 30 days. This could be a goal like obtaining a birth certificate or an ID. We also agree on a long-term goal, such as housing or reconnecting with family. The long-term goal needs to be something important to them because I want them to keep striving and pushing to achieve it.

One example is a gentleman who was admitted for sepsis and had a history of leg amputations. He had been homeless, living on the street in his wheelchair for many years. His inpatient goal was to complete taking his antibiotics as prescribed and to work with providers to get stronger and be discharged. His short term goal was to reapply for food stamp benefits which he previously lost. We filled out the necessary applications and submitted it so by the time he was discharged he could get his benefits reinstated. His long term goal was to obtain housing because living in a wheelchair for so many years was difficult. Planning carefully for his housing goal was important in order to ensure that if he obtained housing, he could keep it. It is expensive to live here in Hawai'i, and a new responsibility can be terrifying. I advocated for him to receive prioritization due to his medical conditions and he was awarded a housing voucher. He was able to move into a unit with extremely affordable rent.

Later, I provided budget counseling so he could see his own income versus expenses. We worked together and he learned to manage household tasks. I taught him how to address an envelope in order to mail his rent. We practiced together, including where to put the stamp. He had not done any type of paperwork in over 5 years and prior to that his spouse (now deceased) would typically do it. By the second month, he was able to do it on his own. He called me late one evening to tell me, "I can do it by myself, pay my rent on time by myself." Sharing moments like these with our patients, witnessing their success, is a major reward for us as navigators, like winning the lottery.

Advice for New Navigators

When I was a child, I remember strong community support. When a neighbor fell ill, other neighbors would come over with meals. They would offer rides and say, "Auntie, you gotta go doctors. I'll take you." How do we build our communities back up again? It is important to let people know that they are not alone in this journey and others are here to help. When people feel alone, it's harder for them to heal. Sometimes we have to

sit back and really look at the bigger problem. Often, we're so consumed with finding an answer that we really don't look at all the options first. Part of this job is to take a step back and try to see the whole person and the complexity of their situation. A physician can walk into a patient's room, and say, "This patient has congestive heart failure. Let's refer them to a specialist. Let's order his medication. Let's treat it this way." But it is important to ask: What's causing it? Is it substance abuse? Is it a poor diet? Is it stress from work? Is it family strain? All of these things may contribute to illness. Often physicians or clinical staff are in a rush and do not make the time to talk story, or understand the bigger picture. We don't have enough of the human connection. If we did we would see the benefit from that holistic care and we would see patients doing well and not coming back to the doctor so often.

Discussion

Our KKN program offers relevant, culturally-sensitive care meeting a complex, personalized array of needs for 338 patients in just over one year. During this time, we have been there to support many of our patients on their personal journey. We have ridden the bus side-by-side. We have waited all day in line for documents with our patients. We have attended countless appointments and spent hours on the phone obtaining medications, supplies, or scheduling transportation. We partner with the community to support our patients' journeys and meet service providers to advocate for second chances. We have mowed lawns and helped with personal care when no one else was there. We have driven miles to pick up medications and visit our patients regularly at homeless encampments. We have been a shoulder to cry on and carried their burdens so our patients can focus on healing. The reward is seeing our patients transform in self-confidence, circumstances, and health. We have seen lives touched and families reconnected. We have been there to help our patients move into homes with a warm bed after having spent years of living on street without safety or security. It has been our privilege to share these experiences with you in order to illustrate our dedication to our *kuleana* to *mālama* our people and to build a strong foundation of health and wellness for our community.

Practical Implications

From our collective experiences as navigators we share insights and recommendations that we feel are important to serve this population with respect and compassion.

1. We are 'Ohana, connected. Therefore, we must empower each other.
2. "Aloha with open arms." This is imperative in gaining trust and nurturing those (regardless of race) who need unconditional support in their healing journey.
3. See the whole person and the complexity of their situation in order to build a foundation (*ho'okahua*) for our community.

4. Remember to incorporate the value of “*kōkua*” and “*mālama* community,” values we grew up with.
5. Have a passion and compassion for the weak and destitute. Fight for those who cannot fight for themselves —it is the way of Queen Emma.
6. Be humble (*ha’aha’a*). A great lesson is to root the self in humility and remember this service is not a duty, it is a privilege, which enables us to serve unconditionally.
7. Support and *mālama* each other in the work we do.
8. Be genuine with patients. Listen.
9. Our Hawaiian values—*aloha*, *kuleana*, *mālama*, *ha’aha’a*, and *pono* shape and support how we serve our people.
10. The *kuleana* we have is a privilege, the driving force, given to us by our *kūpuna*, based on the foundation they build to *mālama* our people. It is not about us. It is about our patients.

Our belief system tells us that in order to improve the health and wellbeing of Native Hawaiians and promote healing in our community we must *mālama* the body, the mind, and the spirit.¹⁻² Often we find that medical care is siloed and system barriers create obstacles for patients’ healing. It is crucial that holistic and culturally-sensitive models are developed to support patients.⁸ At QMC, we have a saying “Living the Queen Emma Way.” It means to live with *aloha* and to apply this loving kindness in an genuine, humble, non-judgmental, and supportive way with each other and with patients. Our Queen illustrated *aloha* when she stated, “We, on our parts, must not forget to show...loving kindness, in all ways.”⁴ We follow her footsteps and visit each patient at the bedside with the intention of forming a genuine and meaningful relationship, in the way Queen Emma visited patients in the hospital when she was alive. It is with *aloha* that we are effective in assisting vulnerable, disenfranchised patients with tasks that seem insurmountable like obtaining financial assistance, legal documents, or housing.^{10,13} These services address the underlying social determinants of health that create barriers to healing. In this way we heal our ecosystem.

The culturally-based and patient-centered approaches we have discussed allow us to help our patients navigate through a complex health care system to achieve our mission to support Native Hawaiians in a safe transition from hospital to home, to address basic needs, to connect with supports, to increase long-term sustainability, and to improve patient quality of life. This approach also contributes to achieving positive outcomes that are particularly important to health care systems, such as reduced 30 day readmissions.

Conflict of Interest

None of the authors identify a conflict of interest.

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References

1. Duponte K, Martin T, Mokuau N, Paglinawan L. ‘Ike Hawai’i – A training program for working with Native Hawaiians. *J Indig Soc Dev*. 2010; 1(1):1-24.
2. McCubbin LD, Marsella A. Native Hawaiians and psychology: The cultural and historical context of indigenous ways of knowing. *Cultur Divers Ethnic Minor Psychol*. 2009; 15(4):374-38. DOI: 10.1037/a0016774.
3. Pukui MK, Haertig EW, Lee CA. Nānā i ke kumu look to the source volume 1. Honolulu, HI: Hui Hanai; 1972.
4. Brown KF. *In the footsteps of our founder Nā meheu o na ali’i Reflections on the values of King Kamehameha IV and Queen Emma*. Honolulu, HI: The Queen’s Health Systems; 1996.
5. Queen’s Health Systems Native Hawaiian Health Program. The Queen’s Health Systems Native Hawaiian Health Program Report. <https://www.queens.org/media/file/QHS-Native-Hawaiian-Health-Report-2015.pdf>. Accessed January 12, 2019.
6. Department of Native Hawaiian Health, Center for Native and Pacific Health Disparities Research. University of Hawai’i at Mānoa: Assessment and Priorities for Health & Well-being in Native Hawaiians & Other Pacific People- Summary Report. <http://blog.hawaii.edu/uhmednow/files/2013/09/AP-Hlth-REPORT-2013.pdf>. Published 2013. Accessed April 27, 2019.
7. Department of Native Hawaiian Health, Center for Native and Pacific Health Disparities Research. John A. Burns School of Medicine. University of Hawai’i at Mānoa: Assessment and Priorities for Health & Well-being in Native Hawaiian & Other Pacific Peoples Mele Look. <https://health.hawaii.gov/opcrh/files/2014/11/Assessment-Priorities-for-NH-OPP-Mele-Look.pdf>. Published October 23, 2014. Accessed April 26, 2019.
8. Kaholokula JK, Ing CI, Look MA, Delafield R, Sinclair K. Culturally responsive approaches to health promotion for Native Hawaiians and Pacific Islanders. *Ann of Hum Biology*. 2018; 45(3): 249-263. DOI: 10.1080/03014460.2018.14655593.
9. Handy ESC, Pukui MK. *The Polynesian family system in Ka’u, Hawai’i*. Honolulu, HI: Mutual Publishing; 1998.
10. Quensell ML, Taira DA, Seto TB, Braun KL, Sentell TL. I need my own place to get better: Patient perspective on the role of housing in potentially preventable hospitalizations. *J Health Care for the Poor and Underserved*. 2017; 28 (2): 784-797. DOI: 10.1353/hpu.2017.0074.
11. Kawaharada D. Wayfinding, or Non-Instrument Navigation. Polynesian Voyaging Society. <http://archive.hokulea.com/navigate/navigate.html>. Accessed April 28, 2019.
12. Shahbazi M, Kumar M, Mawson A, Lavigne D A, Dove C. Effectiveness of community health workers in healthcare delivery: evidence from the field. *J Health Dispar Res Pract*. 2018;11(3):62-86.
13. Sentell TL, Seto TB, Young MM, et al. Pathway to potentially preventable hospitalizations for diabetes and heart failure: a qualitative analysis of patient perspectives. *BMC Health Serv Res*. 2016;16:300. DOI:10.1186/s12913-016-1511-6.

Community Linkage Through Navigation to Reduce Hospital Utilization Among Super Utilizer Patients: A Case Study

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Abstract

This paper describes a program model that uses hospital- and community-based patient navigators and social workers to link super utilizers of the hospital system with existing community resources to improve access to services and appropriate care while lowering hospital utilization. A case study is used to illustrate a typical super utilizer patient who is homeless and has psychosocial issues. The navigator's and social worker's roles and approaches are described, and specific community linkages for this case are listed. The navigator discusses her experience and lessons learned working with this patient. Program and patient outcomes are shared.

Highlights

- A hospital- and community-based navigation program connects super utilizer patients to existing community supports, increasing access to care and services while reducing unnecessary hospital utilization.
- A patient-centered, harm reduction framework and low-threshold navigation services can increase super utilizer engagement.
- A case study illustrates a typical super utilizer profile, examples of community linkages, and reduction in utilization.

Introduction and Program Model

In Hawai'i, emergency department and hospital utilization by those who are homeless increases every year.¹ Between January 2016 and September 2018, The Queen's Medical Center (QMC) was the site of 59% of all emergency department visits by people who are homeless.² In response to this trend, QMC developed Queen's Care Coalition to provide post-discharge navigation services by community health workers (navigators) to high-need, high-cost patients who account for a disproportionately high amount of health care utilization.³ The model of care deployed to address this growing concern reaches outside the confines of the traditional acute care facility to engage patients in the context of their daily lives. Deeply familiar with this context, community health workers see past the boundaries of traditional medical care. They dive deeper into the social issues and lived experiences that impact patients' lives and health. They often identify social issues that are undetectable to others. Their insights and strong relationships with patients allows community health workers to connect patients with appropriate resources in a meaningful way, making the community health worker model of care ideal for addressing this problem.

The patients served by Queen's Care Coalition, referred to as *super utilizers*, are defined by the program as having 15 or more Queen's Emergency Department (QED) visits within a quarter, 3 admissions to QMC within a quarter, or a total of 15 days hospitalized at QMC in a quarter. In addition to meeting utilization criteria, patients must have identified social determinants of health needs. According to the US Department of Health and Human Services, "Social determinants of health are

conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks."⁴ The Queen's Care Coalition rationale for screening high utilizers for social determinants aligns with the US Department of Health and Human Services' message to "move beyond controlling disease to address factors that are root causes of disease."⁴ By attending to underlying social determinants, health care providers have the ability to impact patient health outcomes while decreasing acute care utilization and healthcare costs.⁵ The social determinants most often identified for Queen's Medical Center super utilizers are in the areas of employment, food insecurity, housing instability, poverty, discrimination, social cohesion, incarceration, health literacy, crime, and violence.

Patients who meet program criteria are identified by utilization reports generated from electronic medical record and chart review data. The team is comprised of 5 navigators, 1 Licensed Clinical Social Worker (LCSW), and 1 part-time Medical Director/QED Physician. Four navigators have completed the Community Health Worker (CHW) certificate program through Kapi'olani Community College. Navigators carry relatively small caseloads of 10-12 patients, which allows for frequent, sometimes daily contact with patients. Intense navigation services are provided for 30-90 days. Services are driven by the navigators with the LCSW providing clinical supervision to the navigators and therapeutic intervention to patients as needed. The medical director assists with case reviews for medical recommendations and drives program growth and development on a macro level.

Throughout navigation services, Queen's Care Coalition navigators use an approach rooted in harm reduction. According to the Harm Reduction Coalition, harm reduction is "a set of practical strategies and ideas aimed at reducing negative consequences associated with drug use."⁶ Queen's Care Coalition navigators expand this definition to include the goal of reducing the negative consequences associated with not just drug use, but also with homelessness and high-risk health behaviors including non-adherence to medical recommendations and medication noncompliance. Navigators focus on positive changes and work with patients without judgement; they do not require patients to stop using drugs, or to comply with all recommendations as a condition of services and support.⁷ Navigators meet with patients "where they are" both literally and figuratively. Most contact consists of face-to-face visits in patients' chosen location, including parks, sidewalks, and homeless encampments. No-shows are expected and not penalized. Incremental positive changes are celebrated.

The navigator first encounters the patient at their bedside during a QED visit or hospitalization and asks for consent to provide services. Navigators begin building rapport by “talking story” and identifying patients’ strengths. Navigators encourage self-determination by allowing patients to identify their current needs and barriers to accessing healthcare and services in the community. Together the patient and navigator create and agree upon an action plan to begin to address those needs after discharge from QMC.

While building this foundation of trust with the patient, the navigators concurrently collaborate with community resources already in place—such as behavioral health case managers, insurance service coordinators, and agencies that assist people who are homeless—to activate the patient’s support system for ongoing care and to obviate duplication of services. At the end of the navigation period, a transitional meeting is held to establish a warm hand-off to community providers, with concrete plans to continue forward momentum.

Program Outcomes

Initial goals for Queen’s Care Coalition included reduction in QED utilization by 10% and reduction in number of days hospitalized at QMC by 10%. From the program’s inception in November 2017 to January 2019, 143 individuals were provided navigation services. Of these individuals, 89% (127) were homeless prior to navigator intervention, 55% (79) had a documented history of substance use, and 45% (64) had a behavioral health diagnosis. To date, the success of the program has exceeded initial goals, with QED utilization decreasing by 75% and hospitalized days decreasing by 33% for those super utilizers who received navigation services.⁸ The financial impact, to both the healthcare organization and the health plans for all super utilizers who have received Queen’s Care Coalition navigation services is currently being analyzed and preliminary data is promising.

Queen’s Care Coalition has expanded and now includes 3 navigation teams, each serving a unique population: *Ke Ku’una Na’au* serves Native Hawaiian patients admitted to QMC who are at risk for readmission due to chronic medical conditions, behavioral health problems, and/or psychosocial stressors; myConnections navigation team screens high risk Medicaid and Medicare beneficiaries for social determinants and provides referral and navigation services; and the super utilizer navigators continue to serve the same population described above. The following case study illustrates the navigator role in providing low-threshold, harm-reduction navigation services and community linkages to increase super utilizers’ access to healthcare and reduce unnecessary hospital utilization.

Case Presentation

Mr. D was a 48-year-old white man with a past medical history significant for liver disease, anemia, frequent falls due to unsteady gait, asthma, chronic pancreatitis, chronic wounds related to methicillin-resistant *Staphylococcus aureus* infections, seizures related to alcohol withdrawal, bipolar disorder, and

alcohol use disorder. He had a history of unsheltered homelessness on O’ahu for the past 15 years. Mr. D had multiple emergency room visits due to alcohol intoxication, falls, and assaults, and had hospitalizations related to flare-ups of chronic medical conditions. While in the QED, Mr. D often reported tingling in his limbs and difficulty with word-finding and speech, which prompted referrals to specialists. In the 4 months prior to navigator intervention, Mr. D was seen in the QED 12 times, resulting in 5 hospital admissions and 44 hospitalized days.

Despite having multiple chronic medical and behavioral health conditions, Mr. D had not visited a primary care provider (PCP) in 3 years and took medications for his chronic conditions only sporadically, on the occasions when he received a 3- or 7-day supply in the QED. Mr. D reported that the medications provided were frequently stolen on the street. Mr. D had a Medicaid health plan. Mr. D did not follow up with the specialists he was referred to. While in the QED, Mr. D often expressed a desire to quit drinking alcohol. He was referred to and accepted by a substance abuse detoxification program from the emergency department approximately 15 times in 5 years. Upon completion of the 7-day social detoxification program, he returned to homelessness and began drinking again. He consistently declined referrals to residential substance abuse treatment centers. Mr. D also declined referrals to homeless shelters due to being unable/unwilling to follow shelter rules and wanting to remain with his girlfriend, who was also homeless. He had no identification documents and received no government assistance.

Navigator Intervention and Outcome

The navigator first met Mr. D during an emergency room visit when he presented for a wound on his foot. She explained the program, received Mr. D’s consent to navigation services, and proceeded with an initial meeting that was conversational. During the initial meeting, the navigator identified that Mr. D’s strengths included dedication to his girlfriend, a sense of humor, a polite and personable demeanor, and knowledge of many existing homeless services. Mr. D was discharged from the QED and the navigator arranged to meet with Mr. D the following day at the park where he lived in with his girlfriend.

During their next meeting, at the park, the navigator asked Mr. D questions about his background, his current daily routine, and his hopes for the future. The navigator gleaned that Mr. D valued health because he expressed concern about his increasingly limited mobility, hindering his ability to protect his girlfriend on the street. Mr. D shared that he was often afraid of what would happen to him if his girlfriend left since she helped steady him when he walked. The navigator learned that Mr. D did not know if he had a PCP or how to access one and that his identification had been stolen years ago and he had not replaced it. Mr. D explained that he usually began drinking around noon and would consume “about a gallon of vodka a day, every day.” While he acknowledged his alcohol intake was “maybe too much” he did not identify this as a barrier to care. Mr. D and his girlfriend were clear that the security of being in stable housing together was their priority.

Over the next 90 days, the navigator continued to meet with Mr. D and his girlfriend multiple times per week and connected them with existing community service providers to work toward Mr. D's goal of permanent housing and increased wellness. Listed in no specific order, the following community linkages were made:

- *Partners in Care Coordinated Entry System* for permanent supportive housing voucher
- *Institute for Human Services* for housing navigation into permanent housing
- *Institute for Human Services, Hale Mauliola* for temporary housing until permanent housing was secured
- *Queen Emma Clinic* for primary care, social work, referrals to specialty doctors, disability verification
- *Legal Aid Society of Hawai'i* for documentation necessary for housing
- *Hawai'i Medical Service Association (HMSA) Quest* for service coordinators for arranging home health services and providing ongoing medical care coordination
- *QMC staff chaplain* for spiritual support
- *QMC Outpatient Speech Therapy*
- *QMC Outpatient Occupational Therapy*
- *Queen's Counseling Services* for psychiatry services
- *Hawai'i Pacific Neuroscience* for outpatient neurology
- *Hawai'i Department of Human Services* for general aide
- *Gino Clinic* for psychotherapy
- *Islands Hospice* for end-of-life care

Initially the navigator attended all appointments with Mr. D, but as his self-navigation skills increased, she encouraged him and his girlfriend to schedule and attend appointments on their own. The navigator used motivational interviewing techniques to address Mr. D's ambivalence about alcohol use and he chose to cut back, drinking only on the weekends so he would be able to make it to all his appointments. He and his girlfriend secured permanent housing and he continued to attend outpatient PCP and specialty appointments in the community. He initiated psychiatry and psychotherapy to address previously untreated bipolar disorder and anxiety.

Mr. D's QED and hospital utilization decreased. In the 4 months following the navigator's intervention, Mr. D presented to the QED 2 times and was admitted once, resulting in 4 hospitalized days. Mr. D's total cost of care (which includes all inpatient and outpatient services island-wide, as well as ambulance utilization) 6 months prior to navigator intervention was \$92,550 and 6 months post navigator intervention was \$23,067; a total cost-of-care savings of \$69,483 to the payer. The month the navigator began working with Mr. D was counted in the pre intervention cost.

At the completion of Queen's Care Coalition navigation services, the navigator arranged a transitional meeting with Mr. D, his girlfriend, and his community care team to provide a warm hand-off. The navigator provided Mr. D with a binder of information detailing each person's role, contact information, and next steps so Mr. D knew who to call for assistance. About

6 months after termination of navigation services, Mr. D was readmitted to Queen's Medical Center for liver failure. The treatment team discussed options for care and Mr. D elected to return home with hospice services. Mr. D died at home in his bed with his girlfriend at his side 5 days later.

Social Worker Role

As defined by the Queen's Care Coalition program model, throughout this case, the navigator and the program social worker consulted in supervision sessions at least once a week to discuss Mr. D's progress toward his goals, problem solve around the barriers to reaching those goals, and analyze the navigator's feeling about this case. A collaborative, trusting relationship between the program social worker and navigator allowed for both to safely share their thoughts and feelings without fear of judgment. During supervision, the social worker also provided the navigator with education on available resources, helped facilitate referrals, and made recommendations for next steps. In this case, the navigator and social worker agreed that more intensive support would benefit Mr. D and his girlfriend, and the social worker met with Mr. D and the navigator multiple times both in the hospital and in the community to provide substance use education, motivational interviewing, and brief family therapy. Mr. D identified that the additional support of the social worker made him feel that he had a whole team of people helping him toward his goals. The navigator and social worker both expressed feeling grateful to have each other to process the emotions they experienced when Mr. D died.

In a hospital setting, social workers may find super utilizer patients difficult to engage due to patients' mistrust of the system and perceived misaligned goals. In this case, the Queen's Care Coalition program social worker greatly valued and relied on the patient relationship developed by the navigator, and the patient insights the navigator gained to enable and even inspire clinical interventions otherwise inaccessible to the social worker. The program social worker reported increased effectiveness and professional satisfaction due to working with navigators in this program model.

Lessons Learned from the Navigator's Perspective

Mr. D was one of the first patients the navigator encountered in her role as a patient community navigator with Queen's Care Coalition. Mr. D's main goal was to have a home before Christmas so that he and his girlfriend could celebrate Christmas in a safe place with a Christmas tree. The navigator used his identified goal and motivated him to keep moving forward, instead of focusing on goals determined by his medical treatment team. The navigator also learned that, when she also attended the appointments, Mr. D was less likely to be treated as "invisible" or immediately labeled as "non-compliant" by the physicians or staff in the clinics. With the navigator sitting next to him at the appointments, he was treated as a "person of worth" and his concerns about his medical condition were heard. The navigator believes this led to necessary referrals to specialty clinics.

The navigator learned about available resources, the value of community collaboration, and the necessity of partnerships with involved service providers to continue supporting the changes made. During their time together, Mr. D taught the navigator to never give up, to listen, to not judge, and always to have hope. All of these lessons have served as building blocks for the navigator to use with subsequent patients.

Practical Implications

Superutilizer patients with psychosocial issues are often labeled “resistant to care” and “non-compliant” in the medical field. This case study illustrates that with support from a hospital-based navigator, members of this population may be responsive to care, their health outcomes can be improved, and unnecessary hospital utilization can be reduced. While the Queen’s Care Coalition has found significant success with this model, patients who are incarcerated while receiving navigation services, or those who exhibit violence or experience psychosis, can be beyond the program’s ability to engage and meaningfully impact. Nonetheless, patient navigators are ideally suited to play a central role in connecting many super utilizer patients with existing community resources. The combination of a patient-centered, harm-reduction framework, advocacy skills, and a deep knowledge of community resources allows navigators to enhance the delivery of care in a manner that is both effective and cost reducing. This partnering of a navigator with a patient improves access to care, compliance with discharge plans, and strengthens patients’ ability to self-navigate in the future.

Conflict of Interest

None of the authors identify any conflicts of interest.

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References

1. Hawaii Health Information Corporation. Homelessness and the impact of healthcare, an overview. <https://hhic.org/downloads/homelessness-and-the-impact-on-healthcare-an-overview/>. Published September 2017. Accessed April 7, 2019.
2. Hawaii Healthcare Association of Hawaii. Lailima Data Alliance: Homelessness Data. 1/1/2016 – 9/30/2018.
3. Cohen S. The Concentration of Health Care Expenditures and Related Expenses for Costly Medical Conditions, 2012. Statistical Brief #455. Agency for Healthcare Research and Quality, Rockville, MD. http://www.meps.ahrq.gov/mepsweb/data_files/publications/st455/stat455.shtml. Published October 2014. Accessed January 1, 2019.
4. US Department of Health and Human Services. Healthy People 2020 an opportunity to address societal determinants of health in the United States. <https://www.healthypeople.gov/sites/default/files/SocietalDeterminantsHealth.pdf>. Published July, 26 2010. Accessed April 7, 2019.
5. Schroeder SA. We Can Do Better - Improving the Health of the American People. *New England Journal of Medicine*. 2007;357(12):1221-1228. doi:10.1056/nejmsa073350.
6. Principles of harm reduction. Harm Reduction Coalition. <https://harmreduction.org/about-us/principles-of-harm-reduction/>. Accessed April 7, 2019.
7. Hawk M, Coulter RWS, Egan JE, et al. Harm reduction principles for healthcare settings. *Harm Reduction Journal*. 2017;14(1). doi:10.1186/s12954-017-0196-4.
8. The Queen’s Medical Center Super Utilizer Data Base, 2018. (This database is the private property of QMC used in an official capacity as part of our data collection and reporting role in the Queen’s Care Coalition.)

Community-Clinical Linkages Supported by the Centers for Disease Control and Prevention: The Hawai'i Department of Health Perspective

Lola Irvin MEd and Tetine L. Sentell PhD

The Hawai'i Department of Health (DOH) Chronic Disease Prevention and Health Promotion Division (CDPHPD) is very pleased to share, in this special issue, the results of public and private partnerships that bridge clinical practices and community interventions. Some of the articles presented here reflect work that was funded and evaluated to meet the cooperative agreements between the Centers for Disease Control and Prevention (CDC) and the DOH. Between June 2013 and September 2018, the DOH was awarded both non-competitive and competitive grants that included requirements and resources for achieving certain outcomes. When overlaid, these grants provided Hawai'i a momentous opportunity to establish statewide community-clinical linkages.

In one example, the "State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associated Risk Factors and Promote School Health" program, also referred to as the 1305, required the DOH work toward 3 short-term outcomes. The first was, through state, community, worksite, school, and early childcare education (ECE) environments, to promote and reinforce healthful behaviors and practices related to diabetes, cardiovascular health, physical activity, healthful foods and beverages, obesity, and breastfeeding. The second was to improve the quality, effective delivery, and use of clinical and other preventive services to address the prevention and management of hypertension and diabetes. Finally, the third was aimed at increasing community-clinical linkages to support prevention, self-management, and control of diabetes, hypertension, and obesity. The long-term outcomes were to improve the prevention and control of hypertension, diabetes, overweight, and obesity in Hawai'i.¹

Another program, the "Heart Disease and Stroke Prevention Program and Diabetes Prevention — State and Local Public Health Actions to Prevent Obesity, Diabetes, and Heart Disease and Stroke," is also called the 1422. It was funded solely by the first dedicated funding stream in the United States to be statutorily established to strengthen the national public health system and help reduce the growing cost of private and public health care.² This funding, called the Prevention and Public Health Fund (PPHF), was established under the Patient Protection and Affordable Care Act of 2010 (ACA). The 1422 had 2 major components. The first focused on prevention through environmental strategies that promote health and support and reinforce healthful behaviors. This included strategies to build support for healthy lifestyles, especially for high-risk populations. The second component required health system interventions to improve the quality of health care delivery for the populations with the most pronounced disparities in

hypertension and prediabetes care. This component included implementing community-clinical linkage strategies to support heart disease, stroke, and diabetes prevention efforts. The short- and long-term outcomes of the 1422 closely paralleled those of the 1305, but the 1422 maintained a population focus. It was restricted to adults, and emphasized the populations in Hawai'i at greatest risk for death and disability due to diabetes, heart disease, stroke, and obesity.³

Both the 1305 and the 1422 reflected the systemic change initiated at the federal level through the ACA. Under the leadership of Thomas Frieden MD, MPH, the CDC's approach to both grants implemented a public health framework, and held that 6 key areas should be prioritized by organizations and coalitions to successfully implement and sustain interventions: innovation, evidence-based technical package, management, partnerships, effective communication, and political commitment.⁴

With this in mind, the DOH identified and recruited new partners that were key stakeholders in the community-clinical linkage strategies, such as Mountain-Pacific Quality Health, Queen's Clinically Integrated Physician Network, and Straub – Hawai'i Pacific Health. Although these partners were already engaged in the clinical aspects of health care, new conversations were needed to build a focus on public health, including building trust, finding a shared vocabulary, and establishing mutually concordant goals.

From a public health perspective, the DOH had experience working on population-based approaches, such as advocating for tobacco prevention legislation, and with capacity-building and system changes, such as promoting Hawaii's bikeshare program. However, applying a population-based approach to clinical practice on this scale was a new endeavor. The DOH found alignment between the system-change strategies of the 1305 and the 1422 and the new performance and reporting requirements imposed on the clinical partners by the Centers for Medicare and Medicaid Services (CMS) Merit-based Incentive Payment System (MIPS) and Advanced Alternative Payment Models (APMs). The delays in the procurement processes to fund partner engagement under the CDC cooperative agreements posed challenges in meeting milestones related to shared goals. But through the 1305 and 1422, the DOH was able to fund program capacity, training, electronic health records (EHR) enhancements, and evaluation.

The CDC also introduced the collective impact framework, which aimed to support collaborations with the state public health agency as the facilitator and funder. This framework requires that collaborations meet 5 conditions: common agenda, shared measurement, mutually reinforcing activities, continuous

communication, and a backbone organization. Meeting these important goals takes a considerable amount of time, as the various organizations within a collaboration may have different core visions, goals, and perspectives. But through continuous communication, building trust, and establishing the common measures, the DOH and its partners have been able to progress towards mutually reinforcing but differentiated and coordinated activities. Ideally, there would be time for these activities to crystalize through an organic collaborative process, as espoused by the collective impact framework.⁵

There were challenges in our pathway. Milestones for mutual reinforcement strategies and processes were set on an artificially fast pace, which added strain to communication and relationships. Specifically, the grants imposed prescribed strategies, performance measures, and timeframes, and identified the CDC-preferred “mutually reinforcing activities.” But these sometimes ran counter to the strategies identified by partners or the DOH. Moreover, although the grants included a rigorous, pre-selected package of nationally-recognized interventions required for programs focusing on pre-diabetes and diabetes management, they did not include the equivalent for programs on hypertension management. Cultural adaptations, which the DOH and clinical partners viewed as innovations, required that the CDC approve them as fitting within their proposed community-clinical linkage strategy.

Despite these challenges, mutual reinforcements strategies were ultimately achieved. These included enhancing EHR capacity to identify patients with undiagnosed diabetes, pre-diabetes, and high blood pressure, employing community health workers to provide diabetes prevention and hypertension management interventions in community health centers, and implementing Choose Healthy Now, a point-of-decision-making intervention in community convenience stores.

This special issue highlights some of these successes and presents deeper information about the outcomes of collaborations that resulted in synergy and opportunities for innovation to meet the needs of high-risk populations. Particularly relevant to this special issue, we achieved important milestones in creating community-clinical linkages that will help us as we press on toward the goal of ensuring that every child and adult in Hawai‘i has access to funded, evidence-based programs to meet their health needs, and also lives in an environment that promotes health and a high quality of life. We strive toward a future Hawai‘i, in which healthy choices are the default option and are happy to see successes across practice and policy, for example, the September 2018 Hawai‘i Medicaid QUEST Integration Section 1115 demonstration five-year extension waiver request includes possible community-clinical linkage initiatives; and, in 2019, the State Legislature passed House Bill 1453 (HB 1453 CD2) that authorizes the DOH to establish a community paramedicine program and the State Medicaid program to provide coverage.

Important new partnerships have been created and existing relationships were strengthened from this funding over time. We changed systems, policies, and environments to work towards our goals to promote health and support and reinforce health-

ful behaviors in our state. We believe these changes ultimately brought life-changing benefits to the communities involved. The DOH thus gives thanks to the CDC and other national organizations for having the foresight to integrate public health into the goal of improving the US healthcare system, and for providing the tools, funding, and expectation that we would create the conversations and relationships to make this possible.

In 2018, the DOH CDPHPD applied for and received new state funding, referred to as 1815, that supports the prevention of diabetes, heart disease, and stroke, to address the health needs of adults in our state. This funding will allow partnerships to continue to improve the community-clinical linkages, including improving bi-directional referrals, creating new algorithms and resource lists within the EHR system, recruiting employers as stakeholders in chronic disease management, and continuing the engagement of community health workers in team-based care. Other sections in our division have critical activities, including community environmental change, worksite wellness, school health, and ECE programs, that did not receive new CDC funding, but will continue extending their important mutually reinforcing activities and activities through state resources. We believe this will have important benefits for our state. We hope to leverage our successes to continue to be one of the healthiest states in the nation and achieve equitable health outcomes for all.

Conflict of Interest

None of the authors identify a conflict of interest.

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References

1. Centers for Disease Control and Prevention. Funding Opportunity Announcement (FOA) DP13-1305, “State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associated Risk Factors and Promote School Health Risk,” CDC-RFA-DP13-1305. U.S. Department of Health and Human Services, March 2013. Catalog of Federal Domestic Assistance Number: 93.945.
2. Centers for Disease Control and Prevention. Prevention and Public Health Fund. <https://www.cdc.gov/funding/pphf/index.html>.
3. Centers for Disease Control and Prevention. Funding Opportunity Announcement DP14-1422PPHF14, National Center for Chronic Disease Prevention and Health Promotion, “PPHF 2014: Heart Disease and Stroke Prevention Program and Diabetes Prevention – State and Local Public Health Actions to Prevent Obesity, Diabetes and Stroke – Financed Solely by 2014 Prevention and Public Health Funds.” CFDA number 93.757. June 2014.
4. Frieden TR. Six components necessary for effective public health program implementation. *Am J Public Health*. 2014;104(1):17–22. Doi:10.2105/AJPH.2013.301608.
5. Hanleybrown F, Kania J, Kramer M. Channeling change: making collective impact work. *Stanford Social Innovation Review*. 2012;1-8.

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