An Interim Report on the Provision of Prenatal Care for Pregnant Mothers Experiencing Homelessness in Hawai‘i

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Abstract

The State of Hawai‘i ranks third in the nation for homelessness. Homelessness disproportionately affects the health care of pregnant mothers and their children. These homeless persons are at risk for malnutrition, physical and psychological trauma, injuries and chronic illnesses, and have difficulty accessing healthcare and social services. With the generous support of a Waiwai Ola grant from AlohaCare, a non-profit health plan in Hawai‘i, the Maternal-Fetal Medicine physicians at the University Health Partners of Hawai‘i created a pilot program with a midwife and medical assistant to provide prenatal health care and social services for homeless mothers on the island of O‘ahu. This innovative project has given the midwife and medical assistant opportunities to perform needs assessments for homeless mothers and pilot new mobile health devices out in the field that can be optimized for delivering prenatal and postpartum health care for the most vulnerable populations of homeless mothers and their newborns.

Keywords

Homelessness, Pregnancy, Healthcare, Mobile devices, Telehealth, Community outreach, Social services

Abbreviations

EHR = Electronic health record
HIPAA = Health Insurance Portability and Accountability Act
HOME = Homeless Outreach and Medical Education
HUD = Housing and Urban Development
MFM = Maternal-fetal medicine
MI-Home = Midwifery integrated home visitation program
UHP = University Health Partners of Hawai‘i

Introduction

The United States (US) Department of Housing and Urban Development (HUD) defines a person as experiencing homelessness if he or she “lacks a fixed, regular, and adequate nighttime residence.”[1] There are currently over half a million people experiencing homelessness in the US, around 35% of whom are unsheltered and living on the streets or in other places unintended for human residences.[2] The top 4 states, as well as the District of Columbia, with the highest rates of homelessness contain 45% of the entire homeless population of the US despite comprising just 20% of the overall population. More people experience homelessness within tolerable climate zones. The state of Hawai‘i itself has the third highest rate of homelessness per 10,000 inhabitants in the nation (2.7 times the US rate).[2] In Hawai‘i, the homeless and houseless populations within our communities are seen on the sidewalks, in tent cities at public parks, boat harbors, and underneath overpasses.

A significant issue facing society is how to properly care for persons experiencing homelessness, including providing healthcare when they have an external locus of control. For example, in a qualitative study interviewing homeless individuals, many attributed life circumstances to their current status, with one person saying, “I don’t have any control over who my parents are, where I lived growing up.”[3] It is difficult for people experiencing homelessness to prioritize medical care when many of them lack basic needs such as a stable source of food and water as well as a safe place to sleep at night. A lack of affordability of healthcare prevents many homeless people from receiving healthcare as well. While there are avenues of free or reduced care, much of these services still require some sort of copayment, government-approved identification, or a local mailing address that many people experiencing homelessness are unable to provide. The importance of healthcare and other preventive health services is often not well conveyed due to limitations such as mental illness, substance use disorder, and a general lack of awareness.[4] Many people lack the ability or capacity to fill out the required paperwork and feel that there are inadequate services available to assist them in doing so. The complexity of accessing healthcare services in Hawai‘i is difficult even for those persons with insurance and a high school education. Additionally, people experiencing homelessness believe that there is a lack of compassion within healthcare providers who have unrealistic expectations for self-directed care. Many people experiencing homelessness feel that they are being treated less as a patient that a physician wants to help, and more like a requirement that a physician is burdened to treat.[3] These themes bar many homeless persons from seeking the proper medical care for their ailments, resulting in excessive visits to the emergency room and worsening health status as their conditions go partially or incompletely treated.

In 2011, data from the Pregnancy Risk Assessment Monitoring System estimated that 4% of all pregnant women in the US were homeless, with the highest rates in Illinois, Oregon, and Washington.[4] An estimated 2% of pregnant women in Hawai‘i reported homelessness. In general, women experiencing homelessness were at higher risk for low birth weight, less likely to bring their infant in for well-child visits, and more likely to live in the Western United States.[4] Children are disproportionately affected by homelessness, with approximately 1.6 million, or 1 in 45, children experiencing homelessness in 2010.[5] Homeless children are at high risk for nutritional deficiencies, developmental delay, chronic illnesses, trauma, and other behavioral issues. Hawai‘i is known to be one of the most racially diverse states

in the US with no dominant racial majority and approximately 25% of the population being of mixed race.[6] Moreover, infant mortality rates in Native Hawaiian/Pacific Islanders were 60% higher than in non-Hispanic Whites in 2017, so homelessness only widens those disparities.[7]

Women experiencing homelessness are more likely than women who are housed to report physical violence, substance use, low educational level, obesity or underweight, chronic physical and mental health conditions, and decreased access to traditional health care services.[5] Many barriers have been identified that hinder pregnant mothers experiencing homelessness from seeking prenatal care and accessing routine prenatal appointments. One qualitative analysis from the Midwestern US demonstrated that pregnant mothers experiencing homelessness faced difficulties with health literacy, lack of transportation, lack of child care, lack of peer support, lack of material necessities, difficulty with stress management, and poor access to telecommunication.[8] In addition to these barriers to care, pregnant mothers experiencing homelessness in Hawai‘i face healthcare challenges that also affect housed pregnant women living with geographical constraints imposed by an island state, with limited access to specialty care on the neighbor islands, and the only neonatal intensive care units located on the island of O‘ahu.

The island of O‘ahu is divided by 2 large mountain ranges that geographically limit the ability for housed and unhoused pregnant mothers living in rural regions to easily gain access to maternal health care services. These services are primarily based in urban Honolulu, where the only 2 referral hospitals for the State are located. Pregnant women living in rural regions of the island, especially those with substance use disorder, diabetes, history of preterm birth, who do not qualify for health insurance (Medicaid or private), are particularly vulnerable to higher rates of perinatal and infant mortality. The optimization of pregnancy outcome for both mother and fetus in these high-risk pregnancies often require weekly to thrice weekly visits to a healthcare center for fetal assessment in lieu of long-term inpatient hospitalization, which is expensive and separates the pregnant mother from their family.

One healthcare resource available to the homeless population in Hawai‘i on the island of O‘ahu is the Hawai‘i Homeless Outreach and Medical Education (HOME) Project, a University of Hawai‘i John A. Burns School of Medicine student-run free clinic staffed by premedical and medical students, residents, faculty, and community attending physicians. The HOME Project, which includes the use of a mobile health van for outreach to more rural areas, provides free medical services at various locations to sheltered and unsheltered homeless persons on the island. Nevertheless, adequate pregnancy care requires numerous visits and resources that would be likely to overwhelm the resources available at the HOME Project.

Methods

The Midwifery Integrated Home Visitation Program (MI-Home) was created as a process and quality improvement project within the University Health Partners of Hawai‘i (UHP) with a generous grant from August 2019 to July 2020 from AlohaCare, a local, non-profit health plan. This project was conducted in concordance with the Declaration of Helsinki and was approved by the legal and compliance officers of UHP for protection of these vulnerable clients. This pilot outreach program is one innovative solution to providing care to mothers throughout O‘ahu who are having difficulty with accessing prenatal and postpartum healthcare services by integrating modern mobile health technologies with a traditional community health worker model that was recommended by the World Health Organization.[9] In collaboration with maternal-fetal medicine (MFM) physicians, the MI-Home program is a creative partnership between a certified nurse-midwife and a program medical assistant. They are trained to provide prenatal, postpartum, newborn, lactation, family planning care, and assistance services in a place that is convenient, safe, and private, such as in the client's home, shelter or place of refuge.

Experiential data was collected during the first 6 months of program implementation. Before the first client visit could take place, several unique administrative challenges needed to be addressed in order to launch such a novel community-based program in the state of Hawai‘i. Legal and billing compliance concerns were vetted by the UHP leadership, including how to address the issue of prenatal care services being provided in a non-traditional "place of service" and how these services could be coded for billing purposes to comply with current Centers for Medicare and Medicaid Services regulations. For professional liability concerns and for the safety of the outreach providers, the midwife and medical assistant were advised to go out to meet the client as a team. Mobile electronic health record infrastructure needed to be created. Phlebotomy, access to medications, and transportation for clients' health and human services were also addressed. Health Insurance Portability and Accountability Act (HIPAA) compliant texting communication systems are being explored as patients experiencing extreme poverty often depend upon cellular telephones as their lifeline to emergency medical services which they can text from when they have access to free Wi-Fi. Memoranda of understanding with other public health entities were drafted with community partners (Table 1), including the H4's Joint Outreach Center in Kāne‘ohe to meet with mothers experiencing homelessness for pregnancy care instead of meeting on a park bench or under a tarp. A variety of mobile health devices (egmHealth) were purchased for evaluation in the field (Table 2). The program launched with a booth at O‘ahu's Convoy of Hope in August 2019, a community event and health fair held at the Aloha Stadium to provide information and humanitarian services for homeless and underserved persons.

Results

The first client visit was conducted in a 100 square foot room in a boarding house and lasted three hours. The woman was self-referred; she had suffered multiple physical and psychological traumas and presented with complex mental health disorders and cognitive disability, in addition to her pregnancy. The midwife sat on the floor, intently listening and documenting, as the pregnant mother sat on her sheetless bed and recounted her story. Near the end of the initial visit, she was transported by a shared ride service to a local laboratory to have prenatal bloodwork performed as the midwife drove alongside so that the client would feel safe. The team recognized that the client's need for case management services was the top priority. This care coordination required applications for general services (MedQuest, Supplemental Nutrition Assistance Program, Temporary Assistance for Needy Families, Special Supplemental Nutrition Program for Women Infant Children), which take an average of one month to complete per client. Continuity of care during follow up visits addressed the client's health care needs while trust was built between the client and team. Support services were successfully addressed, including bringing a notary public to her residence to complete documents so that she could obtain a copy of her birth certificate in order to obtain a valid identification card. In a matter of two months, the follow-up visits were able to be reduced from two hours to one hour per visit.

The midwife was able to debrief with the MFM physician after the initial visit to discuss what healthcare services would be needed. The midwife was also able to learn about multiple emergency room visits by the same woman to different hospitals and reconcile the differences in antibiotic prescriptions that were given at each site within a one-week period, to prevent any medication errors. With future appointments, the midwife has the ability to collaborate with MFM physicians while she is in the field through an encrypted tablet with HIPAA-compliant video for telehealth services. This ensures clients with high risk obstetric conditions have appropriate care plans and empowers the team with the ability to adjust it in real-time to prevent missed specialty appointments, and unnecessary hospitalizations. In addition, the HIPAA-compliant texting communication system being explored will give the client 24/7 access to the midwife to prevent unnecessary trips to the emergency room.

Table 1.Referral Partners for the MI-Home Project

Current Partners*
Mary Jane Shelter
Hale Mauliola Navigation Center
RYSE shelter (Residential Youth Services & Empowerment)
Waimānalo Health Center
Kokua Kalihi Valley Health Center
Koʻolauloa Health Center
Kahuku Medical Center
Haleʻiwa Health Center
Puʻuhonua O Waiʻanae
Hawaiʻi Job Core Center
Kāneʻohe& Chinatown Joint Outreach Centers
Waikiki Health Center
Adventist Health Castle
American Congress of Obstetrics and Gynecology, Hawaiʻi Section

*Anticipated future partners include: The Queen's Medical Center, Hawaiʻi Health & Harm Reduction Center, Aloha United Way, Hawaiʻi Pacific Health—Kapiʻolani Medical Center; Behavioral Health Services

Table 2. Equipment with Mobile Capabilities Under Evaluation in the MI-Home Project

Device	Function
Mobile Smart Phone	To communicate with clients, receive referrals, and make arrangements for clients; encrypted and secured by UHP Compliance Office.
Portable Wi-Fi Hotspot (Jet Pack)	For secure Wi-Fi access in the field to connect other mobile devices.
Welch Allyn Vital Signs Monitor	Utilizes Bluetooth to populate vital signs directly into EPIC EHR (Electronic Health Record).
GE Logic V2 portable laptop ultrasound	Basic prenatal ultrasound to check presentation, fetal heartbeat, amniotic fluid volume, and placenta locations. Includes Trice for wireless transmission of images for other providers to view and share images with clients instead of paper printing.
Sense4Baby	Wireless electronic fetal monitoring that transmits Non-Stress Test tracings for antenatal fetal surveillance to internet "cloud" for remote real time viewing and storage instead of printing.
iPad with HIPAA compliant Zoom	Telehealth video service to consult with physicians.
Laptop with EPIC	For charting in the field using EPIC HER.
Lyft Application on mobile phone	Connected to company approved card tied to grant for transporting clients.
Portable newborn scale (precision 1g [6kg] 2g)	Has Wi-Fi capability to upload infant weight to EPIC.
Glucometer (Accucheck Aviva)	Has Wi-Fi capability.

After three months, 10 clients were enrolled into the MI-Home program, all referred by community partners, and have continued their participation in this program for prenatal care for the duration of this pregnancy. The MI-Home team quickly identified that all their clients were experiencing complex situations requiring integration with care coordination services and mental health providers, in addition to the direct healthcare services provided by the midwife. The medical assistant's role evolved to serving as a care coordinator and program assistant by developing an individualized care plan according to the patient's needs and goals. She is now fulfilling human services needs during these "home" visits which include providing referrals for medical, food stamps, financial assistance, pregnancy-related education, early child care and early intervention services, nutrition, housing, transportation, and other human services needed to improve the quality of life for the individual and their family. The medical assistant is working closely with the midwife and other health care specialists to ensure continuity of care and re-integration back into the healthcare community and the community at large.

Discussion

Providing prenatal healthcare to mothers experiencing homelessness has provided a magnifying lens to survey the state of health care in Hawai'i. The MI-Home project has already identified worrisome barriers to providing prenatal care to mothers in our state including access to outpatient psychiatric services, telecommunications services that meet HIPAA compliance requirements, harassment and misunderstanding from neighbors, difficulty navigating the insurance system, legal considerations in providing health care in a rented room or on a park bench, and the unrealistic expectations of the medical establishment that requires pregnant mothers to navigate their appointments and health care decisions without considering the other social determinants of health.

As the cost of living and health care in Hawai'i rises, so does the crises of persons experiencing homelessness. The health of our communities is a reflection of the health of our children and families. As supported by the medical literature and this pilot project, the health of our pregnant mothers has the strongest impact on the health of our children, whether they are insured, underinsured, uninsurable (under current laws), or experiencing homelessness. The MI-Home project has given us the opportunity to investigate the challenges within the health care system of Hawai'i, pilot new mobile health technologies in the field to optimize prenatal care, and learn how to navigate a disconnected system for the most vulnerable populations of women and children in our state. The authors hope that lessons learned from implementation of this program will inspire the next generation of health care workers to work with legislators, health plans, and healthcare systems to create a sustainable infrastructure that supports a healthier Hawai'i.

Conflict of Interest

None of the authors identify a conflict of interest.

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