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HAWAIʻI JOURNAL WATCH
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RISK FACTORS FOR EARLY KIDNEY DISEASE IN HAWAI‘I IDENTIFIED

Filipinos and Native Hawaiians face higher risk of early kidney damage than other ethnic/racial groups in Hawai‘i, and this may be partially explained by their chronic disease rates. Researchers led by Merle R. Kataoka-Yahiro DrPH, of the School of Nursing and Dental Hygiene, gathered data from 2944 community-dwelling adults at kidney disease screening programs in Hawai‘i from 2006 through 2017. Results adjusted for age and sex showed Native Hawaiian participants were 1.50 times more likely, and Filipino participants were 1.44 times more likely, than non-Hispanic white participants to have an elevated albumin to creatinine ratio (ACR) in their urine, an early marker of kidney damage. When the researchers adjusted for major kidney disease risk factors, Filipino participants remained 1.36 times more likely to have an elevated ACR, but the difference between Native Hawaiian and white participants became nonsignificant. The researchers concluded that targeted interventions are needed to delay disease progression and improve outcomes among Native Hawaiians and Filipinos in the US.


EXPERIENCES DURING FOSTER CARE AFFECT YOUNG ADULTS’ SOCIAL LIVES

The experiences of children in foster care may influence their choice of friends and social contacts during young adulthood. Researchers led by Amanda Yoshioka-Maxwell PhD, of the Myron B. Thompson School of Social Work, investigated the characteristics of the social networks of homeless young adults with a history of foster care. They surveyed 184 homeless former foster youth in California in 2015 and 2016, asking about risk behaviors, foster care experiences, social networks, and the behaviors of the people in their networks. Results showed youth who first experienced homelessness before exiting foster care were more likely to have social contacts who engaged in condomless sex, and youth with higher numbers of foster care placements were more likely to have social contacts who used methamphetamine. More research is needed to identify ways to reduce the risk factors associated with foster care, such as homelessness during foster care and number of placements.


RISK FACTORS FOR OVERWEIGHT OR OBESITY IN CHILDREN ON GUAM

Children on Guam are at high risk of developing overweight or obesity (OWOB). Researchers including Lynne R. Wilkens DrPH, of the University of Hawai‘i’s Cancer Center, gathered data from 865 children ages 2 to 8 who participated the Children’s Healthy Living Program, to investigate the risk factors for developing OWOB. Results showed 27.4% of children in the study were affected by OWOB. Children with OWOB were significantly more likely to suffer from sleep disturbances, and consumed more sugar-sweetened beverages than healthy weight children. Neither children’s fruit and vegetable intake, nor their meeting screen-time recommendations differed significantly between those with OWOB and those at a healthy weight. There was a high prevalence of family stressors, such as food insecurity, among all study participants. The researchers concluded that discussions of healthy cultural behaviors should be included in obesity interventions.


KĀNAKA MAOLI VIEWS ON HEALTH AND RESILIENCE

Integrating holistic practices, including connections to the ‘āina (land), is important in improving the health of Kānaka Maoli (Indigenous Peoples of Hawai‘i). Researchers including Samantha Keaulana, a doctoral student in the Office of Public Health Studies, conducted interviews and small focus groups with 12 Kānaka Maoli adults in Waimānalo to learn about their perspectives on health. Results of the qualitative analysis showed the Kānaka Maoli view the connection between ‘āina and people as spiritual and reciprocal, and important to health and resilience. They also viewed physical, mental, and spiritual health as dependent on a deep connection with ‘āina. Finally, they viewed the impacts of colonization as a disruption to their values and connections with ‘āina, and said that community initiatives were needed for community healing. The researchers concluded that addressing the health disparities experienced by Kānaka Maoli stemming from colonization will require healing the displacement and disconnection from ‘āina felt by Kānaka Maoli.


DATA FROM POISON CONTROL CENTERS YIELD IMPORTANT PUBLIC HEALTH INFORMATION

The system designed to comb through millions of calls to Poison Control Centers and identify incidents of public health significance (IPHSs) does indeed provide high-quality data to state and local public health professionals. Researchers including Alvin C. Bronstein, MD, of the Hawai‘i State Department of Health, analyzed the system, in which toxicologists at the American Association of Poison Control Centers and the Centers for Disease Control and Prevention jointly monitor the data, looking for anomalously high call volume, specific clinical symptoms, or certain defined types of cases. Results showed 1431 of the 39 107 anomalies identified during 2013 to 2018 represented IPHSs. The agent most commonly associated with IPHSs was carbon monoxide. The researchers concluded the system assists public health personnel in responding to outbreaks and epidemics.

Meeting Women’s Requests for Intrauterine Device and Contraceptive Implant Discontinuation: An Exploratory Survey of Physicians

Bliss Kaneshiro MD, MPH; ZoeAnn Kon BS; Mary Tschann PhD; Amanda Williams PhD; Kasey Kajiwara MD; and Rení Soon MD, MPH

Abstract

Long acting reversible contraceptives (LARC), including intrauterine devices (IUDs) and contraceptive implants, can support an individual in meeting their reproductive goals by allowing them to prevent pregnancy effectively. These devices can also limit an individual’s control over reproduction because they generally require an in-person visit to a health care provider for removal. Returning for another visit may be logistically challenging for many individuals who may need to arrange for transportation, childcare, or take time off from work. Effectively negotiating with a provider to request removal may be additionally challenging for medically underserved and disenfranchised people who may not feel empowered to do so. The objective of this study was to assess providers’ willingness to honor patients’ requests for IUD and contraceptive implant removal on the day of the request. A survey was conducted in which clinicians were presented with scenarios of women requesting IUD or implant removal. Clinicians were asked what they were most likely to do. A total of 105 clinicians were surveyed. The responses of 60 clinicians who inserted IUDs and 57 who provided the contraceptive implant were included in the analysis. When asked about same-day removal of an IUD or implant from a dissatisfied patient who requested removal, 40% stated they would remove the implant, and 57% stated they would remove the IUD on the day of the request. Findings from this study suggest many clinicians would be unwilling or unable to accommodate a patient’s request for device removal at the time of their visit. This delay or refusal represents a significant barrier for patients and has implications for reproductive autonomy that should be further explored.

Keywords

intrauterine device, implant, reproductive justice, discontinuation, contraceptive coercion

Introduction

The term reproductive justice was invented in 1994 by black women who recognized that the women’s rights movement did not adequately defend the rights of women of color, indigenous people, and transgender people. The SisterSong Women of Color Reproductive Justice Collaborative is a national membership organization that was formed from 16 organizations representing women of color in 1997. SisterSong defines reproductive justice as “the human right to maintain personal bodily autonomy, have children, not have children, and parent children in safe and sustainable communities.” Reproductive justice is a framework that examines the intersectionality of social institutions, economics, the environment, and culture on an individual’s reproductive life. The reproductive justice framework acknowledges that multiple factors affect an individual’s ability to control their own reproductive experience, including their interactions with the health care system.

Contraceptive coercion occurs when an individual promotes or discourages pregnancy by controlling another person’s contraceptive behavior. Contraceptive coercion typically occurs between 2 individuals in a personal relationship and involves behavior intended to maintain power and control in a relationship. In a broader, historical context, organizations and governments have introduced coercive policies and practices related to contraception and reproduction, typically targeted at disadvantaged groups. These policies and practices vary widely from involuntary sterilization in the 1970s to incentivizing the use of specific contraceptive methods in the 1990s. In the 1990s, legislators in 13 states introduced measures to provide women receiving public assistance with financial incentives to obtain the contraceptive implant Norplant. Such policies and practices can also fall under the category of contraceptive coercion.

Studies demonstrate long acting reversible contraception (LARC), including contraceptive implants and intrauterine devices (IUDs), have robust efficacy, safety, and cost-effectiveness. Initial enthusiasm for IUDs and contraceptive implants brought many to herald LARC as “top-tier” or “first-line” contraceptives that should be presented to every individual as the optimum method. LARC can support an individual in meeting their reproductive goals by allowing them to prevent pregnancy effectively. These devices can also limit an individual’s control over reproduction because they generally require an in-person visit to a health care provider for removal. Most women who choose to regain fertility must have access to medical care and a provider who is willing to remove the device. Although some women choose to remove their own IUD, many are not counseled about this option or do not feel comfortable doing so. Health researchers and advocates now caution that enthusiasm for LARC should be tempered with individualizing care based on an individual patient’s preferences and resisting the differential promotion of LARC methods among certain groups of individuals.

In 2 recent qualitative studies, patients describe provider preference for LARC methods in which providers communicated either explicitly or implicitly that the patients should not remove their IUD despite the patients’ request to do so. Given the effectiveness of LARC at pregnancy prevention, a tension can
exist between the long-targeted public health goal of reducing unintended pregnancy on a population level and an individual’s personal preferences for a particular contraceptive method. With a reproductive justice lens, contraceptive counseling practices should empower each individual to make the best decision for themselves in their circumstances. Using 2 hypothetical scenarios, this study describes whether clinicians were willing to remove IUDs and implants at the request of a patient or if they delayed or refused removal. Delaying removal of a LARC or refusing to remove a device altogether are different clinician responses to a patient’s request for removal. However, both represent barriers to patient-centered care. The American College of Obstetricians and Gynecologists (ACOG) has advocated for insertion of an IUD or implant at the time the patient decides that they want to use this contraceptive method as long as one is reasonably certain a patient is not pregnant. ACOG cites 2-visit IUD insertion protocols, where a patient makes a request at the first visit and returns at a later time to have the IUD inserted, as a barrier to care. Recent studies demonstrated that only 54% of women returned to have an IUD inserted when a 2-visit protocol was used. Another study found only 32% of individuals returned to have an IUD inserted when a 2-visit protocol was used. While removal procedures may add 5 to 10 minutes to a patient’s visit and require access to certain instruments and equipment (speculum and ring forceps for IUD removal, scalpel, local anesthetic, needle, syringe, and forceps for contraceptive implant removal), if clinicians advocate for contraceptive counseling and insertion of an IUD or implant at a single visit, clinicians should also be willing to remove a device on the same day as the request to discontinue the device.

Methods

A prospective survey was administered to a convenience sample of providers across a variety of medical specialties, at various levels of training, to explore how providers would respond to 2 hypothetical scenarios describing patients who requested removal of an IUD or contraceptive implant. Clinicians attending 3 conferences (Internal Medicine Grand Rounds, Obstetrics and Gynecology Research Day, and a family medicine conference) in Honolulu, Hawai’i were asked to complete an online survey between April and June 2016. Conference attendees included resident, faculty, community physicians (MD or DO), and advanced practice clinicians (APRN, CNM, PA). Clinicians were provided with a link to the online survey printed on a sheet of paper posted at the registration desk when they entered the conference room. Clinicians could complete the survey on a smartphone, tablet, or laptop. It is estimated that approximately 170 clinicians attended the 3 conferences. All participants provided informed consent before completing the online survey and could opt out of any of the questions. No incentives were offered for survey completion.

Participants provided demographic information (age, gender, specialty, years in practice) and information about contraceptive provision in their practice. Clinician responses were included in the analysis if the clinicians were currently inserting IUDs or implants. Clinicians were asked 2 questions about contraceptive service provision, “How many patients do you counsel a month about birth control?” and which best applies to you, (1) I do not counsel patients about the IUD as a form of birth control, (2) I counsel patients about IUDs and refer them to another provider for placement, or (3) I counsel patients about IUDs and place the IUD myself. For questions about IUD discontinuation, clinicians who responded, “I counsel patients about IUDs and place the IUD myself” were included in the analysis because these clinicians would have the experience, training, and supplies to remove devices. Clinicians were asked similar questions about the contraceptive implant, and those who answered that they did not insert the contraceptive implant themselves were excluded.

Two separate hypothetical scenarios on IUD and implant discontinuation with responses that used a Likert scale (see below) were included. The survey was pilot tested with 5 clinicians for readability before administering the survey to a convenience sample. The first scenario stated, “Name is a 29-year-old Gravida 1 Para 1 who has been using a hormonal IUD (Levonorgestrel IUD) for the last 2 years. She states that she has become dissatisfied with the IUD. Name will not provide specific reasons why she doesn’t like the IUD, only stating that she wants it removed. She tells you that she does not want to become pregnant in the next 2 years. After providing counseling about the normal side effects, risks, and benefits of the IUD, what are you most likely to do?” Note: Gravida 1 Para 1 indicates that the patient had been pregnant once and gave birth once. The second scenario stated, “Name is a 17-year-old Gravida 0 who has not been pregnant previously) who has been using a hormonal implant (Nexplanon) for the last 6 months. She states that she has become dissatisfied with the implant. Name will not provide specific reasons why she doesn’t like the implant stating that she wants it removed. She tells you that she does not want to become pregnant in the next 2 years. After providing counseling about the normal side effects, risks, and benefits of the contraceptive implant, what are you most likely to do?” Participants selected 1 of the following options: (1) I would not remove the IUD/implant, (2) I would not remove the IUD/implant on that day. I would have her return for another visit if she still wants it removed, (3) I would remove the IUD/implant on that day only if she agrees to use another method, or (4) I would remove the IUD/implant.

Reliability and validity testing was not conducted. The survey was administered with Qualtrics Version 2016 (Qualtrics, Provo, Utah). Though Qualtrics can ensure that only unique IP addresses are allowed to take a survey, this feature was not enabled because the reliability of the wireless internet service at all locations was not consistent. Respondents had to restart a survey if they were disconnected because of a poor wireless internet connection. If 2 different surveys came from the same
IP address with a similar date and time stamp, the survey in which the respondent answered more questions was included in the analysis. For example, if 1 survey had responses to the first 3 questions and a second survey from the same IP address with a similar date and time stamp had answers to all questions, only the second survey was included in the analysis. Descriptive analysis was performed using SPSS Version 25.0 (IBM, Chicago, IL). In this exploratory survey, P values were reported, though, given the limited sample, statistical testing for associations was not an objective of this study. This study received institutional review board exemption (University of Hawai‘i Committee on Human Studies 21833).

Results

Approximately 170 conference attendees were notified of the study though the exact number of conference attendees was unknown. Of the 105 clinicians who completed the survey, the 60 who reported that they inserted IUDs and the 57 who reported that they inserted the contraceptive implant were included in the analysis. Fifty-five inserted both IUDs and implants, 5 inserted only IUDs, and 2 inserted only implants. The demographics of the study population are presented in Table 1 and Table 2.

Table 1. Demographics of Survey Participants by Response Regarding Intrauterine Device (IUD) Discontinuation

<table>
<thead>
<tr>
<th>IUD response</th>
<th>n (%)</th>
<th>I would not remove the IUD that day and would have her return for another visit. n (%)</th>
<th>I would remove it on the day only if she agrees to use another method. n (%)</th>
<th>I would remove the IUD. n (%)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>60 (100)</td>
<td>22 (37)</td>
<td>7 (12)</td>
<td>31 (57)</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>18 (30)</td>
<td>6 (33)</td>
<td>1 (17)</td>
<td>9 (50)</td>
<td>.81</td>
</tr>
<tr>
<td>Female</td>
<td>41 (68)</td>
<td>16 (39)</td>
<td>3 (10)</td>
<td>21 (51)</td>
<td></td>
</tr>
<tr>
<td>No response</td>
<td>1 (2)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>1 (100)</td>
<td></td>
</tr>
<tr>
<td>Age (Years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 or younger</td>
<td>13 (22)</td>
<td>5 (39)</td>
<td>1 (8)</td>
<td>7 (54)</td>
<td>.80</td>
</tr>
<tr>
<td>31–40</td>
<td>18 (30)</td>
<td>6 (33)</td>
<td>1 (6)</td>
<td>11 (61)</td>
<td></td>
</tr>
<tr>
<td>41–50</td>
<td>15 (25)</td>
<td>4 (26)</td>
<td>3 (17)</td>
<td>4 (26)</td>
<td></td>
</tr>
<tr>
<td>51 or older</td>
<td>11 (18)</td>
<td>4 (36)</td>
<td>3 (27)</td>
<td>4 (36)</td>
<td></td>
</tr>
<tr>
<td>No response</td>
<td>3 (5)</td>
<td>1 (33)</td>
<td>0 (0)</td>
<td>2 (67)</td>
<td></td>
</tr>
<tr>
<td>Years in Practice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.50</td>
</tr>
<tr>
<td>Currently in residency</td>
<td>23 (38)</td>
<td>9 (39)</td>
<td>2 (9)</td>
<td>12 (52)</td>
<td></td>
</tr>
<tr>
<td>Completed residency in the last 10 years</td>
<td>8 (13)</td>
<td>2 (25)</td>
<td>0 (0)</td>
<td>6 (75)</td>
<td></td>
</tr>
<tr>
<td>Completed residency ≥ than 11 years ago</td>
<td>29 (48)</td>
<td>11 (38)</td>
<td>5 (17)</td>
<td>13 (45)</td>
<td></td>
</tr>
<tr>
<td>Number of Patients You Counsel Per Month About Birth Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.24</td>
</tr>
<tr>
<td>Less than 1 per month</td>
<td>2 (3)</td>
<td>1 (50)</td>
<td>0 (0)</td>
<td>1 (50)</td>
<td></td>
</tr>
<tr>
<td>1 to 5 per month</td>
<td>14 (23)</td>
<td>8 (57)</td>
<td>0 (0)</td>
<td>6 (43)</td>
<td></td>
</tr>
<tr>
<td>6 to 10 per month</td>
<td>7 (12)</td>
<td>4 (57)</td>
<td>1 (14)</td>
<td>2 (29)</td>
<td></td>
</tr>
<tr>
<td>More than 10 per month</td>
<td>37 (62)</td>
<td>9 (24)</td>
<td>6 (16)</td>
<td>22 (71)</td>
<td></td>
</tr>
</tbody>
</table>

Roughly a quarter of participants who reported inserting IUDs or implants were obstetrician gynecologists (27% IUDs, 25% implants), and a quarter were family medicine physicians (25% IUDs, 26% implants). One person who identified as an advanced practice clinician inserted IUDs (2%). However, nearly half of the respondents did not report their specialty (47% IUD, 49% implant). Of the clinicians who inserted IUDs, 98% reported that they also prescribed or provided injectable contraception (depot medroxyprogesterone acetate) and combined hormonal contraceptives. Among those who inserted contraceptive implants, 98% also provided the other contraceptive methods.

Of note, some respondents inserted both IUDs and implants, so the demographics of 55 individuals are presented in both Table 1 and Table 2. However, respondents were presented with 2 separate scenarios regarding LARC discontinuation, so answers to questions about IUD or implant discontinuation are not duplicated. When asked if they would remove an IUD from a patient dissatisfied with the IUD following clinician counseling about the normal side effects, risks, and benefits of the IUD, 57% stated they would remove the IUD on that day, 37% stated they would not remove the IUD that day and would have the patient return for another visit for removal, and 12% reported...
they would remove the device only if the patient agreed to use another method (Table 1). When asked if they would remove an implant from a patient who was dissatisfied with the implant following physician counseling about the normal side effects, risks, and benefits of the implant, 40% would remove the implant that day, 54% would have the patient return for another visit for removal, and 4% would remove the device only if the patient agreed to use another method. One individual (2%) stated they would not remove the implant for the patient in the scenario.

### Discussion

This study suggests a substantial proportion of women who wish to discontinue an IUD or implant would not be able to have the device removed on the day they requested. Given the exploratory nature of this survey, providers were not asked why they would delay removal; thus, conclusions cannot be drawn about their motivations. The motivation for delaying removal is important, however, especially considering how this survey reflects upon reproductive autonomy and contraceptive coercion. Therefore, further research in this area is warranted. There are many possible explanations for delaying IUD or implant removal. Implant removal can be straightforward and quick or time-consuming, and it is not always possible to predict how long it will take to remove a contraceptive implant in any particular patient. IUD removal typically takes 5 minutes or less and is less likely to be difficult or complicated. Inclusion of only providers who inserted IUDs or implants would suggest that these providers have the necessary equipment for IUD or implant removal in their clinical space. A significant number of individuals did not report their specialty making this data less reliable, so we were unable to determine if non-obstetrician gynecologists were more or less likely to have patients return on a different day for removal.

Subjective criteria may play a role. Providers may have found it difficult to reconcile the hypothetical patient’s stated desire to not become pregnant with their request to remove a highly effective contraceptive method and may have sought to delay removal as a means to deter removal. Other studies have described how provider enthusiasm for the IUD could result in impaired reproductive autonomy for patients. A qualitative study of patients requesting IUD removal noted that providers communicated a preference, either explicitly or implicitly, for...
IUD continuation. In a mixed-methods study where family planning visits at different clinical sites were audio-recorded, a small number of counseling visits were viewed as “inappropriate” where women appeared to be pressured to choose an IUD, and their concerns about the method were dismissed, or their preferences were challenged.

LARC methods were described as “first-line” contraceptives because they were framed as “forgettable,” meaning little effort beyond insertion was required on the part of the user to maintain high efficacy for many years. These qualities made IUDs and implants particularly useful for “high-risk” populations who are disproportionately affected by unintended pregnancy and could have difficulty ensuring access to and compliance with methods that require more frequent refills or visits to a health care provider. However, patient reproductive autonomy can be impaired when provider efforts shift away from ensuring access for all individuals and shift toward insistence of LARC for high-risk populations.

The interaction of race, ethnicity, and socioeconomic status can impact contraceptive recommendations. Though these factors were not explored in the current study, future studies should probe how these factors affect provider recommendations and what can be done to improve health care provider’s ability to meet patients’ requests for contraceptive discontinuation at the time of their request. In other studies, IUDs were differentially recommended to racial minority women compared to white women. If race can affect contraceptive recommendations, it is not unreasonable to hypothesize that it could also affect provider willingness to accommodate requests for discontinuation, and this should be more thoroughly explored.

Regardless of the motivations of each respondent, findings from this study have implications for reproductive autonomy. A patient’s request for LARC removal may be delayed by the clinician for simple logistic reasons such as a provider not being able to accommodate an extra 5 to 10 minutes with the patient at that particular visit or having to attend to another patient with an urgent concern. However, regardless of the rationale, when this occurs, the patient experiences a delay in discontinuing a method of contraception they no longer want, resulting in the patient leaving the office with a contraceptive device implanted in their body that they no longer wish to be there. Patients routinely change insurance types or lose their insurance altogether, which can be a barrier to returning to care. Patients may have to arrange for time off from work or find childcare to attend a visit with a health care provider. Some offices do not allow parents to bring young children into an examination room when they have a pelvic examination or a procedure performed. Returning for another visit may be particularly difficult for the medically underserved who may not feel empowered to negotiate with a provider and request removal at the same visit, even though they realize they face challenges in returning for an additional visit.

ACOG has stated that 2-visit IUD insertion protocols are a barrier to contraceptive access. Advocating instead for insertion of an IUD or contraceptive implant at the time of the request as long as it is reasonably certain a patient is not pregnant, If health care providers advocate for contraceptive counseling and insertion of an IUD or implant during a single visit, they should also be willing to remove a device on the same day that it is requested.

The proportion of providers who reported they would not remove the device at all is very small but indicates some patients may experience significant barriers in discontinuing a LARC method. Providers who would only remove the device if the individual agreed to use another method also represent a problematic group as they were willing and able to remove a device on the day the patient requested, but only when the hypothetical patient limited their reproductive decisions.

This study’s findings are exploratory given the small number of clinicians surveyed, and larger studies are necessary to infer associations. Only a small sample of clinicians in Hawai‘i was surveyed; therefore, results may not be generalizable to a national sample. However, these descriptive analyses provide insight into some of the barriers individuals face when requesting the removal of contraceptive devices, and this could be the springboard for further studies in this area.

When a person chooses an IUD or implant, they relinquish the ability to self-discontinue the contraceptive method and must rely on healthcare providers to respect their reproductive decisions. If they encounter a particular health care provider who delays or refuses contraceptive device removal, a patient must explore other options for removal. Patients can find another provider or health care center, but this can be more or less difficult for any particular patient based on some of the potential structural barriers previously identified. Patients describe a hesitancy to use IUDs and implants because of the inability to self-discontinue and frustration when providers are reluctant to remove the device. The findings of this study draw attention to the possibility of compromised autonomy in discontinuing IUDs and implants and the need for awareness of a reproductive justice framework when a patient requests discontinuation of contraception.

**Conflict of Interest**

None of the authors identify a conflict of interest.

**Disclosure Statement**

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References
Our Mothers Are Dying: The Current State of Maternal Mortality in Hawai’i and the United States

Melanie Maykin MD and Stacy Pai-Jong Tsai MD, MPH, MCR

Abstract

In the United States, maternal mortality, defined as all deaths during pregnancy, childbirth, and up to 365 days after the end of pregnancy, is among the highest of all developed nations. For every 1 maternal death, there are more than 100 life-threatening complications that occur related to pregnancy. However, maternal morbidity and mortality do not affect all mothers equally. Black and indigenous people are at the highest risk for pregnancy-related complications and death—they are up to 5 times as likely to die from childbirth than white women. To understand this nationwide epidemic, cases of maternal death must be thoroughly reviewed, including the medical, social, and societal circumstances surrounding them. The state of Hawai’i formed the Maternal Mortality Review Committee in 2016 to review cases of maternal mortality, collect accurate data, and develop strategies for prevention. Twenty-five maternal deaths occurred in the state of Hawai’i from 2015 to 2017. More than half of these deaths were deemed preventable. Combined data show that mental health disorders played a significant role in maternal mortality, and approximately a quarter of cases involved substance use. Twenty-three percent of maternal deaths occurred in Native Hawaiian and Pacific Islander women, even though they make up a smaller proportion of women in the state. The collection and analysis of these data are the first steps toward understanding and reducing maternal morbidity and mortality in Hawai’i. Most notably, the striking ethnic disparities in maternal deaths and the preventable nature of many cases demand our immediate attention.

Keywords

maternal mortality, maternal morbidity, health disparities, racial/ethnic disparities, maternal mortality review committees

Abbreviations

ACOG = American College of Obstetricians and Gynecologists
CDC = Centers for Disease Control and Prevention
MMRC = Maternal Mortality Review Committees
MMRIA = Maternal Mortality Review Information Application
NHOPI = Native Hawaiian and Other Pacific Islander

Introduction

In 1986, the Centers for Disease Control and Prevention (CDC) initiated national surveillance of pregnancy-related deaths due to significant gaps in data surrounding causes of maternal mortality. The number of reported pregnancy-related deaths increased from 7.2 deaths per 100,000 live births at the outset of surveillance in 1987 to a high of 18.0 deaths per 100,000 live births in 2014. The current maternal death rate in the United States is the highest among developed nations at approximately 700 cases per year and black and American Indian/Native Alaskan women are disproportionately affected. A black or indigenous woman is up to 5 times more likely to die in pregnancy or up to a year after pregnancy than her white counterpart. Moreover, for every 1 maternal death, regardless of ethnicity, there are more than 100 women who suffer a serious life-threatening morbidity, such as stroke, eclampsia, or organ failure.

Efforts to review maternal deaths are not a novel practice. For nearly 100 years, many states and jurisdictions have funded Maternal Mortality Review Committees (MMRCs) for the purposes of prevention. These are multi-disciplinary committees that convene to comprehensively review deaths of women during or within a year of pregnancy. MMRCs have access to clinical and non-clinical information, including vital records, medical records, and social service records to fully understand the drivers of maternal mortality, complications of pregnancy, and associated disparities. This information serves as a foundation for developing impactful, targeted interventions. However, these groups have mostly worked independently, which impedes standardized data collection and information-sharing between committees. The rising rates of maternal deaths despite medical advances highlight the need for accurate data collection, standard definitions across review committees, and the inclusion of information regarding access to care in addition to race and ethnicity to implement strategies that effectively reduce maternal mortality. This article aims to increase awareness around this epidemic, describe the processes by which maternal deaths are reviewed, present state-level data, and to serve as a call to action to improve the safety of women.

Hawai’i’s MMRC (HMMRC) was formed in 2016 and is comprised of a 22-member panel, including representatives from public health, social work, obstetrics and gynecology, anesthesiology, maternal-fetal medicine, emergency medicine, nursing, midwifery, forensic pathology, behavioral health, patient advocacy groups, and community-based organizations. The aims of HMMRC are to conduct comprehensive, multi-disciplinary, and protected reviews of maternal deaths in the state, to identify factors associated with those deaths, and to make recommendations for systems changes to improve health care services for women in Hawai’i. This article presents data from the review of maternal mortality cases in the state of Hawai’i from 2015 to 2017.

Methods

The HMMRC convened in 2017 and reviewed maternal deaths occurring from 2015 to 2017. Their summary of this data is
presented here. As such, this article was determined to be non-human subject research. In addition to the data reviewed by HMMRC specific to Hawai‘i, pooled data from the western region of the American College of Obstetricians and Gynecologists (ACOG), known as ACOG District VIII, which includes data from Hawai‘i (2015–2016), Arizona (2016), Colorado (2008–2015), and Utah (2015–2016) are presented for comparative purposes.

HMMRC meets annually to review maternal deaths that occurred during the previous year. To ensure quality data review, the committee utilizes the Maternal Mortality Review Information Application (MMRIA). This application, developed by public health and medical experts, standardizes data collection, organizes information, and enables committees to comprehensively identify and assess maternal mortality cases. Moreover, MMRIA provides a repository for the collection of clinical and non-clinical information surrounding a woman’s life and death, which helps facilitate review. It also includes documentation of committee deliberations on (1) whether the death was related to pregnancy, (2) if it could have been prevented, (3) factors that contributed to the death, and (4) recommendations to prevent future deaths. Lastly, MMRIA provides standardized indicators common to most pregnancy-related deaths that can be used for surveillance, monitoring, and examining maternal mortality. MMRIA defines maternal mortality terms as follows:5

Pregnancy-associated death – the death of a woman while pregnant or within 1 year of the termination of pregnancy, regardless of the cause. These deaths constitute “maternal mortality”; within this overarching category are pregnancy-related deaths and pregnancy-associated, but not related deaths. 

Pregnancy-related death – the death of a woman while pregnant or within 1 year of the end of a pregnancy, regardless of the outcome, duration or site of the pregnancy–from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes.

Pregnancy-associated, but not related death – the death of a woman during pregnancy or within 1 year of the end of pregnancy from a cause that is not related to pregnancy (eg, a pregnant woman dies in an earthquake).

Pregnancy-related mortality ratio – the number of pregnancy-related deaths per 100,000 live births.

**Results**

There were 25 cases of maternal mortality in the state of Hawai‘i from 2015–2017 that underwent review (Table 1). Fifty-two percent occurred on O‘ahu, and 48% occurred on neighbor islands, including Hawai‘i, Kaua‘i, and Maui. Hawai‘i is known to have a high prevalence of multi-ethnic individuals. Still, when stratified by a single-race identifier, 44% of deaths occurred in Native Hawaiian and Other Pacific Islander (NHOPI) women, 32% in Asian women, and 24% in all other races, which included white women. For comparison, in 2015, the racial demograph-ics of women in Hawai‘i was 22% NHOPI, 38% Asian, and 21% white.6 Almost two-thirds of deaths (64%) occurred in women less than 34 years. Maternal mortality was slightly lower among women with less than a high school education or a general education diploma (32%) compared to those with a college degree or higher (36%).

The HMMRC thoroughly investigated each maternal death and circumstances surrounding those cases (Table 2). Of the 25 deaths, 9 were pregnancy-related, 11 pregnancy-associated, but not related deaths, and 5 were unable to be determined. Nearly half (48%) of maternal deaths in Hawai‘i occurred from 43 days to 1 year after pregnancy ended. Causes of death included amniotic fluid embolism, disseminated intravascular coagulation, malignancy, mental health conditions, pre-eclampsia, cardiovascular disease, sepsis, and stroke. Due to the limited number of cases reviewed, and the confidential nature of the review, the exact numbers of each cause of death are not available. However, in ACOG District VIII, which includes Hawai‘i, the leading cause of pregnancy-related death was due to mental health conditions (43%), with the next leading causes being hemorrhage (11%) and cardiovascular conditions (11%).7 In approximately one-quarter of maternal deaths in Hawai‘i, substance use was determined to have played a role.

In ACOG District VIII, it was determined that 80% of deaths were preventable, 18% were not preventable, and 2% were unable to be determined.7 In comparison, the HMMRC determined that 56% of pregnancy-related deaths in Hawai‘i were preventable.

| Table 1: Selected Characteristics of Maternal Mortality Cases — Hawai‘i, 2015–2017 |
|-----------------------------------------------|--------|--------|
| Total Cases                                   | 25     | 100    |
| County of Residence                           |        |        |
| Honolulu                                      | 13     | 52     |
| Hawai‘i, Kaua‘i, Maui                         | 12     | 48     |
| Age                                           |        |        |
| 24 years and younger                          | 8      | 32     |
| 25–34 years                                   | 8      | 32     |
| 35 years and older                            | 9      | 36     |
| Race*                                        |        |        |
| Native Hawaiian and Other Pacific Islander    | 11     | 44     |
| Asian                                        | 8      | 32     |
| Other                                        | 6      | 24     |
| Education Level                               |        |        |
| Less than HS grad or GED                      | 8      | 32     |
| HS grad or GED                                | 8      | 32     |
| College/advanced degree                       | 9      | 36     |

Abbreviations: HS, high school; GED, general education diploma

* Race was stratified into single-race categories.
<table>
<thead>
<tr>
<th>Table 2. Hawai‘i Maternal Mortality Review Committee: Summary of 2015–2017 Mortality Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Classification of Death</strong></td>
</tr>
<tr>
<td>Total Cases</td>
</tr>
<tr>
<td>Pregnancy-related</td>
</tr>
<tr>
<td>Pregnancy-associated</td>
</tr>
<tr>
<td>Unable to determine</td>
</tr>
<tr>
<td><strong>Timing of Death</strong></td>
</tr>
<tr>
<td>Pregnant at time of death</td>
</tr>
<tr>
<td>Within 42 days</td>
</tr>
<tr>
<td>43 days–1 year</td>
</tr>
<tr>
<td><strong>Mental Health Contributed</strong></td>
</tr>
<tr>
<td>Yes or probably</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Unknown</td>
</tr>
<tr>
<td><strong>Substance Use Contributed</strong></td>
</tr>
<tr>
<td>Yes or probably</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Unknown</td>
</tr>
<tr>
<td><strong>Death Preventable (Pregnancy-related Only)</strong></td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
</tbody>
</table>

Discussion

These data, especially the high rates of preventable deaths as well as deaths occurring outside of what is traditionally considered the postpartum period, are supporting evidence that maternal morbidity and mortality is an urgent public health crisis. By establishing the HMMRC, the state of Hawai‘i has taken the first steps to approach this problem by collecting data that illustrate the disparities in maternal mortality across racial and ethnic lines. The HMMRC data show that NHOPI women suffer from pregnancy-related deaths at a disproportionate rate, analogous to what is happening at the national level with black mothers. Emerging data highlight that even when adjusted for education level, obesity, and neighborhood poverty level, racial disparities persist irrespective of access to care. Thus, factors that cannot be measured or adjusted for, such as implicit bias and systemic racism, must be further explored and addressed.

In 2018, the Society for Maternal-Fetal Medicine published a special report and call to action to reduce racial and ethnic disparities in maternal morbidity and mortality rates in the United States through improving clinical care, addressing system-level barriers, and increasing minority representation in research. The report included recommendations such as establishing algorithms to identify and properly manage high-risk minority women with pre-existing medical comorbidities like hypertension or diabetes before or early in pregnancy because they suffer from earlier end-organ damage compared to white women. In addition to improving clinical care at the provider level, systems barriers to equitable care must be addressed by providing transportation to in-person visits and access to language-concordant care. Especially in Hawai‘i, where higher levels of maternal care centers are limited and English proficiency is not universal, providing transportation vouchers and reliable interpreter services are vital to improving access to quality care. The report goes on to describe inequities even at the level of the research bench, where minorities are underrepresented both as subjects and as investigators in research. As such, the populations most affected by maternal mortality must be positioned in the center of understanding the cause and creating solutions.

The HMMRC and ACOG District VIII data identified mental health conditions and substance use as big targets for reducing maternal mortality. Accordingly, maternal health care must include access to behavioral health services to screen for and treat mental health conditions. Providing non-punitive rehabilitation programs will also enable more effective treatment of substance use disorder. Finally, another avenue of great potential in addressing the maternal mortality crisis is advocacy. ACOG has spearheaded the “Momnibus,” a collection of federal House and Senate bills aimed at improving maternal outcomes. Specifically, these bills will incentivize states to continue Medicaid coverage for women up to 1 year after delivery, increase access to maternity care in rural and underserved areas, and support perinatal quality collaboratives. Similar bills have been introduced in the Hawai‘i state legislature this year. In Hawai‘i, many rural communities have limited access to services, including subspecialty care for medically complex conditions. Thus, there is a need for state legislation that supports increasing telehealth access, subspecialty care that includes access to behavioral health and addiction specialists, and extending Medicaid beyond the current provision of 60 days postpartum.

A limitation of this article is that it is a report of data collected over a relatively short amount of time and involves small numbers that can influence the conclusions drawn. Additional limitations are also those of vital statistics, which depends on the accuracy of cause-of-death information provided by the physician, medical examiner, or coroner. The current process of identifying maternal death is also limited in that cases associated with miscarriage and termination are not represented. These cases are equally important in studying maternal mortality, as women who present with miscarriages or terminations may differ from women who have live births. The strengths of this article are that it is the first to describe maternal mortality in the state of Hawai‘i and that it includes data on race.

Indeed, data from multiple MMRCs show that a significant number of maternal deaths are preventable. These data are sobering and should serve as an impetus for creating sustainable...
change and solutions. Now that cases of maternal mortality have been identified and characterized, the next imperative step is to shift the focus and resources to changing the trajectory of this public health emergency. Specifically, this information can be used to inspire action in eliminating the racial disparities that are a reflection of the current health climate of the United States as a whole.

**Conflict of Interest**

None of the authors identify a conflict of interest.

**Acknowledgments**

We would like to acknowledge Susanna Trost MPH and Julie Zaharatos MPH for sharing the CDC and ACOG District VIII data used in this paper, Scott Harvey MD and Kimberly Arakaki for their leadership, and the Hawai’i State Department of Health and members of the HMMRC for dedicating their services to improve maternal health.

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**References**


An Online, Quantitative Community Health Needs Assessment of Haleʻiwa and Waialua, O‘ahu, Hawai‘i

Nash A.K. Witten MD; Matthew P. Orr MS; and Gregory G. Maskarinec PhD

In 1993, the Medical School Hotline was founded by Satoru Izutsu PhD (former vice-dean UH JABSOM), it is a monthly column from the University of Hawai‘i John A. Burns School of Medicine and is edited by Kathleen Kihmm Connolly PhD; HJH&SW Contributing Editor.

Introduction

The University of Hawai‘i John A. Burns School of Medicine’s Department of Family Medicine and Community Health (DFMCH) seeks to promote “health status and health education in the communities we serve.” The DFMCH was founded in 1992, and in 1994 the department began a family medicine residency program at Wahiawā General Hospital. The residency program includes a clinic in Mililani that provides outpatient primary care services to surrounding underserved communities. To support DFMCH’s mission, a community health needs assessment (CHNA) was conducted online, leveraging social networking, in the communities of Haleʻiwa and Waialua towns. These areas, which fall within the DFMCH residency clinic service area, lack specific health data and do not contain federally qualified health centers (FQHC).

A CHNA is a “health assessment that identifies key health needs and issues through systematic, comprehensive data collection and analysis.” The information collected “can help develop a community health improvement plan by justifying how and where resources should be allocated to best meet community needs.” Every 3 years, the Patient Protection and Affordable Care Act of 2010 requires tax-exempt hospital facilities to complete a CHNA, and the Health Resources & Service Administration requires FQHCs to update or complete a CHNA. In Hawai‘i how a CHNA is conducted and reported back to the community is not regulated and varies greatly. For example, in 2018 a CHNA was conducted by Healthcare Association of Hawai‘i for the entire state, whereas for the community of Waialua, a graduate nursing student completed a CHNA utilizing “windshield surveys and key informant interviews” as part of their coursework. Since mostly qualitative data based on focus group theme analyses are reported in prior Hawai‘i CHNAs, statistical differences between communities cannot be analyzed.

Haleʻiwa and Waialua towns, adjacent rural communities, are located on the North Shore of O‘ahu, Hawai‘i, as seen in Figure 1. According to the 2010 Census data, the 2 communities are similar (Table 1). Both Haleʻiwa and Waialua are primary care Health Provider Shortage Areas (HPSA), as demonstrated by the elevated HPSA scores of the FQHCs that serve these communities. There are no medical or dental services within Waialua town, while Haleiwa town has both medical and dental services. Two FQHCs provide services to patients from Haleʻiwa and Waialua: Koʻolauloa Health Center (KHC) in Kahuku and Hau‘ula, and Wahiawā Center for Community Health (WCCH) in Wahiawā. Koʻolauloa is a federally designated medically underserved area, as well as a partially rural service area, see Figure 1.
In Hale‘iwa and Waialua there are no inpatient medical centers or specialty medical providers. The 2 critical access hospitals located nearest are Wahiawā General Hospital and Kahuku Medical Center, both approximately 9.5 miles away from Hale‘iwa and Waialua towns. Both facilities provide emergency medical services and limited inpatient adult medical services. The closest comprehensive adult inpatient services is Pali Momi Medical Center, about 19 miles away from Hale‘iwa and Waialua towns. The closest labor and delivery services is at The Queens Medical Center in Honolulu, and the closest comprehensive pediatric inpatient services is Kapi‘olani Medical Center for Women and Children also located in Honolulu, both about 30 miles from Hale‘iwa and Waialua.

As required to complete a CHNA every 3 years, both KHC and WCCHC FQHCs have previously completed CHNAs on the communities of Hale‘iwa and Waialua. KHC’s CHNAs are not publicly available. WCCH CHNAs are available from 2012, 2015, and 2017, but included minimal participation, with fewer than 35 participants from Hale‘iwa and Waialua combined. The 2018 Healthcare Association of Hawai‘i’s CHNA for the entire state does not provide specific data about Hale‘iwa or Waialua, as data are grouped by island. Consequently, lacking are public data regarding the health needs of Hale‘iwa and Waialua.

Because past data may not accurately reflect community needs, this project aims to (1) determine whether online survey distribution for a CHNA improves participation, (2) determine whether online survey distribution results in participation that better reflects the demographics of the communities, and (3) determine whether collecting and analyzing data specific to rural adjacent communities can more accurately identify health needs.

**Methods**

The research protocol was submitted to and approved by the University of Hawai‘i Office of Research Compliance Human Studies Program, protocol number 2018-00289. Questions used in the survey instrument were based on questions used in prior CHNAs completed in Hawai‘i as well as topics recommended by the Centers for Disease Control and Prevention and Catholic Health Charities. Between June 4, 2018, and January 31, 2019, the CHNA questionnaire (see Appendix 1) was made available electronically to residents via the “North Shore Community Hub” Facebook group, which in 2018 was an open group but on January 1, 2019, became a closed group with more than 18350 members. This group was chosen as it is moderated by board members of the North Shore Neighborhood Board and “posts must be relevant to the North Shore.” A link to the survey instrument was posted to the entire group 4 times during the data collection period. Participants remained anonymous. Similar to other Hawai‘i CHNA methodologies, resident status within the community was self-reported. A hard copy of the survey instrument was also distributed at local coffee shops, church functions, and among neighbors throughout the data collection period.

Collected data were preprocessed using Microsoft Excel, version 16.16.6 (Microsoft Corporation, Redmond, WA), then analyzed using IBM SPSS, version 26 (IBM Corp, Armonk, NY). Pearson Chi-Square and Multivariate Analysis of Variance (MANOVA) were used to analyze group differences using IBM SPSS, version 26 (IBM Corp, Armonk, NY). In these analyses, city of residence, Hale‘iwa versus Waialua, were the independent variables and the item responses were the dependent variables (Appendix 1).

**Results**

Ninety-nine community members from Hale‘iwa and Waialua completed the CHNA questionnaire, 89 electronically and 10 via paper copies. Waialua participants’ median age range, 30 – 39 years old, is near the 2010 Census median age of 40.4 years; however, the Hale‘iwa participants’ median age, 60 – 69 years old, is older than the expected 2010 Census median age of 37.2 years old (Table 2). No significant differences were found between participants regarding ethnicity identification, X²(2, N=99)=8.61, $P= .197$, educational achievement, X²(2, N=99)=9.225, $P= .324$, or health insurance type, X²(2, N=99)=3.910, $P= .324$. Seventy percent of participants had private insurance.

Of the Hale‘iwa participants, 52% use medical services outside their community exclusively, 33% use a combination of medical services within and outside their community, and 15% use

<table>
<thead>
<tr>
<th>Zip Code - Town</th>
<th>96712 – Hale‘iwa</th>
<th>96791 - Waialua</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>3,970</td>
<td>3,860</td>
</tr>
<tr>
<td>Median Age</td>
<td>37.2</td>
<td>40.4</td>
</tr>
<tr>
<td>Percent Male</td>
<td>52.3%</td>
<td>51.4%</td>
</tr>
<tr>
<td>Racial Identity: Native Hawaiian or Other Pacific Islander</td>
<td>10.4%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Racial Identity: Native Hawaiian Alone or in Combination with Other Races</td>
<td>31.9%</td>
<td>22.5%</td>
</tr>
<tr>
<td>Median Household Income</td>
<td>$64,432</td>
<td>$69,837</td>
</tr>
</tbody>
</table>

Table 1. 2010 Census Data for the Communities of Hale‘iwa and Waialua.1
<table>
<thead>
<tr>
<th>Table 2. Demographic Information for All Participants from Hale‘iwa and Waialua</th>
<th>96712 &amp; 96791 – Hale‘iwa &amp; Waialua</th>
<th>96712 – Hale‘iwa</th>
<th>96791 – Waialua</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>74 (75%)(^a)</td>
<td>42 (70%)(^c)</td>
<td>32 (82%)(^c)</td>
</tr>
<tr>
<td>Male</td>
<td>24 (24%)(^a)</td>
<td>17 (28%)(^c)</td>
<td>7 (18%)(^c)</td>
</tr>
<tr>
<td>Other</td>
<td>1 (1%)(^a)</td>
<td>1 (2%)(^c)</td>
<td>0 (0%)(^c)</td>
</tr>
<tr>
<td><strong>Current Age (years)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 - 29</td>
<td>17 (17%)(^a)</td>
<td>14 (23%)(^c)</td>
<td>3 (8%)(^c)</td>
</tr>
<tr>
<td>30 - 39</td>
<td>16 (16%)(^a)</td>
<td>5 (8%)(^c)</td>
<td>11 (28%)(^c)</td>
</tr>
<tr>
<td>40 - 49</td>
<td>11 (11%)(^a)</td>
<td>4 (7%)(^c)</td>
<td>7 (18%)(^c)</td>
</tr>
<tr>
<td>50 - 59</td>
<td>22 (22%)(^a)</td>
<td>13 (22%)(^c)</td>
<td>9 (23%)(^c)</td>
</tr>
<tr>
<td>60 - 69</td>
<td>30 (30%)(^a)</td>
<td>23 (38%)(^c)</td>
<td>7 (18%)(^c)</td>
</tr>
<tr>
<td>70 - 79</td>
<td>2 (2%)(^a)</td>
<td>0 (0%)(^c)</td>
<td>2 (5%)(^c)</td>
</tr>
<tr>
<td>80 - 89</td>
<td>1 (1%)(^a)</td>
<td>1 (2%)(^c)</td>
<td>0 (0%)(^c)</td>
</tr>
<tr>
<td><strong>Ethnic Identity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>11 (11%)(^a)</td>
<td>5 (8%)(^c)</td>
<td>6 (15%)(^c)</td>
</tr>
<tr>
<td>Caucasian</td>
<td>52 (53%)(^a)</td>
<td>36 (60%)(^c)</td>
<td>16 (41%)(^c)</td>
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<tr>
<td>Filipino</td>
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<td>4 (7%)(^c)</td>
<td>7 (18%)(^c)</td>
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<tr>
<td>Hispanic</td>
<td>3 (3%)(^a)</td>
<td>2 (3%)(^c)</td>
<td>1 (3%)(^c)</td>
</tr>
<tr>
<td>Native Hawaiian</td>
<td>13 (13%)(^a)</td>
<td>6 (10%)(^c)</td>
<td>7 (18%)(^c)</td>
</tr>
<tr>
<td>Other</td>
<td>6 (6%)(^a)</td>
<td>4 (7%)(^c)</td>
<td>2 (5%)(^c)</td>
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<tr>
<td>Pacific Islander</td>
<td>3 (3%)(^a)</td>
<td>2 (3%)(^c)</td>
<td>1 (3%)(^c)</td>
</tr>
<tr>
<td><strong>Highest Level of Education Achieved</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>No GED / High School Diploma</td>
<td>2 (2%)(^a)</td>
<td>0 (0%)(^c)</td>
<td>2 (5%)(^c)</td>
</tr>
<tr>
<td>GED / High school diploma</td>
<td>10 (10%)(^a)</td>
<td>6 (10%)(^c)</td>
<td>4 (10%)(^c)</td>
</tr>
<tr>
<td>Some college</td>
<td>14 (14%)(^a)</td>
<td>8 (13%)(^c)</td>
<td>6 (15%)(^c)</td>
</tr>
<tr>
<td>Trade school certification</td>
<td>3 (3%)(^a)</td>
<td>2 (3%)(^c)</td>
<td>1 (3%)(^c)</td>
</tr>
<tr>
<td>Associate level degree</td>
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<td>8 (13%)(^c)</td>
<td>4 (10%)(^c)</td>
</tr>
<tr>
<td>Bachelor level degree</td>
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<td>27 (45%)(^c)</td>
<td>12 (31%)(^c)</td>
</tr>
<tr>
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<td>5 (8%)(^c)</td>
<td>9 (23%)(^c)</td>
</tr>
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<td>Doctorate / Professional level degree</td>
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<td>3 (5%)(^c)</td>
<td>1 (3%)(^c)</td>
</tr>
<tr>
<td>Other</td>
<td>1 (1%)(^a)</td>
<td>1 (2%)(^c)</td>
<td>0 (0%)(^c)</td>
</tr>
<tr>
<td><strong>Health Insurance Type</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicaid</td>
<td>14 (13%)(^a)</td>
<td>8 (12%)(^c)</td>
<td>6 (14%)(^c)</td>
</tr>
<tr>
<td>Medicare</td>
<td>13 (12%)(^a)</td>
<td>8 (12%)(^c)</td>
<td>5 (11%)(^c)</td>
</tr>
<tr>
<td>Private insurance</td>
<td>77 (70%)(^a)</td>
<td>47 (71%)(^c)</td>
<td>30 (68%)(^c)</td>
</tr>
<tr>
<td>Tricare / Veterans Affairs(^d)</td>
<td>4 (4%)(^a)</td>
<td>1 (2%)(^c)</td>
<td>3 (7%)(^c)</td>
</tr>
<tr>
<td>Uninsured</td>
<td>2 (2%)(^a)</td>
<td>2 (3%)(^c)</td>
<td>0 (0%)(^c)</td>
</tr>
</tbody>
</table>

\(^a\) Percentage calculated out of total number of participants in both zip codes, 99 participants.

\(^b\) Some participants had multiple types of healthcare insurance, therefore percentage calculated out of 110 total health insurance types; 66 total in 96712 and 44 total in 96791.

\(^c\) Percentage calculated out of total number of participants in respective zip code, 60 and 39 participants, respectively.

\(^d\) Veterans Affairs was added to the Tricare option during analysis as one participant submitted this option under ‘other’.
medical services in their community exclusively. Of the Waialua participants, 97% reported using medical services outside their community exclusively. Results indicated a significant relationship between city of residence and location of medical services used, \( X^2 (2, N=99) = 23.504, P < .001 \), likely due to the lack of available medical and dental services in Waialua.\(^{11}\)

Sixty-two percent of Hale‘iwa participants reported using dental services outside of their community exclusively, 33% use dental services within their community exclusively, and 5% reported not using dental services. Ninety percent of Waialua participants use dental services outside their community exclusively, and 7% reported not using dental services. Results demonstrated a significant relationship between city of residence and location of dental services used, \( X^2(2, N=99) = 13.394, P = .001 \).

There were no statistically significant differences found between participant responses to the community health problems, \( F (18, 80) = .789, P = .189 \). Respondents from both areas identified the top 4 community health problems: affordable housing, drug use, mental health, and obesity.

There were statistically significant differences between participant responses to the identified community needs, \( F (16, 82) = .741, P = .046 \). Analysis of the univariate results found that the reported need for dental care, \( F (16, 82) = 7.271, P = .008 \), and transportation to health care providers, \( F (16, 82) = 4.951, P = .036 \), were responsible for the differences, likely due to the lack of dental care services and limited public transportation routes in Waialua.\(^{11,25}\) Respondents from Hale‘iwa, \( M = 4.30, SD = .944 \), and Waialua, \( M = 4.13, SD = .923 \), both identified mental healthcare as a high need service.

Only 2 of the health conditions on the survey differed significantly between participants. Obesity was more prevalent among Waialua participants, 28%, compared to Hale‘iwa, 12%, \( X^2 (1, N=99) = 4.346, P = .037 \). High cholesterol was more prevalent for Hale‘iwa participants, 37%, than those of Waialua, 18%, \( X^2 (1, N=99) = 3.998, P = .046 \). The top 3 health conditions across participants were high cholesterol, 29%, high blood pressure, 25%, and asthma, 24%.

The majority of participants responded that they had seen a dentist within the last 2 years: 92% of Hale‘iwa residents and 82% of Waialua residents. Similarly, 98% of Hale‘iwa residents and 92% of Waialua residents reported seeing a physician within the last 2 years. Although most participants had seen a physician in the recent past, the most prevalent response, reported by 33%, for why they may have delayed the visit was the inability to get an appointment in a timely manner. The next most prevalent response, 18%, was cost.

**Discussion**

The first aim of this project was to determine whether an online survey distribution for a CHNA improves community participation. Ninety-nine participants completed surveys from Hale‘iwa and Waialua, more than doubling the number of participants of prior CHNAs. The electronic distribution of the survey resulted in 89 responses and the distribution of paper copies of the survey resulted in 10 responses. The electronic distribution of a CHNA survey instrument showed potential improvement in community participation when resources to conduct hard copy distribution of the CHNA are limited.

The second aim, to determine whether an online survey distribution results are a better reflection of the demographics of the communities, cannot be determined due to a lack of prior published data. However, data can be used to compare future CHNAs. In contrast to the 2010 US Census data, study results showed participants to be predominantly Caucasian, a higher percentage of female, the majority being private health insurance holders, and more than half having level of education of bachelor’s degree or higher. This is important as these demographics can be compared to future CHNAs of Hale‘iwa and Waialua towns to achieve a more accurate reflection of demographics of the communities.

The third aim was whether quantitative statistical data analysis can demonstrate important information regarding adjacent communities that lack specific data and are combined with larger areas. Statistical analysis was useful in determining differences in participant demographics and determining key differences between the community participants regarding parameters, such as location and ability to access medical care. Other important community factors, such as a perception of insufficient transportation options, were able to be quantified.\(^{21}\) Inclusion of survey questions in a CHNA that can be analyzed for statistical significance can be useful in identifying problems for FQHCs and community leaders to address.

**Limitations**

Ninety-nine people participated in this CHNA. The small sample size was not powered to achieve a 95% confidence interval; therefore, a 9.8% margin of error resulted from this CHNA. Using the “North Shore Community Hub” targeted community members who are active on Facebook, which may have also introduced a sampling bias. There was also no way to verify participants’ addresses and no system in place to prevent participants from submitting duplicate surveys. Regarding demographics, participants were able to select only 1 racial identity, however, allowing multiple options would have allowed
the survey to align better with the options given in the Census survey instruments. This CHNA did not include qualitative data from focus groups due to limited human resources. The University of Hawai‘i institutional review board would not allow data collection on specified mental health conditions, such as depression and schizophrenia, which would be a better indicator of health needs, as mental health was identified as a community health problem.

Conclusion

This project successfully completed a CHNA of the rural communities of Hale‘iwa and Waialua, demonstrating successful implementation of an online method of distribution via a social networking platform. Results of the survey identified important areas of need within these communities: chronic disease management, transportation services, and access to both dental and medical care. Targeted distribution of hard copies and a more diverse distribution of the online version of the CHNA survey instrument may result in a participant pool that is more reflective of the demographics of the communities’ residents. However, with limited resources available to collect CHNAs, the use of an online survey via a social networking platform resulted in a greater number of participants than in past years. With greater participation and more specific results for the rural communities of Hale‘iwa and Waialua in the CHNA, the authors hope that the DFMCH and the FQHCs of KHC and WCCH, along with community leaders, can better provide services to meet the health needs of these individual communities.

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References


Appendix 1. Hale‘iwa and Waialua Community Health Needs Assessment Questionnaire

1. Zip code of residence? (Mark only one oval.)
   a. Hale‘iwa – 96712
   b. Waialua – 96791
2. Your current age? (Mark only one oval.)
   a. 18 – 29 years old
   b. 30 – 39 years old
   c. 40 – 49 years old
   d. 50 – 59 years old
   e. 60 – 69 years old
   f. 70 – 79 years old
   g. 80 – 89 years old
   h. 90 – 99 years old
3. What is your gender identity? (Mark only one oval.)
   a. Female
   b. Male
   c. Other
4. What race do you identify with, out of those listed below? (Mark only one oval.)
   a. African American
   b. Asian
   c. Caucasian
   d. Filipino
   e. Hispanic
   f. Native American
   g. Native Hawaiian
   h. Pacific Islander
   i. Other
5. What is your highest level of education? (Mark only one oval.)
   a. No high school diploma
   b. GED/High school diploma
   c. Some college
   d. Associate level degree (eg, AA, AS)
e. Bachelor level degree (eg, BA, BS)

f. Trade school certification

g. Masters level degree (eg, MA, MS, MBA, MEd)

h. Doctorate/Professional Level Degree (eg, PhD, JD, MD, DO, DC, DDS)

i. Other

6. What type of health insurance do you have? (Check all that apply.)

a. Private Insurance (eg, HMSA, HMA, Kaiser, UHA)

b. Medicare

c. Medicaid (eg, Med-QUEST Aloha Care, HMSA, Kaiser, ‘Ohana, UnitedHealthcare)

d. Tricare

e. Uninsured

f. Other

7. Where do you go for medical care? (Check all that apply.)

a. Kapolei/Ewa

b. Hale‘iwa

c. Honolulu

d. Kahuku/Hau‘ula

e. Mililani

f. Wahiawa

g. Waialua

h. Waipō‘o

i. Wai‘alae

j. Pearl City/Aiea

k. Kāne‘ohe

l. Other

8. Where do you go for dental care? (Check all that apply.)

a. Kapolei/Ewa

b. Hale‘iwa

c. Honolulu

d. Kahuku/Hau‘ula

e. Mililani

f. Wahiawa

g. Waialua

h. Waipō‘o

i. Wai‘alae

j. Pearl City/Aiea

k. Kāne‘ohe

l. Other

9. Do you get healthcare from one of the following facilities? (Check all that apply.)

a. CareVan

b. Kalihi - Palama Health Center(Kalihi)

c. Ko‘olauloa Health Center (Kahuku and Hauula)

d. Wahiawa Center for Community Health (Wahiawa)

e. Military Facilities (Schofield, Tripler)

f. Waianae Coast Comprehensive Health Center (multiple sites)

g. None of the above

10. Please rank, from 1 to 5, what you believe to be the top health and/or social service PROBLEMS in this community. 1 – not a problem, 3 – unsure, and 5 – large problem.

a. Affordable Child Care

b. Affordable Housing

c. Asthma

d. Chronic Disease Management

e. Cultural Issues

f. Diabetes (Type 2)

g. Disease Prevention/Health Promotion

h. Doctors Do Not Accept Insurance/Uninsured

i. Heart Disease

j. Illicit Drug Use

k. Jobs

l. Mental Health

m. Obesity

n. Recreational Sites

o. Translation Services

p. Transportation

11. Please rank, from 1 to 5, what you believe to be the top 5 health SERVICES needed in the community. 1 – not needed, 3 – unsure, and 5 – very much needed.

a. Care Coordination Services

b. Case Management Services

c. Dental Care

d. Health Education

e. Health Support Groups

f. Immunizations

g. Job Training/Education

h. Mental Health Care

i. Nutritional Health Education

j. Obstetrics and Gynecology

k. Orthopedic Surgery

l. Primary Care

m. Physical Therapy

n. Social Work

o. Sports Medicine

p. Transportation to Health Provider

12. When was your last visit to a doctor for a checkup or physical exam? (Mark only one oval.)

a. Less than 1 year ago

b. 1 to 2 years ago

c. 2 to 5 years ago

d. More than 5 years ago

e. Never

f. Do not remember

13. Was there a time in the past 12 months when you needed to see a doctor but could not because of cost? (Mark only one oval.)

a. Yes

b. No

14. Have you delayed getting medical care for any of the following reasons in the past 12 months? (Check all that apply.)

a. I couldn’t get through on the telephone

b. I couldn’t get an appointment soon enough

c. Once I got to the clinic, I had to wait too long to see the doctor

d. The clinic wasn’t open when I got there

e. No, I did not delay getting medical care/did not need medical care

15. Has a healthcare provider ever told you that you may have or have had any of the following? (Check all that apply.)

a. Angina/Coronary Artery Disease

b. Arthritis/Rheumatoid Arthritis/Gout/Lupus

c. Asthma

d. COPD/Chronic Bronchitis/Emphysema

e. Cancer, Skin

f. Cancer, All Others

g. Diabetes (Type 1 or 2)

h. High Cholesterol

i. High Blood Pressure/Hypertension

j. Kidney Disease

k. Mental Health Condition

l. Myocardial Infarction/Heart Attack

m. Overweight/Obese

n. Stroke

o. Other

16. Do you smoke cigarettes? (Mark only one oval.)

a. Yes, currently, DO NOT plan on quitting

b. Yes, currently, DO plan on quitting

c. No, PREVIOUSLY smoked cigarettes

d. No, NEVER smoked cigarettes

17. When was the last time you visited a dentist or dental clinic? Including dental specialists and orthodontists. (Mark only one oval.)

a. Less than 1 year ago

b. 1 to 2 years ago

c. 2 to 5 years ago

d. More than 5 years ago

e. Never

f. Do not remember

18. When was the last time you had your teeth cleaned by a dental hygienist?

a. Less than 1 year ago

b. 1 to 2 years ago

c. 2 to 5 years ago

d. More than 5 years ago

e. Never

f. Do not remember

19. If you are willing to participate in a focus group regarding the health needs in the Waialua and Hale‘iwa, O‘ahu, communities, please provide a means of contact below:
Insurance Coverage for Long-Acting Reversible Contraception Placed in Office: A Buy and Bill Demonstration Project in Hawai‘i

Chevelle M.A. Davis MPH; Bliss Kaneshiro MD, MPH; and Mary Tschann PhD, MPH

Abstract

Access to the full range of contraceptive options for all people is critical in allowing individuals to make decisions that are consistent with their reproductive goals and values, which, in turn, enables them to achieve educational, social, and economic goals. In 2010, the Patient Protection and Affordable Care Act mandated that health plans must cover contraceptive supplies and services, including drugs and devices approved by the US Food and Drug Administration without any out-of-pocket costs to patients. This federal mandate was similar to a law passed by the Hawaii state legislature in 1999. Despite the Affordable Care Act, access barriers continue to prevent people from obtaining their preferred methods upon request. Same day access to long-acting reversible contraceptive (LARC) devices is a particular challenge in many clinical settings due to the high upfront cost of the device for providers. This Insights article describes the context of this issue in Hawaii and information about a pilot test of a “buy and bill” program for LARC devices in an outpatient obstetrics and gynecology practice in Honolulu, Hawaii. Ultimately, the majority of LARC devices were paid for fully by insurance, resulting in increased access to same day insertion with limited financial risk for the clinic.

Keywords

long-acting reversible contraception, contraception, access, buy and bill

List of Abbreviations

ACA = Patient Protection and Affordable Care Act
FDA = Federal Drug Administration
IUD = intrauterine device
LARC = long-acting reversible contraception

Introduction

Reproductive justice is defined as the “...complete physical, mental, spiritual, political, social, and economic well-being of women and girls, based on the full achievement and protection of women’s human rights,” which recognizes women’s right to reproduce as a fundamental human right. This definition encompasses people’s right to manage their reproductive capacity; access adequate information, resources, services and personal safety measures while pregnant; and parent their child—regardless of race, religion, sexual orientation, economic status, immigration status, citizenship status, disability status, and status as an incarcerated person. The SisterSong Women of Color Reproductive Health Collective, which originally defined reproductive justice, hold that reproductive health options available for people must be safe, affordable, accessible, and supported by governments to facilitate individual life choices. The concept of reproductive justice was developed out of the need for representation of the rights and needs of marginalized communities, including Black, Indigenous people, people of color (BIPOC), trans, and queer people in the women’s rights movement.

The passage of the Patient Protection and Affordable Care Act (ACA) in 2010 helped to increase access to affordable, quality care by emphasizing prevention and wellness. A provision of the ACA restricts insurance cost-sharing—the amount a person must pay out of pocket in the form of deductible, coinsurance, or copayments—for a range of preventive health services, including contraception. Contraception is defined in the ACA by the National Academy of Medicine’s Committee on Preventive Services for Women as “the full range of Food and Drug Administration (FDA)-approved contraceptive methods, sterilization procedures, and patient education and counseling for women with reproductive capacity.”

Nearly all women in the United States (US) who have ever engaged in sexual intercourse have used a contraceptive method during their reproductive lives. Access to the full range of contraceptive services and methods is necessary for women’s health and reproductive autonomy. Long-acting reversible contraceptive (LARC) devices, which include intrauterine devices (IUDs) and the contraceptive implant are highly effective at pregnancy prevention because they require little action on the part of the user to maintain efficacy after insertion. LARC devices are favorable to many people for a variety of reasons. For instance, the copper IUD contains no hormones. The hormonal IUDs and the progestin implant result in shorter, lighter menstrual periods, or the cessation of menstrual periods (amenorrhea),
which many patients find desirable. Furthermore, LARCs have higher continuation rates after 1 year (80%) compared to other reversible methods (49% to 57%), and higher satisfaction rates (78% to 85%) compared to other reversible methods (54% to 44%). While LARCs have higher continuation and satisfaction rates, access issues remain due to the high cost of devices, with the average wholesale price reported to range from $718 - $844 depending on the selected device.

A study examining the cost-effectiveness of contraception methods, including LARCs, at a publicly funded family planning program in California found LARCs were more cost-effective than oral contraceptives, injectable methods, and barrier methods, with a cost savings of more than $7.00 for every $1.00 spent on services and supplies. However, access to LARCs is still lacking in the United States compared to short-acting reversible methods, with the availability of devices ranging from 32% to 56% in office-based facilities to 36% to 60% in Title X clinics. Despite ACA-mandated insurance coverage for these devices, same day access to LARCs is a challenge in many clinical settings. Nationally, providers cite lack of insertion training, adequate reimbursement, and the high upfront cost of LARCs as barriers to keeping adequate supplies in office.

Barriers specific to Hawai‘i are not known. A statewide survey to determine the availability of LARC in Hawai‘i is ongoing (The Expanded Access to Contraception Project, research in progress). Appropriate compensation for contraceptive services allows providers to provide the full range of contraceptive methods, thereby increasing access to preferred methods of contraception, improving quality of care, optimizing health outcomes, and respect reproductive autonomy.

The American College of Obstetricians and Gynecologists has stated that 2-visit IUD insertion protocols are a barrier to contraceptive access, and instead advocates for insertion of an IUD or contraceptive implant at the time of request, as long as the provider is reasonably certain the patient is not pregnant. Studies show that 2-day LARC insertion protocols impede IUD access and often result in a failure to obtain an IUD. A study investigating reasons why people failed to obtain an IUD in a 2-day clinic setting reported additional time needed for the second visit, inability to return to the clinic, and lack of transportation to attend a second visit as principal barriers.

Providers can only provide a LARC device on the day of the request if they have IUDs and contraceptive implants available in the clinic for insertion. “Buy and bill” is a practice wherein a health care provider purchases a medical device or medication to stock in the office, provides it to the patient on the same day it is requested by the patient, and subsequently bills the patient’s insurance to obtain reimbursement for the cost of the device or medication. For medical devices like IUDs or medications that need to be administered by a health care provider, like intravenous chemotherapy, buy and bill often results in more timely care because it obviates the need for a pharmacy to fill a prescription and deliver it to the facility, and the patient does not have to return to the health care facility for administration. However, if the insurer does not reimburse the health care provider, the clinic sustains a financial loss or passes the expense along to the patient.

**LARC Background and Access in Hawai‘i**

The state of Hawai‘i has historically supported access to reproductive health care, evidenced by its policies that expand access to contraception and reproductive health services. Prior to the ACA, Hawai‘i had already instituted an insurance mandate that required all insurance plans in the state, except those with a religious exemption, to cover any FDA-approved prescriptive contraception or device and contraceptive services.

In 2016, the state legislature passed Act 205, requiring insurers to cover up to 12-months of contraception supplies to their beneficiaries with no waiting period. The act also reaffirms comprehensive coverage for all contraceptive devices and services, “…all policies, contracts, plans, or agreements…, that provide contraceptive services or supplies, or prescription drug coverage, shall not exclude any prescription contraceptive supplies or impose any unusual copayment, charge, or waiting requirement for such supplies.” Most recently in 2017, the state legislature passed Act 67, allowing pharmacists with additional training to prescribe and dispense self-administered contraceptives citing evidence from several other states that this is a safe practice that improves access to contraceptives. Hawai‘i was the sixth state, after California, Oregon, Washington, New Mexico, and Maryland to pass such a law.

While Hawai‘i’s policies are necessary for increasing access to all methods of contraception, they are not sufficient to ensure all patients have equal access to all methods, including LARCs. Statewide, ongoing education for former Title X sites is aimed at making providers familiar and comfortable with providing LARCs. The Department of Human Services, MedQuest Division released a memo notifying providers and birthing facilities that the state’s Medicaid would reimburse for LARC devices provided in the inpatient setting separate from bundled global labor and delivery fees. Prior to this memo, birthing facilities risked non-payment for LARC services provided at time of delivery. The clarification now encourages birthing facilities to stock LARC devices and provide them at the time of delivery without risk of financial losses. In addition, the state Department of Health, Office of Planning, Policy and Program Development and the Maternal Child Health Branch – Women’s and Reproductive Health Section has partnered with the Hawai‘i Maternal and Infant Health Collaborative, a public private partnership, to further expand these efforts.

What is not known at this time are the number of LARC providers across the state and the unmet need of patients who desire LARC devices as their preferred contraceptive method.
Table 1. Insurance Reimbursement Per Long-Acting Reversible Contraceptive Device

<table>
<thead>
<tr>
<th></th>
<th>Hormonal Intrauterine Device (n=27)</th>
<th>Contraceptive Implant (n=10)</th>
<th>Total (N=37)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Full Reimbursement</td>
<td>20 (74%)</td>
<td>8 (80%)</td>
<td>28 (76%)</td>
</tr>
<tr>
<td>Partial Reimbursement</td>
<td>6 (22%)</td>
<td>0 (0%)</td>
<td>6 (16%)</td>
</tr>
<tr>
<td>No Reimbursement</td>
<td>1 (4%)</td>
<td>2 (20%)</td>
<td>3 (8%)</td>
</tr>
</tbody>
</table>

Table 2. Insertion Fee Payment Per Long-Acting Reversible Contraceptive Device

<table>
<thead>
<tr>
<th></th>
<th>Hormonal Intrauterine Device (n=27)</th>
<th>Contraceptive Implant (n=10)</th>
<th>Total (N=37)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Full Payment</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Partial Payment</td>
<td>27 (100%)</td>
<td>10 (100%)</td>
<td>37 (100%)</td>
</tr>
<tr>
<td>No Payment</td>
<td>0 (0%)</td>
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This pilot project gives us insight into what providing same-day access to LARCs could look like for providers. This pilot project can serve as a successful demonstration of the financial implications of providing same-day LARC services.

Pilot Study

Providing same day access to LARCs in Hawai‘i is a way to give people access to the full range of contraceptive options. To assess the feasibility of a buy and bill LARC practice in Hawai‘i, the Women’s Health Research Center conducted a pilot study evaluating a buy and bill LARC program in an obstetrics and gynecology outpatient practice at the Queen Emma Clinics (QEC) in Honolulu. The QEC are located at The Queens Medical Center, a non-profit, acute care health facility accredited by the Joint Commission on Accreditation of Healthcare Organizations. Healthcare services are provided by residents and attending physicians who are also faculty of the University of Hawai‘i John A. Burns School of Medicine. The QEC serves a diverse population on O‘ahu, including the insured, underinsured, and uninsured.

Between March 2016 and November 2016, Liletta (a hormonal IUD manufactured by Allergan) and Nexplanon (a contraceptive implant manufactured by Merck) were made available for insertion to patients with any form of health insurance on the same day as the patient requested the device at an outpatient practice site in Honolulu, Hawai‘i. Although a copper IUD is also FDA approved contraception, the levonorgestrel IUD was more frequently requested by patients in the obstetrics and gynecology outpatient practice at the Queen Emma Clinics. Additionally, other hormonal IUDs are FDA approved for contraception, but the 52-mg levonorgestrel IUD is the most commonly used IUD in the United States.

For all patients who opted for same-day insertion of a LARC, the patient’s insurance was billed for the cost of the device. Billing outcomes for the cost of the devices were categorized in 3 ways: (1) full reimbursement (reimbursement in an amount that covers the cost of the device), (2) partial reimbursement (reimbursement not in an amount that covers the cost of the device), and (3) no reimbursement. In addition, health care providers can also be paid a procedural fee by insurers, and these were also tracked. Any denied claims were appealed. Insurance companies billed in this pilot project included 5 major carriers in Hawai‘i, including Hawai‘i Medical Service Association (HMSA) health maintenance organizations and preferred provider organization plans, Quest plan administrators (UnitedHealthcare, AlohaCare, HMSA, and ‘Ohana), University Health Alliance, Hawai‘i Medical Assurance Association, and Hawai‘i – Mainland Administrators.

During this pilot project, patients were not billed for devices or insertion fees that were not reimbursed. Insurance reimbursement was tracked until November 2017, approximately 1 year from the last insertion. A reason for unreimbursed devices were attempted to be obtained from insurance companies via telephone. Of note, there are other costs to the clinic associated with placing IUDs or implants using a buy and bill framework, including the cost of personnel to order and track devices, office space to store devices, local anesthetic, equipment and instruments used at the time of insertion, and personnel to order and inventory devices and seek reimbursement. Calculating these costs was not attempted given that these costs will vary widely between clinics.

Over 9-month pilot period, a total of 37 devices were inserted, including 27 hormonal IUDs and 10 contraceptive implants. Each hormonal IUD cost the clinic $593.75, and each contraceptive implant cost $462.91. For IUDs, 26 of 27 (96%) were either fully or partially reimbursed, and 1 (4%) device was not reimbursed. The insurance plan that did not reimburse for the IUD cited that the device was not covered under the patient’s plan. On average, insurance reimbursement per hormonal IUD
was $609.95 (range, $312.00–$703.00), and insertion fee reimbursement averaged $72.49 (range, $36.76–$137.00). The one insurer that did not reimburse for the cost of the hormonal IUD did pay the insertion fee.

For implants, 8 of 10 (80%) were fully reimbursed for the cost of the device, and 2 (20%) devices were not reimbursed. Reimbursement for a contraceptive implant device averaged $628.29 (range, $493.00–$704.00), and insertion fee payments averaged $108.00 (range, $82.00–$187.00). The insurance plans that did not reimburse for the 2 implants cited that the devices were not covered under those patients’ plans. The 2 insurers that did not provide reimbursement for the contraceptive implant paid for the insertion fees. Insertion fee payments for both IUDs and implants averaged $72.49 (range, $36.76–$137.00) with a total amount of $2964 paid for all insertion fees. All devices were inserted successfully, with 1 hormonal IUD subsequently being expelled following insertion.

**Conclusion**

In the pilot study, over 90% of LARC devices purchased using a buy and bill model at an obstetrics and gynecology outpatient practice were paid sufficiently for the clinic to recover its costs and sustain the program. Although reimbursement amounts varied by carrier, plans appear to be paying for devices as mandated by the ACA and doing so without requiring prior authorization or imposing patient cost-sharing. Bulk purchasing options can further reduce upfront costs for providers. It is noted that only hormonal IUDs and contraceptive implants were inserted in this project. It is possible that reimbursement would differ for other devices. This pilot program was an encouraging first step in confirming that improved same day access to these highly effective methods is financially feasible and sustainable in a general obstetrics and gynecology practice.

The availability of LARCs in health care facilities and physician offices is necessary to ensure same day insertion when requested by a patient and is considered a best practice. In light of barriers to accessing care from specialized providers, such as obstetricians and gynecologists, across areas of Hawai’i, it is important that these providers along with family medicine providers are able to stock these devices in their offices to ensure people seeking a contraceptive method in their community are able to access on the day they request it. Utilization of a buy and bill program, which has been used in other areas of health care such as outpatient chemotherapy, has shown to be an effective way to allow for continuous stocking of LARCs in facilities and physician offices. In 2016, Rankin et al. demonstrated the utilization implementation science methods, including the Consolidated Framework for Implementation Research, to guide and evaluate institutional policies supporting inpatient postpartum LARC across 13 states. The authors found that facilities’ readiness to adopt strategies to increase resource availability, such as a buy and bill program, increase access to inpatient postpartum LARCs. As demonstrated with this pilot study, buy and bill is a feasible and effective process to continuously stock LARCs in office, which could increase same day access upon patient request, as observed by the project staff.

As demonstrated, a buy and bill program is a sustainable option to stock and increase access to LARCs in Hawai’i. However, this finding may have limited generalizability to other health care facilities or physician offices in the United States depending on individual state Medicaid and private insurer policies. In Hawai’i, a buy and bill program was found to be a practical approach to address LARC stocking and contraceptive access, with minimal financial risk to the facilities and physician offices. To the authors’ knowledge, this is the first study to look at increasing access to LARCs utilizing a buy and bill program in Hawai’i.

While the findings can reassure providers in Hawai’i who are interested in using a buy and bill model to expand access to LARCs, some insurance plans are not required to cover the costs of LARCs under the ACA thus limiting access to contraception for patients under these plans. Further advocacy with these plan administrators could encourage the consideration of cost-effectiveness of full-spectrum contraceptive coverage.

If reproductive justice is to be achieved by supporting people in making life decisions that are best for them, the systemic barriers that prevent people from accessing their preferred methods of contraception and constrain their reproductive life planning must be continually examined. This will require a shift of medical care toward prioritization of preventive care, as was intended by the ACA.

**Conflict of Interest**

None of the authors identify a conflict of interest.

**Acknowledgements**

This effort was possible through the collective effort of the Hawai’i State Department of Health, the State of Hawai’i Med-QUEST (Medicaid) Division of the Department of Human Services, the University of Hawai’i John A. Burns School of Medicine Department of Obstetrics and Gynecology, and University Health Partners.

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References

The HJH&SW encourages authors to use the appropriate diacritical markings (the ‘okina and the kahakō) for all Hawaiian words. We recommend verifying words with the Hawaiian Language Dictionary (http://www.wehewehe.org/) or with the University of Hawai‘i Hawaiian Language Online (http://www.hawaii.edu/site/info/diacritics.php).

Authors should also note that Hawaiian refers to people of Native Hawaiian descent. People who live in Hawai‘i are referred to as Hawai‘i residents.

Hawaiian words that are not proper nouns (such as keiki and kūpuna) should be written in italics throughout the manuscript, and a definition should be provided in parentheses the first time the word is used in the manuscript.

Examples of Hawaiian words that may appear in the HJH&SW:

- ‘āina
- ali‘i
- Hawai‘i
- kūpuna
- Kaua‘i
- Lāna‘i
- Mānoa
- Māori
- Moloka‘i
- O‘ahu
- ‘ohana
- Wai‘anae
The Hawai‘i Journal of Health & Social Welfare (HJH&SW) partners with organizations, university divisions, and other research units to produce topic-specific issues of the journal known as supplements. Supplements must have educational value, be useful to HJH&SW readers, and contain data not previously published elsewhere. Each supplement must have a sponsor(s) who will work with the HJH&SW staff to coordinate all steps of the process. Please contact the editors at hjhsw@hawaii.edu for more information if you would like to pursue creating a supplement.

The following are general guidelines for publication of supplements:

1. Organizations, university divisions, and other research units considering publication of a sponsored supplement should consult with the HJH&SW editorial staff to make certain the educational objectives and value of the supplement are optimized during the planning process.

2. Supplements should treat broad topics in an impartial and unbiased manner. They must have educational value, be useful to HJH&SW readership, and contain data not previously published elsewhere.

3. Supplements must have a sponsor who will act as the guest editor of the supplement. The sponsor will be responsible for every step of the publication process including development of the theme/concept, peer review, editing, preliminary copy editing (ie, proof reading and first round of copy editing), and marketing of the publication. HJH&SW staff will only be involved in layout, final copy editing and reviewing final proofs. It is important that the sponsor is aware of all steps to publication. The sponsor will:
   a. Be the point of contact with HJH&SW for all issues pertaining to the supplement.
   b. Solicit and curate articles for the supplement.
   c. Establish and oversee a peer review process that ensures the accuracy and validity of the articles.
   d. Ensure that all articles adhere to the guidelines set forth in journal’s Instructions to Authors page, especially the instructions for manuscript preparation and the statistical guidelines.
   e. Obtain a signed Copyright Transfer Agreement for each article from all authors.
   f. Comply with all federal, state, and local laws, rules, and regulations that may be applicable in connection with the publication, including ensuring that no protected health information appears in any article.
   g. Work with the editorial staff to create and adhere to a timeline for the publication of the supplement.
   h. Communicate any issues or desired changes to the HJH&SW staff in a timely manner.

4. Upon commissioning a supplement, the sponsor will be asked to establish a timeline for the issue which the sponsor and the HJH&SW editor(s) will sign. The following activities will be agreed upon with journal publication to take place no later than 24 months after signing. Extensions past the 24 months will be subject to additional fees based on journal publication rates at that time:
   • Final date to submit a list of all articles, with working titles and authors
   • Final date for submitting Word documents for copy editing
   • Final date for submitting Word documents for layout
   • Final date to request changes to page proofs (Please note that changes to page proofs will be made only to fix any errors that were introduced during layout. Other editing changes will incur an additional fee of $50 per page.)

5. The cost of publication of a HJH&SW supplement is $5,000 for an 8-article edition with an introduction from the sponsor or guest editor. Additional articles can be purchased for $500 each with a maximum of 12 articles per supplement. This cost covers one round of copy editing (up to 8 hours), layout, online publication with an accompanying press release, provision of electronic files, and indexing in PubMed Central, SCOPUS, and Embase. The layout editor will email an invoice for 50% of the supplement to the designated editor for payment upon signature of the contract. The remaining will be due at the time of publication. Checks may be made out to UCERA.

6. The sponsor may decide to include advertisements in the supplement in order to defray costs. Please consult with the HJH&SW advertising representative Michael Roth at 808-595-4124 or email rothcomm@gmail.com for assistance.
7. Supplement issues are posted on the HJH&SW website (http://www.hawaiijournalhealth.org) as a full-text PDF (both of the whole supplement as well as each article). An announcement of its availability will be made via a press release and through the HJH&SW email distribution list. Full-text versions of the articles will also be available on PubMed Central.

8. It is the responsibility of the sponsor to manage all editorial, marketing, sales, and distribution functions. If you need assistance, please contact the journal production editor. We may be able to help for an additional fee.

9. The editorial board reserves the right of final review and approval of all supplement contents. The HJH&SW will maintain the copyright of all journal contents.

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Sample Workflow and Timeline for a Supplement

1. The sponsor contacts the HJH&SW editors (hjhsw@hawaii.edu) to discuss the supplement topic, estimated timeline, length and cost. HJH&SW staff will review the journal requirements for articles and share our review process with the sponsor. **Time frame: 2 weeks**

2. The sponsor will complete the draft contract and pay a non-refundable deposit of $2500 or half the contract value. **Time frame: 3 days**

3. The sponsor will solicit articles for the supplement. **Time frame: 3-6 months**

   Articles must comply with:
   - Instructions for Manuscript Preparation and Submission of Research Articles
   - Instructions for Manuscript Preparation and Submission of Columns
   - HJH&SW Statistical Guidelines
   - HJH&SW Style Guide for Native Hawaiian Words and Phrases AMA Manual of Style A free summary can be found here.

4. The sponsor will oversee the article selection, peer review, and editing process. We recommend that time be allowed for at least two rounds of reviews for each article. **Time frame: 3-6 months**

   - Ensure that each article includes Institutional Review Board (IRB) review and approval, and a statement disclosing any conflicts of interest.
   - Obtain a Copyright Transfer Agreement signed by all authors for each article.

5. **Optional:** During this time, the sponsor can solicit advertisements for the supplement to help defray costs for publication and/or printing. To initiate this process, the sponsor will work the HJH&SW advertising representative Michael Roth at 808-595-4124 or roth-comm@gmail.com.

6. The sponsor or their designee will conduct a final review of each article to ensure adherence to HJH&SW guidelines and AMA style. **Time frame: 2 weeks**

7. For each article, the sponsor will submit the final Word document and Copyright Transfer Agreement to the HJH&SW journal production editor. The journal production editor will send the articles to the copy editor for final journal style review. Copyediting will be 8 hours per edition plus 1 hour per article for additional articles purchased. Any additional hours will be billed at $100 per hour. **Time frame: 2 weeks**

8. The sponsor will submit the final articles to the layout editor for formatting. **Time frame: 1 month**

   Acting in the role of guest editor, the sponsor will include a column introducing the supplement.

   **IMPORTANT:** All articles submitted for layout should be in their finalized form. Page proofs will be returned to the sponsor for their review and approval, but changes will only be made to fix any errors that were introduced during the layout process. Any editing or changes to the text or figures after the initial copy layout will incur a fee of $50 per page.

9. The sponsor will review the electronic copy from the layout editor and submit any final corrections. **Time frame: 5 working days**

10. The layout editor will make the final corrections and provide a finished electronic copy of the supplement to the sponsoring editors to allow time for printing.

11. The managing editor will work with the sponsor to draft a press release. Sponsors should contact the managing editor at least 30 days prior to the date of publication to plan and script the press release. Sponsors are encouraged to submit 1-2 photos to accompany the press release. Note that obtaining signed photo releases is the responsibility of the sponsor.

12. The supplement will be published online along with the press release. An electronic copy will be sent to our subscribers and circulation lists, and the edition will be forwarded to the National Library of Medicine for indexing and made available for no cost access to the public.

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New look, same protection.

Serving the professional liability needs of physicians since 1975.

The look is new but our mission hasn’t changed, to deliver innovative and cost-effective medical professional liability protection and patient safety services for physicians and other healthcare professionals. To learn more about becoming an MIEC policyholder, or to apply, visit miec.com or call 800.227.4527.