PRELIMINARY DATA ON THE IMPACTS OF COVID-19 ON FILIPINO IMMIGRANTS IN HAWAI‘I
Danny S. Domingo Jr. BS, BA; Angela G. Phillips BS; Julienne Rose S. Saladino BA; Angela U. Sy DrPH

PREOPERATIVE EDUCATIONAL CLASSES IN ELDERLY PATIENTS MAY NOT BE NECESSARY PRIOR TO ELECTIVE JOINT ARTHROPLASTY
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SOCIAL WORK IN ACTION
The Effects of COVID-19 on Choosing to Have Children in the State of Hawai‘i
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Preliminary Data on the Impacts of COVID-19 on Filipino Immigrants in Hawai‘i

Danny S. Domingo Jr. BS, BA; Angela G. Phillips BS; Julienne Rose S. Saladino BA; Angela U. Sy DrPH

Abstract

Racial and ethnic minorities experience high rates of disease morbidity and mortality. Filipinos in Hawai‘i have the second-highest coronavirus disease 2019 (COVID-19) cases and deaths. This exploratory study examined barriers to compliance with COVID-19 prevention practices for Filipino immigrants residing in O‘ahu and Maui. Cross-sectional data were collected using mixed methods involving surveys and key informant interviews with Filipino community members. Survey responses (n=50) were collected identifying crucial factors to be addressed and preferences for receiving information related to COVID-19. Some Filipino customs and practices were a barrier to complying with COVID-19 prevention practices; nevertheless, cultural sensitivity was stressed for education messaging. In addition, family and community navigators should be equipped with the training and resources to disseminate COVID-19 information within their communities. Attitudinal, cultural, and linguistic barriers to promote health persist for Filipinos in Hawai‘i. The COVID-19 pandemic has exacerbated these barriers due to the circulation of misinformation and lack of information among the Filipino communities of O‘ahu and Maui regarding COVID-19 and local policies. Culturally appropriate support including providing tailored and linguistically appropriate COVID-19 information is recommended. Equipping or training a household member to help navigate COVID-19 policies as they change aligns with this community’s emphasis on familial and social relationships.

Keywords

Coronavirus, COVID-19, Cultural sensitivity, Filipino, Hawai‘i, Healthcare, Immigrants, Public health

Abbreviations and Acronyms

CARES = Coronavirus Aid, Relief and Economic Security
COVID-19 = Coronavirus disease 2019
FilCom = Filipino community
LCL = Philippine language and cultural lecturer
PHRN = public health registered nurse
RDS = respondent driven sampling
RN = registered nurse
RRN = retired registered nurse
SSD = social services director

Introduction

The coronavirus disease 2019 (COVID-19) pandemic has challenged healthcare systems globally. In the United States (US), there has been an overrepresentation of COVID-19 cases among racial and ethnic minorities who have experienced higher COVID-19 related morbidity and mortality. Minorities are overrepresented in disease incidence and this is compounded by incomplete data and a lack of data disaggregation between racial/ethnic minority subgroups.1,2 At the time of this study, from July to August 2020, Filipinos in Hawai‘i had the second-highest COVID-19 related rates behind Pacific Islanders.3 Filipinos comprise 16% of Hawai‘i’s population and between March 8 and December 26, 2020 before vaccines were available, made up 19% of COVID-19 cases. As of April 18, 2022, Filipinos represent 24% of COVID-19 deaths in the state.4

Research Aim

This exploratory, cross-sectional study examined barriers to compliance with COVID-19 prevention practices for Filipino immigrants residing in O‘ahu and Maui from July to August 2020, to recommend culturally and linguistically responsive efforts to support this population.

Significance

In response to racial health inequities heightened by the COVID-19 pandemic, community and culturally relevant support services and programs for minority communities are needed more than ever. Culturally-based health programs that incorporate key members of ethnic minority communities have been shown to facilitate stronger government and community relationships.5,6 The fact that Filipinos are disproportionately represented in COVID-19 cases and deaths in Hawai‘i emphasizes concerns about the health inequities Filipinos face. Since immigrants are among the most vulnerable in the US experiencing health disparities, this research examined recommendations about how COVID-19 prevention communications can specifically target the Filipino immigrant community. Immigrants comprise about 36% of the Filipinos in Hawai‘i.7 Therefore, the goal was to foster stronger relationships with a historically underserved community by involving them in developing COVID-19 prevention information that is culturally and linguistically responsive. The study offered participants an opportunity to collaborate in developing COVID-19 prevention-related information and disseminating resources tailored for the Filipino community.

Methods

Research Design

This exploratory study sought to examine how the COVID-19 pandemic affected barriers to compliance with COVID-19 prevention practices for Filipino immigrants residing in O‘ahu...
and Maui in summer 2020. Cross-sectional data from July 31, 2020 through August 8, 2020 were collected using mixed methods involving surveys and key informant interviews. In this way, data were meant to capture experiences of members of the general population in addition to those of community leaders who may have an informed perspective based on their community involvement during the second quarter after the pandemic began. This study was approved by the University of Hawai‘i IRB under expedited review (protocol #2020-00506). All research team members completed CITI research, ethics, and compliance training. Due to COVID-19 pandemic restrictions, all methods were conducted remotely.

Measurement and Instrumentation

A survey was developed using open-source survey instruments in the National Institutes of Health PhenX Toolkit. The survey (see Appendix A) asked questions regarding demographic information, perceived barriers to health, perceived local and federal government response to the COVID-19 pandemic, personal experiences during the pandemic, and main sources of information. Interview questions (see Appendix B) were developed by the research team and included questions regarding perceived barriers to health and the impact of the COVID-19 pandemic on the general Filipino community, perceptions on public health policies, and recommendations for support and change for this community.

Sampling, Recruitment, and Data Collection

Eligible survey participants were 18 years of age or older, identified as Filipino, were immigrants originating from the Philippines, resided on the island of O‘ahu or Maui, and spoke English or Ilokano. Using respondent driven sampling (RDS), a convenience sample of 5 initial seeds was selected to participate in the survey. They were chosen from the researchers’ personal networks whom they believed would be good for recruiting more participants. RDS was utilized because this approach has been used to reach people in the community often difficult to contact.

Participants chose their preferred method of taking the survey: online, through mail, or through phone call. The survey was offered in English and Ilokano. All 50 participants opted to take the survey online and were provided the link to complete the survey via Google Forms (Google, Mountain View, CA). Each participant was given a $15 gift card for completing the survey. If participants were required to stay home and 24% believed there were no government-imposed requirements in place. Next, when asked about the challenges participants faced in getting COVID-19 information, 50% said that they have not had any challenges, 24% said that the information is too scary, and 20% did not trust the information they got (Table 4). Finally, Table 5 shows that respondents relied mostly on Instagram, Facebook,
or YouTube (Mean=3.7, SD=1.33) for COVID-19 information, followed by local government officials (Mean=3.6, SD=0.98).

Key Informant Interviews

The occupations of the key informants (n=5) included social services director (SSD), Philippine language and cultural lecturer (LCL), registered nurse (RN), public health registered nurse (PHRN), and retired registered nurse (RRN). Three themes that emerged from the data included (1) cultural barriers to COVID-19 prevention, (2) the importance of cultural sensitivity in communicating with the Filipino community, and (3) the proposed solution of “community navigators.”

Cultural Barriers

Key informants identified customs and practices as a major barrier to Filipinos preventing their risk of exposure to COVID-19. The social nature of Filipinos was especially influential. A culture of caring for their own also encompassed the high prevalence of intergenerational households and family obligations to on-island and overseas relatives that may pose barriers to preventing their risk of exposure to COVID-19.

“We love to congregate - cook and eat together, laugh and be in close contact with family and friends, hugging and kissing upon meeting, and in between.” - SSD

“We are very sociable people, we love to socialize. That’s what makes us the way we are. So if you are telling us to social distance, you are really stripping our very core of being a social human being.” - PHRN

“When Filipinos are invited by friends and families for celebration of various occasions, Filipinos feel the shame not to attend as a courtesy of the invitation and friendship/relationship.” - RN

“Mostly I think it’s economic so a lot of us have to go to work or essential workers and that’s it, we have no choice. We have to pay rent so a lot of us are out there being exposed. We’re also supporting others, not only the family we have here but also in the Philippines.” - LCL

Cultural Sensitivity

Cultural sensitivity is essential in communicating COVID-19 information. The approach for the Filipino community in Hawai‘i should be specific. One informant stated that oftentimes the approach taken is a more Western approach, rather than having been adapted or constructed for Filipinos. When tailoring the COVID-19 response to Filipinos, it would be important to translate information into common languages spoken and seek appropriate locations through which they can be reached. The overall approach should involve taking into consideration Filipino culture, customs, and attitudes.

“If they can get information conveyed to them or accessible to them, in their language, in appropriate places [...] delivered in a culturally sensitive manner, not just “are you aware of the,” that’s a very Western approach. But getting somebody within the community to deliver the message, I think that would make a big difference ‘cause they listen to each other.” - LCL

“Yes, and that is also a barrier because our system is designed for English-speaking individuals - applications, and just the whole system in general.” - PHRN

“[Filipinos are heavily impacted by COVID-19 because of] perceived intimidation from the formal care system, perceived feeling of helplessness when confronted with a system that does not understand their language or their customs.” - RRN

“There are not enough information, especially with language access or cultural sensitivity.” - SSD

Community Navigators

Key informants suggested utilizing Filipino networks in training and equipping family members as “community navigators” to disseminate COVID-19 information and resources within their community. As sociable people described in cultural barriers, the social nature of Filipinos was identified by key informants as a positive aspect of Filipino culture able to be utilized in limiting the spread of COVID-19.

“Helping your own family members to navigate the healthcare system, I think that would help, so having someone within our informal network who has the resources, knowledge, and skill to do so. It would be great if we had community navigators who can educate and bring information to the community - sort of like neighbors helping neighbors.” - PHRN

“You need to approach and just push them in their native tongue. Maybe in churches you want to approach it in something related to religion. It depends, I think, on what pocket of the community you know like students, high school students, but you know I definitely think you would have to assemble a task force of some sort.” - LCL

“We need to focus on educating the Filipino families starting from the parents, and the parents will be the mentor of their children. We need to enlighten the Filipino families that to get COVID-19 is not predestined, but a reality that can be prevented.” - RN

“Pinoys are very caring of each other. Use this as a means of delivering community preventive health education.” - RRN

The community navigator role, as suggested by key informants, would be especially beneficial for intergenerational households. In this manner, the information would be better trusted and reach less accessible pockets of the community.
Table 1. Demographic Information of Survey Respondents and Sources of Social Support During the COVID-19 Pandemic

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean n=50</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>31.4</td>
<td>12.14</td>
</tr>
<tr>
<td>Household size (number of persons)</td>
<td>5.5</td>
<td>0.43</td>
</tr>
<tr>
<td>Unemployed adults per household</td>
<td>1.9</td>
<td>0.20</td>
</tr>
<tr>
<td>Adults working from home per household</td>
<td>0.8</td>
<td>0.21</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Island of Residence</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maui</td>
<td>43</td>
<td>86</td>
</tr>
<tr>
<td>O'ahu</td>
<td>7</td>
<td>14</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sources of Social Support</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>44</td>
<td>88</td>
</tr>
<tr>
<td>Friends</td>
<td>39</td>
<td>78</td>
</tr>
<tr>
<td>Religious community</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>All Others</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>3</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 2. Participant Knowledge of COVID-19 Symptoms

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Number n=50</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cough</td>
<td>38</td>
<td>76</td>
</tr>
<tr>
<td>Sore throat</td>
<td>38</td>
<td>76</td>
</tr>
<tr>
<td>Shortness of breath</td>
<td>37</td>
<td>74</td>
</tr>
<tr>
<td>Body temperature higher than 100.4 F or 38 C</td>
<td>35</td>
<td>70</td>
</tr>
<tr>
<td>Chest congestion</td>
<td>32</td>
<td>64</td>
</tr>
<tr>
<td>Headaches</td>
<td>31</td>
<td>62</td>
</tr>
<tr>
<td>Muscle or body aches</td>
<td>28</td>
<td>56</td>
</tr>
<tr>
<td>Fatigue or tiredness</td>
<td>27</td>
<td>54</td>
</tr>
<tr>
<td>Lost sense of smell or taste</td>
<td>26</td>
<td>52</td>
</tr>
<tr>
<td>Runny or stuffy nose</td>
<td>23</td>
<td>46</td>
</tr>
<tr>
<td>Sneezing</td>
<td>21</td>
<td>42</td>
</tr>
<tr>
<td>Vomiting</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>Fever or chills</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Abdominal discomfort</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Unsure</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Dry skin</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Hair loss</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Skin rash</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
Table 3. Participant Knowledge of COVID-19 Policies in Hawai‘i

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social distancing in public is required</td>
<td>40</td>
<td>80</td>
</tr>
<tr>
<td>We are required to wear masks when unable to social distance</td>
<td>35</td>
<td>70</td>
</tr>
<tr>
<td>We are required to wear masks at all times in public</td>
<td>31</td>
<td>62</td>
</tr>
<tr>
<td>We are required to stay at home</td>
<td>24</td>
<td>48</td>
</tr>
<tr>
<td>There are no requirements</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>There are COVID-19 guidelines, but no formal requirements</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Only one family member may leave the home each day</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Not applicable</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Unsure</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 4. Participant Challenges to Getting COVID-19 Information

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have not had any challenges</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>Information is too scary</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>Do not trust the information I am getting</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Unsure</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Information is hard to understand</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Information is difficult to see or hear</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Information is not available in my language</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 5. Common COVID-19 Information Sources for Survey Participants

<table>
<thead>
<tr>
<th>Source</th>
<th>1-5 Scale (Never-Always)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>Instagram, Facebook, or YouTube</td>
<td>3.7</td>
</tr>
<tr>
<td>Local government officials</td>
<td>3.6</td>
</tr>
<tr>
<td>Print or online news</td>
<td>3.4</td>
</tr>
<tr>
<td>Medical or health websites</td>
<td>3.3</td>
</tr>
<tr>
<td>TV or radio</td>
<td>3.2</td>
</tr>
<tr>
<td>Friends, family or neighbors</td>
<td>3.0</td>
</tr>
<tr>
<td>Federal government officials</td>
<td>2.9</td>
</tr>
<tr>
<td>Healthcare providers</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Discussion

As one of the largest immigrant groups in the state and nationally, Filipinos have experienced barriers to health care access prior to the COVID-19 pandemic and continue to do so. In terms of cost of care and insurance coverage, Hawai‘i’s Filipino community believes that health insurance is important, but are not fully aware of all benefits their coverage provides them, especially in preventive health services. Culturally and linguistically, Ilokano and Tagalog are the 2 most commonly spoken languages in homes in Hawai‘i, other than English, at 17.6% each. Meanwhile, the number of Bisaya speakers is substantially less, reported in aggregate with other non-English languages. In accessing the healthcare system, a study of Filipino immigrants in Australia found them to have low confidence in expressing themselves in English although they report high English proficiency. As for employment related to the COVID–19 pandemic, Filipinos constitute a third of Hawai‘i’s nursing workforce and combined with Native Hawaiians and Polynesians, comprise 50% of Hawai‘i’s overall essential workforce. On the other end of the spectrum, many Filipinos work in industries that were shut down due to the pandemic. These considerations are important in contextualizing this study, verifying findings that Filipinos represent workforces most impacted by the pandemic, and experience unfamiliarity with the healthcare system and cultural and linguistic barriers to healthcare.

The first year of the COVID-19 pandemic was marked by uncertainty through changing, and sometimes conflicting, public health recommendations and policies with most of the population who were unvaccinated. Therefore, timely dissemination of such information to the community was of utmost importance in preventing the spread of COVID-19. This study’s data reveal that such timely and accurate information was not reaching segments of the Filipino immigrant community in Hawai‘i. Public health recommendations and policies in the first year of the pandemic also failed to consider cultural barriers to limit COVID-19 spread and cultural sensitivity in disseminating information. This may have affected Filipino immigrants’, and other ethnic group’s, ability to prevent COVID-19 infection.

Both the survey responses and key informant interviews revealed that attitudinal, cultural, and linguistic barriers to health persist for Filipinos during the COVID-19 pandemic. Barriers to healthcare access for Filipinos identified in this study are consistent with the literature. Filipinos rely heavily on relationships with family members, friends, and trusted community organizations (Table 1). However, friends, family, and neighbors were not cited as among the most common sources of COVID-19 information (Table 5). This further supports the suggestion by key informants to employ community navigators who are among these trusted individuals. Incorporating such key stakeholders would further aid in effective communication about COVID-19 to Filipino immigrants in Hawai‘i, including receiving infor-
mation from trusted individuals who understand their culture. Social media (Instagram, Facebook, and YouTube) and local government officials were also identified as the most common sources of information on COVID-19 (Table 5); this points to an opportunity to tailor messaging for this group through such platforms and by official sources.

In Fall 2020, with funding from the City & County of Honolulu Coronavirus Aid, Relief and Economic Security (CARES) Act, the Filipino Community (FilCom) Center and the Legal Clinic collaborated with other local organizations to run FilCom CARES to provide community outreach, free COVID-19 testing, host community pop-up vaccination clinics, and disseminate COVID-19 resources in Philippine languages. FilCom CARES was created by community leaders in response to helping the Filipino and other communities in Hawai‘i. Though community vaccination and testing clinics are no longer being conducted, this community organization remains active in addressing other priority issues for the Filipino community. This study confirms the need for collaborative community efforts, such as FilCom CARES, to address health disparities. Additionally, community programs may reach a broader part of the community by training household members to help more community members navigate rapidly changing COVID-19 information and policies. Appropriate support should also be made available in Philippine languages commonly spoken in Hawai‘i: Ilokano, Tagalog, and Bisaya.

This paper opens the following questions for further study: How have barriers to COVID-19 prevention for Filipino immigrants changed since 2020? What impacts have community programs had on this population? In what ways can these community programs be improved for COVID-19 prevention and adapted for other diseases prevalent among Filipinos? What can we learn from organizing done for Filipino immigrants in other parts of the world or for other populations heavily impacted by COVID-19?

Limitations

The small number of participants reflected the limited timeline for this study of 9 days for recruitment and data collection, leaving the results open to selection bias. RDS was found to have been more successful on Maui, which has a population of about 170,000, with more respondents than on O‘ahu, which has a population of 970,000. Furthermore, about 34% of O‘ahu’s population and 53% of Maui’s population claim part or full Filipino ethnicity. This discrepancy may be attributed to the Maui community’s cohesiveness as a result of the smaller community size. Also, all respondents filled the survey out online, thereby missing segments of the Filipino immigrant population that do not have access to an internet-accessible device. The survey was only offered in English and Ilokano due to language abilities of the research team, excluding persons who speak other Philippine languages. Key informants interviewed were also a small sample and heavily represented nurses, a reflection of internal limitations of the research team’s networks. Similarly to the surveys, key informants had to have access to a device with internet or call capabilities to participate.

Conclusion

This was a pilot study conducted in Summer 2020 to identify barriers to compliance with COVID-19 prevention practices for Filipino immigrants in the early days of the pandemic. Since then, many lessons learned about general prevention of transmission, the existence of vaccines and boosters, and way that the overall pandemic response could be addressed at the state and national levels have been recommended. Nonetheless, the needs and recommendations still hold, indicating the need to acknowledge cultural barriers and utilize cultural sensitivity in messaging to prevent COVID-19 spread among this population. Funding support and community efforts to address health disparities in communities should still and always be a priority to address the consequences of this pandemic among a community that has been hard hit by its effects.

Conflict of Interest

None of the authors identify a conflict of interest.

Acknowledgments

We acknowledge the assistance of Dr. Eunjung Lim in this study. We also thank the survey participants and key informants for taking the time to make this research study possible. A thank you is also extended to Dr. Sharon Bulalang for providing language translations and helping us reach more of the Filipino community. This study was supported by the Minority Health Research Training (MHR) program grant (T37MD008636) from the National Institute of Minority Health and Health Disparities, National Institutes of Health.

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References


Appendix A: Community Survey Questions

Demographics
- Age
- Island of residence: O‘ahu or Maui

Household information
How many residents currently live in your household?
How many adults currently unemployed due to COVID-19 pandemic in your household?
How many adults in your household currently working from home?

Perceived local/government response
In the area in which you currently live, are there government-imposed requirements that affect your movement in and out of your home? [Please check all that apply]
- There are no requirements that affect my movement; I am free to come and go as usual
- Our government has some guidelines, but not formal requirements
- We are required to practice social distancing when we are in public
- We are required to stay at home, but can leave the house to meet basic needs (e.g. buying food or exercising)
- We are required to wear masks when social distancing is not possible (e.g. grocery stores)
- We are required to wear masks at all times in public
- We must request permission from the government to leave home
- Only one family member may leave the home each day
- Unsure
- Other (please specify) _____

Support networks and resources
Who are you receiving social support from? [Please check all that apply]
- Family
- Friends
- Religious community
- Mental health provider
- Health care provider
- Nonprofit and community organizations (list)
- Not applicable
- Other

Main information sources
What are the challenges you have faced in getting information about COVID-19? [Please check all that apply]
- The information is difficult for me to see or hear
- The information is not available in my language
- The information is hard to understand
- The information is too scary
- I do not trust the information I am getting
- Other
- Unsure

How often do you use or rely on the following sources to get information about the COVID-19 outbreak? Choose one answer for each of the following items listed: Never, Rarely, Sometimes, Often, or Always
- Friends, family or neighbors (not including Facebook or social media)
- Providers (e.g. doctor, pharmacist, nurse)
- Local government officials (e.g. Governor, Mayor)
- Federal Government (President, White House Coronavirus Task Force)
- Medical/Health websites (e.g. CDC, WebMD)
- Print or online news
- TV or radio
- Social Media (Instagram, Facebook, YouTube)

Which of the following are the main symptoms people infected with the coronavirus experience? [Please check all that apply]
- Fever or chills
- Rundny or stuffy nose
- Chest congestion
- Skin rash
- Cough
- Sore throat
- Sneezing
- Muscle or body aches
- Headaches
- Diarrhea
- Shortness of breath
- Abdominal discomfort
- Vomiting
- Hair loss
- Dry skin
- Body temperature higher than 100.4 F or 38.0 C
- Lost sense of smell
- Unsure
Appendix B: Key Informant Interview Questions

1. What is your occupation?
2. How would you describe your affiliation and role within the Filipino community?
3. What do you think are the major barriers among Filipinos in preventing their risk of exposure to COVID-19?
4. What are the barriers Filipinos in Hawai'i face in seeking medical help?
5. How do you think these barriers in seeking medical help are related to COVID-19?
6. As you might know, the Filipino community in Hawai'i has the second-highest incidence of COVID-19. What do you think are the major causes of this?
7. Are there common comorbidities that you have observed in Filipinos diagnosed with COVID-19?
8. What impact have you seen on the Filipino community due to the COVID-19 pandemic? Please explain.
9. What do you think about the state’s current coronavirus measures?
10. To what extent do you believe that these measures are effective in preventing coronavirus transmission especially among Filipinos? (e.g. social distancing guidelines, stay-at-home & work-from-home order, travel restrictions)
11. What do you think are the major barriers among Filipinos in following public health guidelines to prevent their risk of exposure to COVID-19?
13. What assistance is needed in the treatment of COVID-19?
14. What assistance is needed in COVID-19 testing (i.e. patient qualification, location, etc)?
15. What assistance is needed in COVID-19 prevention and control measures for the Filipino community?
16. What recommendations do you have to make it easier for Filipinos to access COVID-19 information? (i.e. testing, treatment, prevention measures, support)
17. What recommendations do you have to improve access to linguistically and culturally-appropriate COVID-19 resources for the Filipino community?
18. How can we use the positive aspects of Filipino culture to improve the health of Filipinos in Hawai'i in relation to COVID-19?
19. What other observations or suggestions do you have that may help us, or policy makers, tailor COVID-19 responses for the Filipino community?
Preoperative Educational Classes in Elderly Patients May Not be Necessary Prior to Elective Joint Arthroplasty

Maveric K.I.L. Abella BS; Dylan R.Y. Lawton BS; Krystin K. Wong BA; Scott T. Nishioka BA; Samantha N. Andrews PhD, ATC; Cass K. Nakasone MD, FACS

Abstract

Preoperative arthroplasty classes decrease complications and readmissions, however, in-person classes are inconvenient for elderly patients with mobility limitations. This retrospective review included 232 patients (305 joints) with in-person preoperative educational classes (IPC) and 155 patients (192 joints) with telephone preoperative educational classes (TC). Compared to IPC, TC patients had a shorter length of stay (P<.009), but a greater percentage made at least one postoperative clinic call (22.8% vs 40%; P<.001). No differences were noted in complications, but emergency room visits significantly decreased for total knee TC patients (P=.039). The increase in clinic calls may be addressed through focused changes to the preoperative telephone dialogue, providing a safe and efficient alternative to IPCs.

Keywords

Elective Joint Arthroplasty; Preoperative Education

Abbreviations

GMH = Global Mental Health
GPH = Global Physical Health
HOOS JR = Hip Disability and Osteoarthritis Outcome Score Joint Replacement
IPC = in-person preoperative educational class
KOOS JR = Knee Injury and Osteoarthritis Outcome Score Joint Replacement
PA = physician assistant
PROMIS = Patient-Reported Outcomes Measurement Information System
TC = telephone class
THA = total hip arthroplasty
TKA = total knee arthroplasty
UKA = unicompartmental knee arthroplasty

Introduction

Attending a surgical education class prior to undergoing joint arthroplasty has been shown to reduce length of stay, lower readmission rates, and increase functional activity compared to patients not attending a class. These benefits extend to patient outcomes, with previous research reporting decreased patient anxiety and improved patient satisfaction. The advantages of the surgical education class are closely tied to the timing and delivery of content. Optimally, the class should empower patients to take an active role in perioperative care, create realistic expectations regarding surgical outcomes, and a better understanding of discharge requirements.

Despite the clear advantages of preoperative educational classes, barriers to access include travel requirements and limited functional mobility for patients requiring arthroplasty. Telehealth platforms have been previously evaluated to increase accessibility and preserve the benefits of preoperative educational classes. Conducting preoperative classes via telehealth has been shown to be beneficial in rural or lower resource settings to reduce travel time and costs, but they require technical support and adjustments to clinical operations. Individual telehealth educational services are not necessarily practical, and group telehealth services are not widely performed due to issues regarding medical privacy, especially at high volume arthroplasty institutions. Furthermore, while preoperative patient education classes via telehealth may have many benefits, they can represent a barrier for elderly patients who may be less proficient with technology.

In an effort to provide the benefits of telehealth without the technical aspects, the current study site implemented a short, 15- to 30-minute preoperative educational telephone call (TC) to replace a 2-hour, in-person preoperative educational class (IPC). Replacing the IPC with an abbreviated TC discussion was hypothesized to potentially decrease patient education and preparation which would result in inadequate wound care, poor understanding of home exercises or increase postoperative patient utilization of emergency or urgent access health services. It was also hypothesized that poor preoperative education and preparation could negatively influence postoperative patient reported outcomes. Therefore, the purpose of this study was to compare patient reported outcomes, postoperative complications, and postoperative clinic phone call incidences, between patients attending a preoperative IPC or receiving a preoperative TC prior to elective joint arthroplasty.

Materials and Methods

These data were prospectively collected as part of an on-going joint registry at the current study site, including total hip arthroplasty (THA), total knee arthroplasty (TKA) and unicompartmental knee arthroplasty (UKA), performed by a single, fellowship trained arthroplasty surgeon. The study compared 2 consecutive cohorts of 232 joint arthroplasties following a preoperative IPC (September 2019 to March 2020) and 155 joint arthroplasties following a preoperative TC (May 2020 to October 2020).
Prior to March 2020, all preoperative visits were conducted in-person. A typical class was held 1 week prior to surgery, with approximately 4 to 8 patients per class. Each patient was encouraged to bring a family member or alternative postoperative caregiver to the class, to ensure both the patient and the postoperative caretaker would be informed of preoperative, surgical and postoperative protocols, and recovery expectations. All IPC were conducted by the same nurse who provided scripted information for surgical preparation, including visual demonstration of preoperative self-cleaning procedures as well as instructions for postoperative wound care. Additionally, visual aids were used to demonstrate postoperative wound care. A member of the physical therapy team would review postoperative expectations, exercises, and the functional criteria required to achieve safe discharge. The physical therapist was also responsible for educating patients on home exercises and safe execution of activities required for daily living. Patients were given ample time to ask questions and information competency was evaluated through summary conversations. Following the group educational class, each patient was individually counseled by the physician assistant (PA), during which time unanswered questions could be addressed. The patient then completed other preoperative surgical requirements, such as cardiologist and/or anesthesiologist evaluation, if indicated.

Beginning in May 2020, preoperative IPC was converted to a TC. Patients were individually called by a PA specializing in joint arthroplasty service. This PA is distinctly separate than the clinical nurse who performed the IPC education. However, the information given was the same as the clinical nurse as this instruction was fairly scripted due to the narrow focus of the surgeries being performed. Aside from potential differences in personality or speaking style, the information given was identical. Phone calls were performed by the PA 3 to 7 days prior to surgery. Due to the caseload (approximately 15 surgeries per week) and the requirement for individual TC instruction, the time in which the PA could engage with the patient was limited and typically resulted in about 15 to 30 minutes of verbal instruction. A caretaker or family member was not required to be present on the call. The primary focus of the call was to discuss the same perioperative issues addressed in the IPC. Without the benefit of visual aids of the IPC, the TC focused on preoperative preparation and early postoperative expectations similar to the IPC. Patients were given an opportunity to ask questions before the call ended. All educational visual materials were provided to the patient on the day of surgery following arrival to the surgical admission center. One of several experienced surgical admission center nurses was present to review the written material and answer specific questions prior to surgery. The written material reviewed was the same material normally presented during the IPC.

As part of the standard of care, all patients completed either the knee injury and osteoarthritis outcome score joint replacement survey (KOOS JR)\(^2\) or the hip disability and osteoarthritis outcome score joint replacement survey (HOOS JR)\(^2\) both preoperatively then again at 6-weeks following surgery. All patients also completed the patient-reported outcomes measurement information system (PROMIS) survey which includes the Global Physical Health (GPH) and Global Mental Health (GMH)\(^2\) modules both preoperatively then again at 6-weeks following surgery. The KOOS, JR contains 7 items from original KOOS survey, coded from 0 to 4 (range 0-28), and then converted to an interval score (range 0 to 100), where 0 represents total knee disability and 100 represents perfect knee health.\(^2\) The HOOS, JR contains 6 items from the original HOOS survey, coded from 0 to 4 (range 0-24) and then converted to an interval score (range 0 to 100), where 0 represents total hip disability and 100 represents perfect hip health.\(^2\) The GPH and GMH scores are based on 4 items, each using 5-category response scales, and can be converted to a T-Score metric allowing for comparisons to a general (normative) population to provide summary of health and mental status, respectively.\(^2\) Other data collected included the number of and reason for patient telephone calls made to the orthopedic clinic or primary care physician within 6-weeks following surgery. Reasons for calls were grouped as follows: (1) Medical – unrelated to surgery; (2) Medical – related to surgery; (3) Medication – not including refill requests; (4) Wound Concerns – potential infection; (5) Wound Closure Concern – related to the wound covering coming off or reaction; (6) Administrative – including return to work letter requests; and (7) Physical Therapy questions. Requests for medication refills within 6 weeks were not included in the total calls, as these are considered standard requirements for patient care. Additionally, 90-day emergency room visits, which were defined as a patient returning to be seen in the emergency room but not admitted, and 90-day readmissions, which were defined as readmissions to the hospital for at least 1 night for any reason were reported in this study. Patients who presented to the emergency room and subsequently re-admitted were recorded as readmissions only.

Descriptive statistics, including means, standard deviations, and frequencies, were created for patient demographics for each joint by IPC or TC. Chi-square tests were performed to compare total calls and total emergency room visits between IPC and TC recipients. Joint specific independent t-tests and chi-square tests were also performed to determine differences between IPC and TC recipients. All statistical analyses were completed with SPSS software version 25 (IBM Corp, Armonk, NY) with a significance level of \(P<.05\).

**Results**

Patient demographics and patient reported outcomes between in-person and telephone classes are presented in **Table 1**. There were no differences regarding demographics for patients undergoing THA. For patients undergoing UKA, the TC group was significantly younger than the IPC group \(P=.021\). For patients undergoing TKA, TC patients had lower body mass
index ($P = .006$), were more commonly male ($P = .049$) and had higher preoperative KOOS JR ($P = .042$) and GPH scores ($P = .032$) than IPC patients. For TC recipients undergoing unilateral arthroplasties, the number of patients discharged on the day of surgery increased for THA ($P = .006$), TKA ($P < .001$) and UKA ($P = .008$). For bilateral arthroplasties, no significant increase in outpatient discharge was noted.

Overall, the proportion of patients making at least 1 postoperative clinic telephone call was 40% for TC compared to 22.8% with IPC recipients ($P < .001$). The categorical representation of the reason for the calls is presented in Table 2. By joint, the proportion of patients calling the clinic increased significantly following TC implementation for THA (24.7% to 47.5%, $P = .003$) and UKA (14.9% to 33.3%, $P = .039$) patients. Phone calls following TKA also increased, (25.0% to 36.8%, $P = .088$) however, the difference was not statistically significant. The proportion of all patients seeking treatment at the emergency room decreased from 9.5% in IPC to 3.2% ($P = .013$) for TC patients (Table 1). This was driven by the significant decrease in emergency room visits for TKA patients (16.3% to 5.4%, $P = .039$). There were no significant differences in hospital readmissions or early postoperative complications (Table 1).

Table 1. Comparison of Patient Demographics, Patient Reported Outcome Scores, Length of Stay, Postoperative Phone Calls, Readmissions and Major Complications for Each Arthroplasty Procedure Performed at the Straub Medical Center Between September 2019 – October 2020 Between Patients Receiving In-Person Preoperative Classes (IPC) and Telephone Calls Only (TC) – Mean (SD)/freq (%).

<table>
<thead>
<tr>
<th>Total Hip Arthroplasty</th>
<th>Total Knee Arthroplasty</th>
<th>Unicompartmental Knee</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IPC</strong></td>
<td><strong>TC</strong></td>
<td><strong>P-value</strong></td>
</tr>
<tr>
<td>Number of Patients</td>
<td>93</td>
<td>59</td>
</tr>
<tr>
<td>Number of Joints</td>
<td>119</td>
<td>70</td>
</tr>
<tr>
<td>Age</td>
<td>66.0 (9.3)</td>
<td>66.9 (10.2)</td>
</tr>
<tr>
<td>BMI (kg/m2)</td>
<td>27.6 (5.8)</td>
<td>27.1 (6.1)</td>
</tr>
<tr>
<td>Males</td>
<td>47 (50.5%)</td>
<td>25 (42.4%)</td>
</tr>
<tr>
<td>K/HOOS JR</td>
<td>47.8 (15.1)</td>
<td>45.5 (19.2)</td>
</tr>
<tr>
<td>GPH</td>
<td>39.0 (6.2)</td>
<td>39.2 (7.2)</td>
</tr>
<tr>
<td>GMH</td>
<td>45.4 (8.7)</td>
<td>47.9 (10.6)</td>
</tr>
<tr>
<td>Length of Stay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unilateral (SDD)</td>
<td>8 (11.9%)</td>
<td>16 (33.3%)</td>
</tr>
<tr>
<td>Bilateral (OP)</td>
<td>14 (53.8%)</td>
<td>9 (81.8%)</td>
</tr>
<tr>
<td>90-day Calls*</td>
<td>70 (75.3%)</td>
<td>31 (52.5%)</td>
</tr>
<tr>
<td>None</td>
<td>69 (75.0%)</td>
<td>36 (63.2%)</td>
</tr>
<tr>
<td>One</td>
<td>6 (7.5%)</td>
<td>4 (7.5%)</td>
</tr>
<tr>
<td>&gt;1</td>
<td>1 (1.1%)</td>
<td>1 (1.1%)</td>
</tr>
<tr>
<td>90-day ER Visits</td>
<td>3 (3.2%)</td>
<td>1 (1.7%)</td>
</tr>
<tr>
<td>PeriprostheticInfection</td>
<td>0 (0.0%)</td>
<td>--</td>
</tr>
<tr>
<td>DVT</td>
<td>0 (0.0%)</td>
<td>--</td>
</tr>
<tr>
<td>PE</td>
<td>0 (0.0%)</td>
<td>--</td>
</tr>
</tbody>
</table>
| SD = standard deviation; freq = frequency; K/HOOS JR = KOOS JR and HOOS JR; BMI = body mass index; GPH = global physical health; GMH = global mental health; SDD = same day discharge; OP = discharge within 24 hours following surgery; * = P-value evaluates “None” vs “One” and “>1”; ER = emergency room; DVT = deep vein thrombosis; PE = pulmonary emboli.
Table 2. Reasons for Postoperative Phone Calls to Clinic or Primary Care Physician Within 6 weeks Following Each Arthroplasty Procedure for Patients Receiving In-Person Preoperative Classes (IPC) and Telephone Calls Only (TC) – Frequency (%)

<table>
<thead>
<tr>
<th>Call Reason</th>
<th>Total Hip</th>
<th>IPC</th>
<th>TC</th>
<th>Total Knee</th>
<th>IPC</th>
<th>TC</th>
<th>Unicompartmental Knee</th>
<th>IPC</th>
<th>TC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical (Unrelated)</td>
<td>13 (40.6%)</td>
<td>16</td>
<td>22.9%</td>
<td>3 (10.3%)</td>
<td>6</td>
<td>21.4%</td>
<td>0 (0.0%)</td>
<td>5</td>
<td>13.5%</td>
</tr>
<tr>
<td>Medical (Related)</td>
<td>8 (25.0%)</td>
<td>18</td>
<td>25.7%</td>
<td>2 (6.9%)</td>
<td>6</td>
<td>21.4%</td>
<td>2 (20.0%)</td>
<td>7</td>
<td>18.9%</td>
</tr>
<tr>
<td>Medication (Not Refill)</td>
<td>3 (9.4%)</td>
<td>5</td>
<td>7.1%</td>
<td>5 (17.2%)</td>
<td>4</td>
<td>14.3%</td>
<td>2 (20.0%)</td>
<td>2</td>
<td>5.4%</td>
</tr>
<tr>
<td>Wound Concern</td>
<td>1 (3.1%)</td>
<td>18</td>
<td>25.7%</td>
<td>4 (13.8%)</td>
<td>3</td>
<td>10.7%</td>
<td>1 (10.0%)</td>
<td>8</td>
<td>21.6%</td>
</tr>
<tr>
<td>Wound Care Question</td>
<td>1 (3.1%)</td>
<td>2</td>
<td>2.9%</td>
<td>4 (13.8%)</td>
<td>1</td>
<td>3.6%</td>
<td>0 (0.0%)</td>
<td>6</td>
<td>16.2%</td>
</tr>
<tr>
<td>Administrative</td>
<td>6 (18.8%)</td>
<td>8</td>
<td>11.4%</td>
<td>10 (34.5%)</td>
<td>7</td>
<td>25.0%</td>
<td>5 (50.0%)</td>
<td>6</td>
<td>16.2%</td>
</tr>
<tr>
<td>Physical Therapy</td>
<td>0 (0.0%)</td>
<td>3</td>
<td>4.3%</td>
<td>1 (3.4%)</td>
<td>1</td>
<td>3.6%</td>
<td>0 (0.0%)</td>
<td>3</td>
<td>8.1%</td>
</tr>
<tr>
<td>Total Calls</td>
<td>32</td>
<td>70</td>
<td>37</td>
<td>29</td>
<td>28</td>
<td>37</td>
<td>10</td>
<td>37</td>
<td>37</td>
</tr>
</tbody>
</table>

Discussion

The primary objective of this study was to evaluate the impact on patient safety and clinical operations following elective joint arthroplasty after transitioning from a required preoperative IPC to individual telephone instruction. The most important findings of this study were that 6.3% fewer TC patients sought treatment at the emergency room and there were no significant differences regarding major postoperative complications found between the two groups. Only 1 patient in the THA IPC group suffered a periprosthetic infection ($P = .612$), there were no other infection recorded. Two patients in the TKA IPC group developed a deep vein thrombosis (DVT) compared to none in the TC group ($P = .381$) with only one DVT occurring in the UKA TC group ($P = .447$). Only 1 patient in the TKA TC group suffered a pulmonary embolus ($P = .378$). No other major or significant complications occurred during this period. The current study did not result in any other major complications such as death, stroke, myocardial infarction, significant bleeding issues or other serious systemic complications. However, complications following such routine, standardized procedures performed at the current study site are rare making statistical comparisons difficult. Additionally, length of stay decreased for unilateral patients and was unchanged for bilateral patients. The transition away from preoperative classes unfortunately occurred amid the pandemic; therefore, fears regarding corona virus exposure could have dissuaded patients from seeking additional in-person treatment, which may constitute a limitation on the findings of this study. The increased call volume in the TC group, primarily concerning postoperative instructions and expectations can be used effectively as a substitute for the time consuming (2-4 hour) IPC.

While the TC addressed post-arthroplasty safety procedures, over the course of 6 weeks, the calls increased from 71 (IPC) to 135 (TC), corresponding to an additional 11 (2%) calls per week. While several reasons were noted for the additional call volume, a significant increase from 6 (IPC) to 29 (TC) calls regarding wound concerns was noted following TC implementation. As discussed in the previous paragraph, there are likely several reasons for the increased call volume noted in the TC group, the most significant of which may be the lack of an educated family member or caretaker. The lack of multiple educated family members or caretakers decreases social support and likely increases anxiety and concerns regarding postoperative wound care and expectations, however, this did not result in increased wound complications or infections between groups (Table 1). There was also an increase in surgery-related medical questions among the TC group, primarily concerning postoperative symptoms such as pain, nausea and/or constipation. The need for preoperative emphasis and education regarding these common issues is supported by previous research. The magnitude of information on these subjects, however, is difficult to fully discuss during the TC and likely contributes to the increased questions following surgery. This highlights the need for visual aids or additional instructional media perhaps accessible through electronic patient portals, and/or the inclusion of a family member or caretaker during the call to decrease confusion, misunderstanding or increase retention regarding postoperative instructions and expectations.
The TC changes necessary to preemptively address wound and medical questions, however, will also add further burden to the single PA responsible for carrying out these individual calls. The high surgical volume of the current study site, which averages 15 cases each week, resulted in 7.5 hours spent providing preoperative counseling. Prior to the transition, the 2 hours of group counseling provided by a nurse and physical therapist was followed by approximately 10-15 minutes with a PA to discuss specific concerns. The 4.5 hours of total time saved each week (5 hours saved for PA) could be a significant limitation if implementing a preoperative TC is being considered as standard of care. However, with virtual meeting capabilities increasing, future research should evaluate the feasibility and effectiveness of group TC via a teleconference platform to increase the number of patients per session while allowing questions to be asked anonymously.36

The results of this study should be viewed in light of its limitations. First, the current study site has significant experience (>10 years) delivering multi-disciplinary coordinated patient care related to hip and knee arthroplasty. As such, significant resources such as trained and specialized PAs, preoperative clinical nurses and physical therapists are available to provide IPC or TC instruction. These resources may not be available in all settings, therefore, results may not be generalizable. Additionally, a selection bias, favoring the TC recipients, may be present as pandemic-related fears may have selected out older and unhealthier patients from choosing to undergo surgery during this time. These same fears may may have also contributed to the decreased emergency room visits following surgery as patients may have feared in-person exposure to medical facilities during the pandemic. Furthermore, while an experienced PA performed all TC consultations and instructions, the discussions with patients were subject to the variability of interactions between different patients and could not be scripted or prerecorded. Therefore, patients may have had slightly different aspects of perioperative care discussed based on the individual questions asked. This may have introduced variability in the actual content of TC discussions between patients that could have introduced inconsistencies. Finally, only 6-week follow up KOOS JR, HOOS JR, GPH and GMH scores were reviewed, therefore, longer term clinical impact cannot be inferred. A strength of this study, however, is that 155 joint arthroplasties could be reviewed within a short period due to the high-volume nature of the current study site; furthermore, follow up for the time period reviewed was complete. This time period is critical, as it covers the resumption of elective surgery during the COVID-19 pandemic. Another important strength of this study is that all patients reviewed here received identical surgical care with a very mature and stable surgical protocol. The only difference in treatment of these 2 groups was the way preoperative education was delivered due to the pandemic. All other surgical variables and/or techniques applied were identical and consistent. Therefore, the current study was able to analyze the clinical impact of a single significant change to clinical practice forced to occur as a result of a drastically changed clinical environment (pandemic).

**Conclusion**

A condensed preoperative preparatory TC appears to provide sufficient educational preparation for patients about to undergo elective joint arthroplasty as demonstrated by the low incidence of postoperative complications, readmissions and decreased emergency room visits. However, a significant increase in postoperative clinic call volume was experienced, specifically related to questions regarding the surgical wound or related medical concerns. With greater education focused on the most common concerns identified here during the preoperative preparatory TC, the postoperative increase in call volume could be significantly decreased. This study has demonstrated that the labor-intensive IPC is not necessary to maintain high outpatient discharge rates and low postoperative complications following joint arthroplasty. However, individualized TC education is inefficient, and for practices with high volume and limited resources, individual preoperative TC preparation for joint arthroplasty surgery may not be sustainable and perhaps should be limited for use during unusual circumstances such as pandemic responses.

**Conflict of Interest**

None of the authors identify a conflict of interest.

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**References**

The COVID-19 pandemic has changed the world. Significant research has focused on the direct physical health outcomes related to infection, disparities in infection, and risk factors related to other health conditions. Less well studied are the social conditions that have arisen due to changes in the economy, mobility, social life, and other family dynamics. At the crossroads of these issues are the changes in families’ and individuals’ choices to start or grow their families through the birth of a child.

The number of births in Hawai’i has been declining at a rate of about 1-2% per year since shortly after World War II. This means that in the last five years there were between 200-500 fewer babies born each year than the prior year. This trend matches national trends, where Hawai’i and the United States (US) are now seeing fewer babies being born each year than are needed to maintain current population levels. Hawai’i has also been faced with the departure of many citizens due to high cost of living and various other economic and social factors, showing a population decline overall from the 2010 to 2020 Census.

During the pervasive uncertainty of the pandemic during 2020 and 2021, many people across the US and the world chose not to have babies. According to vital statistics data made available by the Department of Health, in Hawai’i there were 1000 fewer babies born in 2020 than 2019, which is 500-800 fewer than what we would have expected, representing a 6% decline in babies being born that year rather than the expected 1-2% decline. While that significant decrease lasted only for the first year of the pandemic, the state did not show a rebound, and instead stayed at the 2020 level in 2021. There were only 200 fewer babies born in 2021 than 2020, but this number reflects 200-500 fewer births than would have been expected without the pandemic. While all the data has not yet been finalized for 2022, the first half of the year suggests a very small, less than 0.5% gain over the first half of 2021, but birth counts are lower than expected than if there had not been a pandemic. Overall, this suggests that there are somewhere between 1000 and 1500 expected babies that were not born during the 3 years of the pandemic.

Hawai’i County showed the least impact of the pandemic on birth counts, with a difference of only 20 births between 2019, 2020, and 2021. However, Honolulu, Kaua’i, and Maui Counties all showed a steep decline from 2019 to 2020. While Honolulu and Maui Counties both reported a similar number of births from 2020 to 2021, only Kaua’i County showed a rebound that has been described in the continental US, reporting 30 more births in 2021 than those reported in 2019 before the pandemic.

For those who still did have a baby from 2020 to 2023, the experience of having a baby for first time mothers during the pandemic has been found to have been a particular challenge. Maxwell et al and Praetorius et al conducted 4 separate studies on becoming a mother during the COVID-19 pandemic, 1 of which included a Hawai’i specific population. The findings of the Hawai’i specific study indicated that the experience in the perinatal care environment varied wildly based on geographic location in Hawai’i and that reductions in care (time and quality), disempowering environments, traumatization (such as obstetric violence and medically unnecessary interventions), and limited care choices all impacted maternal mental health experiences. The perinatal care environment prompted cultural concerns as well, as many participants did not feel as though providers represented their culture, nor did the environment support them culturally (either through lack of providers that looked/spoke like them, representation in health care media, not understanding familial structures and norms, or within the birthing environment specifically). This disparity in perinatal care, including hostile or burned out providers or lack of providers, prompted new mothers to feel dissatisfied with their birthing process and wishing for more holistic, trauma-informed care.

Many participants noted the lack of perinatal mental health care and awareness in Hawai’i. Perinatal mood and anxiety disorders (PMADs) are a spectrum of emotional complications that can...
affect expectant or new parents during pregnancy or the first year after birth. PMADs often include depression, anxiety, obsessive-compulsive disorder, post-traumatic stress disorder, and bipolar mood disorders and psychosis.\(^7\) PMADs are common, affecting at least 1 in 7 birthing people during pregnancy or the first year after childbirth.\(^5\,6,8\) Common risk factors that contribute to PMADs include history of depression, depression and anxiety during pregnancy, neuroticism, low self-esteem, postpartum blues (“baby blues”), stressful life events, and poor relationships or social support.\(^9\) Hawai‘i is currently the 51st in access to mental health care, with the ratio of mental health providers to patients in need being higher than the national average.\(^10\) Given that certain populations in Hawai‘i have higher than national rates of postpartum depression (particularly Native Hawaiian, Samoan, Filipino, Chinese, and Japanese)\(^11\) the current shortage of mental health care providers might exacerbate the sliding birth rates as hesitancy surrounding limited access could contribute to people’s decisions to have babies.

Another key finding of the study indicated that new parents had to rely heavily on their ‘ohana (family) for support, childcare, and often, housing. Many participants noted if not for their ‘ohana they would have to move off-island. For some, it is possible this choice between high cost of living and staying in Hawai‘i and having a family might prompt them to either relocate or to simply not have babies. Furthermore, findings from all 4 studies showed that pervasive uncertainty, or the uncertainty following unrest related to financial, political, and even climate insecurity, heavily impacted their mental health experiences and exacerbated mental health symptomatology. This pervasive uncertainty could potentially be a contributor to the sliding birth rates, especially in Hawai‘i, during and after the COVID-19 pandemic. Following other natural disasters, such as hurricanes and tsunamis, as well as in the wake of economic downturn, fertility rates dropped\(^12\,13\) so it is possible that COVID-19 associated factors are contributing to the low birth rates as well.

In Hawai‘i, the factors contributing to pervasive uncertainty such as job insecurity, rising costs of living, limited childcare options, and changes in perinatal health care policies were exacerbated by the remote nature of the state, potentially inhibiting more people from making the decision to have babies. The cost of living in Hawai‘i is over 18% higher than the national average, considering geographic location, the high price of goods and services due to shipping to the state, and the high cost of living in comparison to the “low income” relative to those costs.\(^14\) This has become a risk factor for PMADs during COVID-19 as the factors attributed to high cost of living have been directly impacted by the pandemic. For example, the large decrease in shipments of food and supplies to Hawai‘i has created a price increase for goods and services as well as increased food insecurity across the state.\(^14\) Similarly, the general cost of living in Hawai‘i has remained high in recent years and has gotten higher since the COVID-19 pandemic. In addition, the pandemic has had serious impacts on the familial environment including changes in child care availability and pricing, returns away from work-at-home options, and more, that make it harder for families to choose to have children, or to have additional children. Indeed, many participants in the study indicated that lack of child care was a huge concern for them when having babies and the shortage contributed to their anxiety.

Like many industrialized nations such as Monaco, South Korea, Andorra, and Greece that have seen significant declines in their fertility rates, Hawai‘i must not lose sight of how ensuring that the state has policies and practices that are pro-family is important to the overall health and well-being of the state on economic and individual levels. Fewer children mean fewer workers as they become working adults, and fewer workers means less taxes being paid into the state revenues, which support many taxation-based safety net programs. Hawai‘i has the highest life expectancy in the US. While longevity itself is a strength in Hawai‘i’s population, with fewer children, there will be fewer carers for these aging adults, both within families and as potential employees in elder care facilities. The long-term effects could also mean fewer skilled professionals in a state that is already classified as medically underserved in the majority of our counties. If there are fewer quality perinatal care providers, particularly ones with the necessary cultural sensitivity to practice in Hawai‘i, it is possible that fewer people will choose to have babies here, further impacting our fertility rate. The lack of qualified mental health practitioners, particularly those specialize in perinatal mental health, is a concern for those considering having babies especially given the other contextual factors of living Hawai‘i which may inhibit their decisions to contribute to the birth rate.

While the pandemic created a “baby bust” for Hawai‘i, it highlights the fact that it may be time for Hawai‘i to have conscious conversations about how to manage a declining fertility rate. Hawai‘i seems unlikely to have a “baby boom” following our pandemic baby bust, and creating a realistic goal for population size in the state will require significant community discussion, as well as an increase in family-supportive policies and services.

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References


Guidelines for Publication of Hawai‘i Journal of Health & Social Welfare Supplements

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 (https://hawaiijournalhealth.org/authors.htm), especially the instructions for manuscript preparation and the statistical guidelines.
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   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.)

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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.

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Revised 3/21/23
The HJH&SW invites professionals in all health-related fields to contribute columns. The columns of the HJH&SW provide a forum to inform alumni, community, and the general public about what is going on at the University of Hawai‘i (UH), the Hawai‘i State Department of Health (DOH), and in the community.

Authors who are interested in contributing a column should contact the contributing editor for their subject area (listed at the bottom of this page) to learn more about the editing process and deadlines before beginning to write. Columns should be submitted to the journal through the appropriate contributing editor.

Content
Columns are distinct from research articles in that columns:
• express a point of view and cite evidence to support it
• attempt to analyze evidence, rather than produce new evidence

It is important that columns highlight the connection between the topic and Hawai‘i or the Pacific Basin, however the content of individual pieces may vary greatly. Columns can offer a perspective, an opinion, or commentary, or describe activities related to UH, the DOH, or the community. A column may:
• offer an opinion on a timely topic relevant to Hawai‘i or the Pacific Basin
• highlight a program or activity that is occurring in Hawai‘i or the Pacific Basin that may be of interest to readers of the journal
• feature a new initiative or a collaborative effort between organizations
• relay the outcomes of recent major events
• discuss ways to implement best practices in programs

Articles that appear designed to promote a person, product, business, or organization, or do so excessively, will not be accepted. The contributing editor and the editorial board of the HJH&SW will make the final decision as to title, content, and disposition of columns.

Audience
The HJH&SW is accessible to a wide range of readers on a monthly basis. Columns should be written academically, but should reach the average reader with an above-average interest in health education, biomedical research, or related health programs. Readers from any field should be able to clearly understand what is being discussed.

Indexing
Columns are not subject to peer review and thus they may be indexed in Pubmed Central differently than research articles.

Format/Style
The HJH&SW follows AMA style. Columns should be 1000-2000 words long and should be submitted in MS Word. The document should be double spaced and use 12-point, Times New Roman font. Each column should reference at least 2 published or posted sources.

Sections
Columns may include an abstract, an introduction or background section at the beginning, and a conclusion at the end. The sections and subheadings that comprise the body of a column may vary widely and are decided upon by the authors. Authors are encouraged to include an acknowledgement section and include the names of people who contributed to the work that is the focus of the column.

Deadlines
Columns should be submitted to the contributing editor at least 8-10 weeks prior to the month of publication, to allow time for further editing and layout. Please contact the contributing editor for your subject area for further information.

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Questions?
For general questions, comments, or suggestions, please contact HJH&SW graduate assistant Jordan Marshall at: jordanm9@hawaii.edu.
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:

<table>
<thead>
<tr>
<th>‘āina</th>
<th>Mānoa</th>
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<td>ali‘i</td>
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<td>‘ohana</td>
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Important Changes:
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- New subcategories with indicators for Intimate Partner & Sexual Violence (IPV) and Nutrition- Food Insecurity

24 New Indicators, including:
- Caregiving - person has dementia
- Cancer - treatment status (cat)
- IPV - unwanted sex, ever
- IPV - physical abuse, ever
- IPV - physical injuries, past 12 months
- Food security - food didn’t last
- HPV - at least one vaccine (18-29)
- Marijuana - current use
- Marijuana - reason for use (cat)
- Any tobacco - current use
- Cigarettes - usually smoke menthol
- Cigarettes/e-cigarettes - current use

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