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ACCURACY OF DERMATOLOGIST LISTINGS IN HAWAI'I'S MEDICAID (MED-QUEST) PHYSICIAN DIRECTORIES

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THE IMPACT OF A COMMENSALITY INTERVENTION ON PHYSICIAN BURNOUT

Jason C. Seto BA; Jennifer Beals MA; Todd B. Seto MD; Holly Olson MD; Kuo-Chiang Lian MD; Malia Ramirez MD; Susan Steinemann MD https://www.doi.org/10.62547/NCHU6884

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Accuracy of Dermatologist Listings in Hawai'i's Medicaid (Med-QUEST) Physician Directories

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Abstract

Since 2017, Hawai'i has had a statute requiring health plans to update their provider directories at least monthly. However, the results of this study suggest that despite this regulation, errors in physician directories may be an ongoing problem. Using publicly available online Medicaid physician directories from Med-QUEST, Hawaii Medical Service Assoication (HMSA), AlohaCare, 'Ohana Health Plan, and United Healthcare, 473 unique listings for dermatologists were reviewed and 411 (86.9%) of these listings contained at least 1 inaccuracy. Using the deficiency scoring methodology designed by the Centers for Medicare & Medicaid Services (CMS), it was found that the proportions of deficient listings were significantly different among the directories (P<.001). Med-QUEST had the highest weighted final deficiency score of 92.9% and HMSA had the lowest weighted final score of 49.2%. In between were United Healthcare (71.0%), 'Ohana Health Plan (69.7%), and AlohaCare (65.7%). It is unknown whether these results are an improvement from the implementation of the statute. Nevertheless, this issue can cause additional barriers for Medicaid patients who already experience narrower networks and longer wait times for dermatologists. Furthermore, it would also be worth investigating if this issue is also prevalent in listings for other specialties.

Abbreviations

CMS = Centers for Medicaid & Medicare Services HMSA = Hawaii Medical Service Association Med-QUEST = Medicaid program of Hawai'i, QUEST stands for Quality care, Universal access, Efficient utilization, Stabilizing costs, and Transforming the way health care is provided to QUEST members

Introduction

A 2017 review published by the Centers for Medicaid & Medicare Services (CMS) found that 52% of the provider directory locations listed in Medicare Advantage Organizations (MAOs) online directories had at least 1 inaccuracy.¹ These inaccuracies included wrong address, incorrect phone number, or the directory mistakenly indicated that the provider was accepting new patients.¹ This issue has also been found in Medicaid directories.

A study examining the accuracy of Mohs micrographic surgeons listed in state-specific Medicaid physician directories revealed that a majority of the state directories inaccurately listed the status of the surgeon's Medicaid participation.² The study concluded that in a population that already experiences narrower networks, significantly lower acceptance rates and longer wait times among dermatologists, inaccurate physician directories can be an additional barrier to care and negatively impact health outcomes by resulting in delays to care due to perceived lack of in-network physicians.²⁻⁵

As of June 2022, enrollment in the Hawai'i Medicaid program, Med-QUEST, totaled 468 340 individuals.⁶ These individuals rely on Medicaid directories from health plan providers to make informed decisions about their health care and trust that the information they are being provided is accurate. If there are inaccuracies within Medicaid directories, they could potentially lead to frustration and doubt of the reliability of the Med-QUEST system. To see if these issues with accuracy were also prevalent in Hawai'i, this study aimed to conduct a review of the accuracy of dermatology listings in Hawai'i Medicaid directories and identify if inaccurate listings could possibly be a barrier to care for Hawai'i Medicaid recipients.

Methods

This study used publicly available online Medicaid physician directories provided by the State of Hawai'i's Med-QUEST Division and Hawai'i health plan providers ('Ohana Health Plan, AlohaCare, Hawaii Medical Service Association [HMSA], and United Healthcare) to obtain a list of QUEST-participating dermatologists. These directories were accessed during September 2022. A total of 67 providers were listed as QUEST-participating dermatologists in Hawai'i, and 497 unique listings were found. Providers were included in this study if they (1) were dermatologists, (2) had an MD or DO degree (physician assistants were excluded), (3) were listed in a QUEST plan directory, and (4) practiced in Hawai'i (including neighbor islands). Kaiser Permanente providers were not included in this study as it is a closed network.

A script was prepared to determine (1) if the included dermatologists are currently accepting new referrals for QUEST patients, (2) if the listed location and phone number is correct, and (3) if the physician's second language listed on the directory is correct. During the calls, researchers asked the questions:

- Is this the office of [provider's name]?
- Does [provider's name] see patients at this location?
- What is the address of this location?
- Does [provider's name] speak any second languages?
- Is this location currently accepting new referrals for:
- [Health plan name] QUEST patients?

A scripted telephone call was placed to each unique physician listing between December 2022 to January 2023. Calls were placed during varied times of the day during normal business hours (8:00 AM-5:00 PM) and on varied days in the week. If a clinic was successfully contacted, the clinic was marked as complete and the associated call data was recorded. The researchers documented instances when a clinic did not answer the phone or placed the caller on hold for longer than 10 minutes. If this scenario occurred on 3 different occasions, the listing was categorized as unreachable. The study's intention was made clear at the beginning of each call. The individual who answered was asked to participate in an anonymous survey for a project to assess the accuracy of physician directories.

Data collected from these calls were analyzed using a deficiency scoring methodology designed by the CMS¹ to evaluate the severity of deficiencies and provide a consistent comparison method across directories with varying numbers of provider locations.¹ The deficiencies recorded from calls were each assigned a weight between 0 and 3 points (**Table 1**). High scores (3) were assigned to deficiencies that created higher barriers to accessing care (eg, wrong phone number, wrong location, not accepting QUEST plans despite being listed as accepting QUEST plans on the directory). Low weight scores (0) were assigned to deficiencies that did not create a significant barrier to access (eg, misspelled provider name).

Each provider location with at least 1 deficiency was assigned 1 deficiency weight score. If locations had multiple deficiencies, the highest deficiency weight score was assigned. Listings with no phone number available were automatically given a score of 3. Deficiency scores for each of the directories deficient location(s) were then summed up. The CMS deficiency score methodology was used to determine a maximum possible score for each directory by multiplying the number of directory locations by 3. The directory's recorded deficiency score was then divided by this maximum possible score to create the final weighted deficiency score for each directory. This formula was used to minimize the increased likelihood of deficiencies for directories with more locations. Fisher's exact test was used to assess the difference among proportions of deficient listings. Data management and statistical analyses were performed in R version 4.0.2 (R Foundation for Statistical Computing, Vienna, Austria).

The University of Hawai'i's Institutional Review Board reviewed this study and determined it to be not human subjects research, approving the study to be conducted (2022-00650).

Table 1. Types of and Weights of Dermatology Provider Directory Deficiencies

Deficiency	Deficiency Weight
Provider should not be listed in any of the directory-indicated locations because they do not accept QUEST at all.	3
Provider should not be listed in the directory at this location because they do not see patients at this location.	3
Provider should not be listed in the directory as treating patients for this specialty.	3
Phone number is not provided.	3
Phone number needs to be updated or is disconnected.	3
Provider is NOT accepting new referrals for this QUEST plan.	3
Provider is not practicing in the state of Hawai'i.	3
Provider is no longer practicing.	3
Address needs to be updated.	2
Address (suite number) needs to be updated.	1
Provider IS accepting new referrals for this QUEST plan.	1
Second language listed is inaccurate.	1
No errors, all information accurate.	0
Declined to participate in survey.	N/A

Adapted from the Centers for Medicare and Medicaid Services deficiency scoring methodology published in the Online Provider Directory Review Report (2017).¹ Modified to include other common deficiencies found in this study's review.

Results

A total of 497 unique listings and 67 providers were found among all directories. Four providers declined to participate in the survey, so their 24 associated listings were excluded from the review. Overall, the information from 473 listings and 63 providers were reviewed. Of the 473 listings reviewed, 411 (86.9%) had at least 1 deficiency.

Of the 411 listings, a total of 425 deficiencies were found. Out of the 425 deficiencies found, 371 deficiencies had the highest weight of "3," indicating they were more likely to be a barrier to care. These 371 deficiencies were associated with 379 listings or 80.1% of all listings reviewed (this higher number is due to some locations having multiple deficiencies). Instances where the providers should not have been listed in any of the directory-indicated locations because they did not accept QUEST health plan insurance at all made up 112 of the deficiencies (26.4%). In the other 169 instances, the provider should not have been listed at that location because they were no longer practicing (n=71, 17.3%), did not see patients at that location (n=56, 13.6%), or were not practicing in the state of Hawai'i (n=42, 10.2%). In a total of 73 instances, the phone numbers of listings were not provided (n=56, 13.2%), or disconnected/ needed to be updated (n=18, 4.2%). In 16 (3.4%) instances, the addresses of listings were inaccurate. Finally, in 8 (1.7%) instances the directory indicated that the provider was accepting new referrals for the associated QUEST health plan, when they in fact were not. **Table 2** provides a detailed summary of the deficiencies that were identified in this review.

State of Hawai'i Med-QUEST Division

Analysis revealed that the proportions of deficient listings among the directories was statistically significant (P<.001). As displayed in **Table 3** and **Figure 1**, the State of Hawai'i Med-QUEST Division online directory had 315 listings reviewed with 305 (96.8%) having 1 or more deficiencies. This directory had the most listings because it contains listings and dermatologists from all health plans in the state of Hawai'i. The sum total of the Med-QUEST Division's deficiency score was 878 out of a maximum possible deficiency score of 945, resulting in the highest weighted final score of 92.9%.

'Ohana Health Plan

The 'Ohana Health Plan online directory had 33 total listings with 24 (72.7%) containing a deficiency. The total of this directory's deficiency score was 69 out of 99 for a final score of 69.7%.

United Healthcare

United Healthcare's QUEST directory contained 46 listings with 35 (76.1%) having an associated deficiency. The sum of United Healthcare's deficiency score was 98 out of 138 and a final score of 71.0%.

AlohaCare

AlohaCare had 23 (65.7%) deficient listings out of 35 total listings, receiving a deficiency score of 69 from a possible score of 105 for a final score of 65.7%.

HMSA

HMSA had the lowest final score of 49.2%. Twenty-four (54.5%) out of its 44 listings had a deficiency, giving HMSA a total score of 65 out of a possible 132.

Table 2. Types of Medicaid Dermatologist Directory Deficiencies Encountered Ordered by Number of Occurrences, Hawai'i December 2022-January 2023

Deficiency Type	Number of Deficiencies Identified	Percentage of Deficiencies
Provider should not be listed in any of the directory-indicated locations because they do not accept QUEST at all.	112	26.4
Provider is no longer practicing.	71	16.7
Provider should not be listed in the directory at this location because they do not see patients at this location.	56	13.2
Phone number is not provided.	56	13.2
Provider is NOT practicing in the state of Hawai'i.	42	9.9
Phone number needs to be updated or is disconnected.	18	4.2
Provider IS accepting new referrals for this QUEST plan.	16	3.8
Address needs to be updated.	16	3.8
Provider should not be listed in the directory as treating patients for this specialty.	16	3.8
Second language listed is inaccurate.	10	2.4
Provider is NOT accepting new referrals for this QUEST plan.	8	1.9
Address (suite number) needs to be updated.	4	0.9
Total	425	100

Table 3. Sum of Deficiency Scores and Weighted Final Deficiency Scores (%) of Medicaid Dermatologist Directories, Hawai'i December 2022-January 2023

Directory	Total Listings	Deficient Listings	Sum of Deficiency Scores	Maximum Deficiency Score	Weighted Final Score (%)
Med-QUEST	315	305	878	945	92.9
'Ohana	33	24	69	99	69.7
United Healthcare	46	35	98	138	71
AlohaCare	35	23	69	105	65.7
HMSA	44	24	65	132	49.2



Discussion

This study reveals that inaccurate provider directories continue to be an ongoing problem despite the implementation regulatory laws. Dermatologists only make up a fraction of the listings in these directories, yet 86.9% of dermatology listings contained a deficiency. Medicaid patients already face narrower networks and longer wait times when it comes to securing an appointment with a dermatologist.⁷ The addition of inaccuracies in provider directories can make the process even more difficult and frustrating.

This review found that for almost a quarter of the listings, the provider was incorrectly listed as accepting Medicaid referrals when they did not accept Medicaid insurance at all. A possible explanation for this error is that the provider may have accepted Medicaid referrals at some point, but was no longer accepting referrals at the time of the call. However, at some locations, the callers were notified that the provider had in fact never participated in Medicaid, raising the concern of how they ended up listed in Medicaid online directories if this was never true.

Another common problem found was locations listing providers who did not practice there. In several instances, researchers were told that the provider had been retired for more than a year or had never practiced at that location, with some locations being unrelated medical practices or businesses. Another common situation that was seen during this review was group practices with multiple locations having every physician in the practice listed at every location even if this was not the case. This calls into question how often these directories are being updated and if there is a mutual understanding between the clinic and health plan on what is considered "accurate" information.

Inaccurate phone numbers were also a significant issue with directories providing personal phone numbers of unrelated individuals or businesses. For many patients, phone calls are usually the first point of contact to a provider to inquire about health plan participation or make an appointment. If the patient is unable to complete that call, this can further narrow their provider options and increase difficulties in accessing care.

The deficiency of providers not accepting new QUEST referrals despite being shown as accepting was one of the deficiencies with the lowest incidences. In the context of directory inaccuracies, compared to the previously high weighted deficiencies, this error is not a significant contributor to the limited access to care. In contrast, errors where physicians actually were accepting Medicaid when the directory stated they were not, had twice as many instances (3.8% vs 1.9%). Although it was weighted less, being listed as not accepting new QUEST referrals when the clinic actually is can deter patients from contacting the clinic and further limit their options.

Unfortunately, this study revealed that highly weighted deficiencies were the most common errors among dermatology listings in provider directories. This suggests that these provider directories are not serving their purpose both for patients and dermatologists. At minimum, patients will feel inconvenienced by these errors and feel dissatisfied with their health plan. On the other end of the spectrum, patients may experience delays to care, resulting in poor health outcomes. Additionally, patients run the risk of having to pay out-of-pocket for care if they mistakenly use a physician who was not actually in-network. These inaccuracies can also negatively affect the clinic as inaccurate listings may limit their access to potential new patients.

Possible Solution

The issue of errors in provider directories is not a new one. As of 2016, about 38 states have regulations requiring directories to keep listings "up to date" or updated at least once a year.⁸ Hawai'i is one of these states. HI Rev Stat § 431:26-105 (2020) states that a health plan should update its provider directories at least monthly and periodically audit a portion of its directories to ensure accuracy.⁹ This study shows that even with this regulation, Hawai'i provider directories may still contain a high rate of errors, implying that the 2020 statute alone was not enough to fix the issue and there may be other contributing factors.

In 2017, the American Medical Association (AMA) and Lexis-Nexis Risk Solutions surveyed 700 physicians regarding network directory accuracy.¹⁰ Fifty-two percent of physicians surveyed said they have had patients with health insurance coverage issues that were attributed to incorrect listings and 89% stated it was important to be accurately presented in directories. Seventynine percent were unaware of the regulations requiring plans to keep their directory data up to date.

While the new mandates were meant to alleviate the problem, they may have potentially exacerbated the issue. On average, a physician practice has about 20 plan contracts, so physicians are already receiving multiple requests from multiple plans through fax, email, phone, and a variety of other methods to verify their data, increasing the chance of errors, especially if the requests are being answered by different staff.^{10,11} With plans being required to update their directories once to multiple times a year, the new mandates may have increased the administrative burden of physician practices. In a survey of 1240 physician practices conducted by the Council for Affordable Quality Healthcare (CAQH), it was found that practices spend at least 1 day per week on directory maintenance, costing about \$63 004 a year for staff salary, benefits, and overhead.¹¹ The efforts allocated toward directory maintenance are part of the larger issue of health care waste-related costs due to administrative complexity, which has been estimated to be about \$265.6 billion annually.12

Sixty seven percent of physicians said they would prefer a proposed solution to create a single interface where physicians can review and update their information for multiple directories at once.¹⁰ Implementing such a solution for Hawai'i physicians could be beneficial for both practices and patients. Practices can reduce costs related to administrative complexities and for patients, the barrier to care related to directory errors can be reduced.

In addition to streamlining the data gathering process, it would also be helpful to define who is considered a "Medicaid-participating physician." For some physicians, Medicaid patients may only make up a handful of their patient base, while for others, Medicaid patients make up the majority of their patient base. There are also practices that stop accepting Medicaid patients after they have reached a certain percentage of their practice. Defining this will help decrease the number of doctors mistakenly listed as accepting Medicaid referrals and ease the confusion and frustration patients may feel when using directories.

Limitations

This study was completed during a 4-month time frame, so plans may have updated their directories or added new physicians during that time period. It is also unknown if the current state of the directories has improved or worsened as no previous study was conducted prior to the implementation of the state's statute regulating provider directories. The team is also unable to assess if these findings are generalizable to the directories as a whole as it only reviewed dermatology listings. Additionally, listings with no phone number were automatically given a deficiency score of 3. A number from another listing was not used to verify the other information in the listing. This would not have affected the overall deficiency score of the directory in Table 3, but it would have affected the number of occurrences for each error in Table 2.

Conclusion

This study's findings demonstrate that dermatology listings in Hawai'i Medicaid physician directories contain high error rates, even after the statute regulating provider directories was enacted. These inaccuracies were found in all Medicaid directories provided by the major health plan carriers surveyed in Hawai'i (excluding Kaiser). Although this study focused on dermatology listings, in future studies, it would be valuable to include other specialties listed. While the regulations and articles regarding directory errors have been focused on the health plan, practices should also be involved in providing their information in a timely manner, especially if there are any changes, as health plans rely on practices for their data.

Conflict of Interest

None of the authors identify a conflict of interest.

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2023 WRITING CONTEST GRADUATE WINNER

The Impact of a Commensality Intervention on Physician Burnout

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Jason Seto received his BA in biology at Amherst College in 2019. After graduating, he began working as an EKG technician at the Queens Medical Center. In 2020, he went to Malaysia to teach English as part of the Fulbright Fellowship. He started at the John A Burns School of Medicine (JABSOM) in 2021, where he developed an interest in health disparities research as well as the science of burnout and wellness. He has had the opportunity to present at national and international conferences including ACC, ACGME, and PRIDOC. He also served as the health and wellness officer for his class and brought Schwartz Rounds, a forum for the discussion of the emotional aspects of healthcare, to JABSOM. He is currently an MS4 at JABSOM and he is applying into Internal Medicine for residency.

Abstract

Commensality, the act of eating together, when organized around facilitated discussion is an evidence-based intervention that can promote engagement and reduce physician burnout. The purpose of this pilot study is to evaluate the feasibility, acceptance, and impact of a commensality intervention for physicians. The Commensality Intervention was based on a Mayo Clinic model that consisted of 6, 2-hour dinner meetings at local restaurants over 6 months with facilitated discussion. Seven physicians participated, with controls matched by specialty and career stage. All completed the Maslach Burnout Inventory and Areas of Worklife Survey (MBI/AWS) at baseline, 6 months, and 12 months. Results were analyzed using Mann-Whitney tests for comparison of intervention group members to controls. At baseline, 4 of 7 in the intervention group and 3 of 7 controls met criteria for burnout. At 6 months, MBI improved in all dimensions: emotional exhaustion (EE) 24.3 to 17.2; depersonalization (DP) 7.1 to 5.1; personal accomplishment (PA) 40.0 to 43.3. Improvement in EE was significantly greater for intervention group members vs. controls (P=.015). Similarly, every AWS dimension (except reward) improved in the intervention group, with significant improvements in Workload (P=.012), Control (P=.027), and Community (P=.039). At 12 months, improvements in EE (21.6), DP (5.3) and PA (42.7) persisted but were attenuated, with none of the MBI/AWS changes from baseline statistically significant. Findings suggest significant improvements in physician burnout following the intervention, with attenuation at 12-months. Results will be used to support the broader implementation of commensality within the group practice.

Keywords

Commensality; burnout; facilitated discussion

Abbreviations

AWS = Areas of Worklife Survey DP = Depersonalization EE = Emotional Exhaustion MBI = Maslach Burnout Inventory PA = personal accomplishment

Introduction

Physician burnout is an epidemic in the US health care system. Physicians experience burnout at higher rates than the general population, with over 50% of physicians reporting at least 1 major component of burnout, including emotional exhaustion, depersonalization, and reduced sense of personal accomplishment.^{1,2} Physician burnout is known to be detrimental to both the health of physicians and their ability to care for their patients.³ Physicians who are burned out have a higher risk of substance use disorders and suicidal ideation,^{4,5} and are more likely to make errors in patient care.⁶ A 2017 meta-analysis found that physician burnout had a significant negative correlation with both quality of care (r = -0.26) and patient safety (r = -0.23).⁷

Commensality, the act of eating together, when organized around a facilitated curriculum incorporating elements of mindfulness, reflection, shared experience, and small-group learning, is an evidence-based intervention that can promote collegiality, engagement, meaning at work, and other well-being domains that align with physician burnout. Importantly, while West et al demonstrated that facilitated small group discussions during protected work time improved physician empowerment and work engagement,⁸ their recent follow-up study demonstrated that a more informal discussion outside of work, during a meal, and without a trained facilitator, provided similar improvements in a more comfortable and collegial setting, and at a lower cost.⁹

The purpose of this pilot study was to evaluate the feasibility, acceptance and impact of a structured commensality group intervention among physicians in a multispecialty academic group. The team used the Maslach Burnout Inventory (MBI) and Areas of Worklife Survey (AWS) which are commonly used validated measures of physician burnout and workplace satisfaction, as well as professional networking to assess the impact of a commensality intervention.^{10,11} Data from this pilot study will be used to guide the implementation of a commensality-based intervention to address physician burnout.

Methods

This study used a quasi-experimental study design. Physicians who were either members of a wellness committee at the Queen's Medical Center, or who were interested in participating in a quality improvement project, were invited to participate. Of the 9 invited, 2 were unable to consistently attend a dinner meeting; the remaining 7 formed the commensality intervention group. This intervention was based on a Mayo Clinic model and consisted of 6 monthly 2-hour dinner meetings at local restaurants that took place between June and November of 2022.9 The physician participants were allowed to choose the restaurants for their meetings, which occurred during their personal time, and were hosted on a rotating basis by one of the intervention group members. Participants took turns volunteering as facilitators, with each selecting a topic from a curated list of topics developed by the Queen's Center for Physician Professional Development and Wellness, based on the Stanford University and Mayo Clinic commensality models.^{12,13} Topics were designed to stimulate discussion and focus on issues related to burnout frequently encountered by physicians. The topics selected for the sessions were "How do you deal with other physicians' unprofessional behavior?," "What was your perspective of success in your 20s?," "What would you like to do in the next 4-5 years and what would help you get there?," "Are you able to be as kind and compassionate to yourself as you are to your colleagues?," "What is most helpful in managing your stress?," "What wisdom would you like to pass on to your junior colleagues?," and "What personal growth have you attained from professional challenge in the past year?"

In addition to selecting the discussion topic, facilitators led the group discussion with no formal training. IRB approval was obtained from the University of Hawai'i (UH IRB protocol 2022-00532, approved as "exempt").

Each physician in the commensality intervention selected another physician of the same specialty and career stage to serve as a matched control. All completed the Maslach Burnout Inventory (MBI) and Areas of Worklife Survey (AWS) at baseline, at 6 months, and at 12 months.^{10,11} The assessments were self-administered through an online survey website, www. mindgarden.com, which is a confidential online resource for psychological assessment tools. The MBI is the most widely used and validated tool for the assessment of physician burnout.14 It categorizes burnout in 3 domains: emotional exhaustion (EE), personal accomplishment (PA), and depersonalization (DP). The AWS is a brief companion survey to the MBI that was designed to bridge the gap between basic and applied research by identifying target areas for interventions and key organizational areas of strength and weakness.11 The AWS consists of 28 questions that cover 6 domains: workload, control, reward, community, fairness, and values. The commensality group also completed a survey on the attributes and weaknesses of the intervention and impact on interactions with other participants.

Consistent with other studies of physician burnout, the presence of burnout was defined as a score that exceeds standard thresholds on at least 1 of the MBI domains.¹⁵ The change in burnout scores from baseline to 6 months and from baseline to 12 months was compared between the intervention group and the control group using a Mann Whitney test. The statistical software used for analysis was Stata, version 17 (StataCorp LLC, College Station, TX).

Results

As designed, the intervention group and matched control group each consisted of 4 males and 3 females, with 5 full-time and 2 part-time employees; each group had 2 hospitalists, 2 primary care physicians, 1 surgeon and 2 emergency medicine physicians. In the intervention group, 3 members have been at their current position for less than 3 years, and 4 members have held their position for more than 5 years. In the control group, 2 members have been at their position for less than 3 years, 2 members for 3-5 years, and 3 members for more than 5 years (**Table 1**). The overall attendance rate of the sessions was 88% (37 of 42 total possible sessions); 2 physicians missed 2 of the 6 sessions and 1 physician missed 1 session.

At baseline, 4 of the 7 (57%) intervention group members met criteria for burnout, with 3 exceeding the threshold for each $EE \ge 27$ and $DP \ge 10$. None exceeded the PA threshold of PA ≤ 33 . Similarly, 3 of 7 (43%) of the control group met criteria for burnout, with 3 meeting the threshold for EE, 2 for DP, and 1 for PA (**Table 2**).

At 6 months, MBI scores improved in all dimensions for the intervention group: EE 25.0 to 17.2; DP 7.1 to 5.1; PA 40.0 to 43.3 (**Table 2**). Improvement in EE was significantly greater for the intervention group vs. controls (P=.015). Similarly, every AWS dimension (except reward) improved, with significant

improvements in Workload (P=.012), Control (P=.027), and Community (P=.039) (Table 3). At 12 months, improvements in EE (21.6), DP (5.3) and PA (42.7) appeared to persist but were attenuated, with none of the changes from baseline in MBI or AWS reaching the level of statistical significance.

In the 12-month post-survey, 89% of intervention group members stated that during the intervention they were introduced to a new physician or practice that they were previously unaware of, 44% referred or received a patient referral from another member, and 33% had a "curbside consult" with a member which they believe improved patient care. Two-thirds of the participants "strongly agreed" and one-third "agreed" that the commensality group was a unique and valuable program that should be expanded.

Table 1. Demographics of the Commensality Intervention on Physician Burnout Intervention and Control Groups, n= 14					
	Intervention Group (n=7) n (%)	Control Group (n=7) n (%)			
Sex					
Male	4 (57%)	4 (57%)			
Female	3 (43%)	3 (43%)			
Work Status					
Full time	5 (71%)	5 (71%)			
Part time	2 (29%)	2 (29%)			
Time in Current Position					
<1 year	0 (0%)	1 (14%)			
1-5 years	3 (43%)	3 (43%)			
6-10 years	2 (29%)	2 (29%)			
>10 years	2 (29%)	1 (14%)			

Table 2. Maslach Burnout Inventory Scores for Physician Burnout Intervention and Control Groups ^a				
	Emotional Depersonalization Exhaustion (EE) (DP)		Personal Accomplishment (PA)	
Intervention		~	~	
Baseline	25	7.1	40	
6 months	17.2	5.1	43.3	
12 months	21.6	5.3	42.7	
Control				
Baseline	20.3	5.1	38	
6 months	24.1	7.9	41.1	
12 months	22.1	7	40.9	
<i>P</i> -values⁵				
Baseline to 6 months	.015	.094	.44	
Baseline to	.28	.174	.56	

^a Higher burnout is associated with higher Emotional Exhaustion (EE) and Depersonalization (DP) scores, and lower Personal Accomplishment (PA) scores. Burnout thresholds were EE \ge 27, DP \ge 10, and PA \le 33.

^b P-values calculated using Mann Whitney tests. Differences from baseline compared between Intervention and Control groups. P-value ≤ .05 is in bold.

Table 3. Areas of Worklife Survey Scores for Physician Burnout Intervention and Control Groups ^a						
	Workload	Control	Reward	Community	Fairness	Values
Intervention						
Baseline	2.4	3.7	3.9	3.9	3.2	4.3
6 months	3.2	4.3	3.8	4.3	3.8	4.5
12 months	3	3.9	3.8	4.2	3.6	4.3
Control						
Baseline	3	3.6	3.6	4	3.1	3.8
6 months	2.8	3.5	3.8	3.8	3.1	3.9
12 months	2.7	3.6	3.9	4	3	4
P-values ^b						
6 months	.012	.027	.48	.039	.073	.33
Baseline to 12 months	.095	.65	.7	.34	.123	.7

12 months

^a Higher burnout is associated with lower scores for all domains. Scores range from 1 to 5.

^b P-values were calculated using a Mann Whitney test. Differences from baseline compared between the Intervention and Control groups. P-values of < .05 are in bold.

Discussion

This pilot study demonstrated the feasibility, acceptance, and potential impact of a commensality intervention that is coordinated and run by multispecialty physicians who are part of an academic medical practice. These findings suggest significant improvements in emotional exhaustion at 6 months, with slightly attenuated results at 12 months. The consistent improvement of burnout scores across the MBI and AWS dimensions demonstrates the potential for wide-ranging benefits of commensality as an intervention. It is notable that EE was the MBI dimension that showed significant improvement, as EE represents the basic stress level of an individual and is the most reliable of the MBI dimensions across different populations and settings.^{11,16}

Interventions to address physician burnout are generally designed to work at the structural (workplace) or individual level. Although marked by studies with varied study designs, limited sample sizes, and inconsistent study endpoints, there is a growing body of evidence that well-designed and well-implemented interventions can significantly reduce physician burnout.¹⁷ However, in a recent study, less than half of responding organizations implemented any type of burnout intervention, none of which involved structured commensality, and only 28% adopted a comprehensive approach to address clinician burnout, such as the American Medical Association's Joy In Medicine program.¹⁸

The results from this pilot study will help to guide the implementation of a commensality intervention in several ways. First, this pilot study demonstrates the feasibility, and strong support, of a largely self-run physician burnout program that occurs outside of work hours. Although many were hesitant about 'giving up' family and/or personal time, they considered participation in the commensality sessions to be valuable. Importantly, all participants expressed strong support for the program and felt that the time was well-spent. It is likely that the design of the intervention, specifically monthly, 2-hour dinners over the course of 6 months, helped to clearly define the time commitment needed to participate. However, attendance was not perfect. Future studies need to continue to emphasize the commitment necessary due to the longitudinal nature of commensality interventions. Second, while not the primary intent for this study, and, although limited by the small sample size, these data suggest that commensality may improve various domains of physician burnout. Third, this study has sparked interest in other physician and advanced practice providers, who are also willing to participate in commensality-based implementation studies.

To the authors' knowledge, this study is the first to assess the effect of a commensality intervention on physician professional collegiality. These results demonstrate that commensality has the potential to improve cooperation among physicians and make connections across specialties to improve patient care. The attenuated results at 12 months suggest the need for a longer-term intervention. Results from this pilot study will be used to support the broader implementation of commensality among physicians.

Limitations

There are several limitations of this study. First, the study sample size was small, and the study may have been underpowered to fully measure the impact of the commensality intervention using MBI/AWS. While intentionally designed as a proof-ofconcept pilot study, the study does provide helpful information that will guide the implementation of a larger project. Second, most of the study participants were selected from a group who expressed interest in physician wellness, and the study participants in turn selected their own matched control. Thus, these results may suffer from selection bias and may not be generalizable. Third, the best frequency and duration of the commensality sessions, including the need for 'maintenance' sessions is unclear. Fourth, the study only included physicians, as Advanced Practice Providers (APPs) were not part of the medical group at the time of the intervention. APPs will be part of future commensality intervention projects.

Conclusion

In summary, data from this pilot study suggest that a commensality intervention is a feasible, acceptable, and potentially impactful way to address burnout. While no single intervention will appeal to all providers, pilot tests such as this one may help to guide the implementation of evidence-based interventions. Further work needs to be done to investigate the cost and sustainability of commensality interventions, as well as its impact on physician health and patient outcomes.

Conflict of Interest

None of the authors identify any conflict of interest.

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SPOTLIGHT ON NURSING

The Educator Externship: A Cross-Sector Collaboration to Support Health Academy Educators Prepare Aspiring Nursing Students

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The Spotlight on Nursing is a recurring column from the University of Hawai'i at Mānoa Nancy Atmospera-Walch School of Nursing (NAWSON). It is edited by Holly B. Fontenot PhD, APRN, WHNP-BC, FAAN, FNAP; Associate Dean for Research, Professor, and Frances A. Matsuda Chair in Women's Health for NAWSON, and HJH&SW Contributing Editor; and Joanne R. Loos PhD, Science Writer for NAWSON.

The Healthcare Sector Partnership (henceforth: the Partnership) is a collaborative effort between the Healthcare Association of Hawai'i, the Chamber of Commerce Hawai'i, and leaders in the Hawai'i health care community, including the University of Hawai'i at Mānoa (UHM) Nancy Atmospera-Walch School of Nursing (NAWSON). The Partnership works closely to develop a cohesive approach that aligns and expands statewide efforts to build the health care workforce. This approach includes impactful career exposure, technical career preparation, and support for future employment and career advancement.¹

The Partnership seeks to build a strong local talent pipeline for health care careers in Hawai'i. Fortunately, high school students can choose to participate in programs called Health Academies to help meet current workforce needs. Health Academies are multi-year high school programs that prepare students to be workforce-ready before or upon graduation and able to pursue post-secondary studies in health services. Students can gain the knowledge and understanding needed to determine their career interests through specialty tracks (eg, certified nursing assistant (CNA), certified pharmacy technician, certified medical assistant), field trips, class projects, mentoring, and work-study.

Nursing is one of the highest health care needs in Hawai'i, with approximately 1000 open registered nurses (RN) positions in 2022.² Looking more broadly than reported vacancy rates, the US Health Resources and Services Administration approximates a 30% deficit in RNs needed to meet current health care demand in Hawai'i in 2024.³ Fortunately, many students in a Health Academy CNA track also want to continue their education to become RNs.

Nursing school applications are competitive. Despite declining enrollment, recent national data show that over 55 000 qualified applications were turned away from entry-level baccalaureate programs.⁴ In Hawai'i, admission into the bachelor of science in nursing degree progam at UHM is the most competitive in the state.^{5,6} Therefore, high school students who know they are interested in nursing or other health sciences should prepare early and seek extracurricular learning experiences and internships. Through the Partnership, the Chamber of Commerce Hawai'i learned of opportunities to engage with and support Health Academy educators and developed the Educator Externship.

Educator Externship

Through the Partnership, the Chamber of Commerce Hawai'i learned of opportunities to engage with and support Health Academy educators and developed the Educator Externship. The Educator Externship is an educational workshop aimed at helping high school educators better understand various health professional roles to effectively advise students about advancing their education in the health sciences. For example, one component of the Educator Externship involves visiting clinical and university locations to learn about the organization/institution and different health care roles. The Chamber of Commerce Hawai'i has partnered with 3 organizations to provide Educator Externship experiences: Adventist Health Castle Medical Center, Diagnostic Laboratory Services, and, most recently, UHM NAWSON.

Through conversations within the Partnership, high school educators voiced the need for additional knowledge and skills to teach their students about the nursing profession and how to prepare students to enter bachelor of science programs in nursing. In response, UHM nursing faculty volunteered to help. The first Educator Externship was held in the fall of 2023, with 26 Health Academy educators from Admiral Arthur W. Radford, W.R. Farrington, Kapolei, Mililani, Nanakuli, Pearl City, Waianae, and Waipahu High Schools. The Educator Externship curriculum was informed by a needs assessment from the target educators and areas identified by the NAWSON faculty as deficits observed in incoming students. The curriculum of the 4-hour Educator Externship included:

- · Admission criteria for various programs and entry points
- · Comparison of various program pathways
- Guidance for advising students about college life, time management, and program rigors
- Review of national models for nursing clinical judgment and decision-making and relevance for nursing practice
- Preparation tips for learning anatomy and physiology
- Tour of the school's Translational Health Science Simulation Center (THSSC) and hands-on engagement in a clinical simulation scenario
- · Talk story with current nursing students panel

This Educator Externship was evaluated following its completion to understand if the program's goals were met and to solicit feedback on what went well and what other topics were of interest to educators. On the evaluation, participants indicated that they wanted more information on admission criteria for nursing, perspectives on competitive applications, timelines (how early to engage students), high school curriculum development tips, academic rigor, and how to make a student a stronger candidate. A second Educator Externship was developed based on these identified needs. The second Educator Externship occurred in the spring of 2024 with 12 attendees, who were a subset of the original 26 attendees. The curriculum of the second 3-hour Educator Externship included:

- Discussion on admission criteria for various entry into nursing programs and advice from admissions counselors on best practices for mentoring students in the application process
- Bidirectional sharing and idea generation between NAWSON faculty and high school educators so that the faculty can further understand the high school programming and priorities and generate ideas for future priorities and curriculum
- Discussion of tips for how high school Health Academy educators can help students, including communication skills, resiliency, team-based learning, and skills practice

Feedback from Stakeholders

The final evaluation following both Educator Externships showed them to be helpful and informative for the high school educators. Respondents provided more ideas for future offerings, including information about graduate education, best practices for working during college, financial aid, student support options, group time to network and share tactics for teaching nursing so that they can learn from one another, how educators can interact with current nursing students, and simulation equipment recommendations. Additional qualitative feedback included: "[The Educator Externship gave] educators impactful ways to learn from health care professionals and prepare their students for future success in Hawai'i's health care workforce. Through the Partnership, the health care industry is coming together to collaborate on workforce development efforts that build a local, skilled health care workforce," and "[the Educator Externship helped to] share perspectives, clarify misconceptions, and build stronger connections within the educational community. This initiative will help create a more cohesive, seamless, and supportive learning environment." Finally, a nursing student panelist stated: "[the Educator Externship will help educators] guide high school students to consider nursing, allowing them to make informed decisions about pursuing a career in the field... So, I hope that the information I was able to share will positively impact the prospective students who will follow in our footsteps."

Conclusion

As the flagship state school in Hawai'i, the importance and value of partnering with the community to benefit our residents cannot be overstated. We must all work together toward the common goal of meeting the state's nursing workforce needs. The ongoing collaboration between the UHM NAWSON and the Partnership to provide the Educator Externship will benefit educators, students, and the community. Educator Externships will continue in the 2024-2025 academic year, with plans to expand to include guidance counselors and middle-school educators. Curriculum content will continue to be honed and developed to meet the evolving needs of educators and the next generation of students.

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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.

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 \$6,000 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 University Health Partners.

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 (https://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.

Revised 3/21/23

Hawai'i Journal of Health & Social Welfare General Recommendations on Data Presentation and Statistical Reporting (Biostatistical Guideline for HJH&SW)

[Adapted from Annals of Internal Medicine & American Journal of Public Health]

The following guidelines are developed based on many common errors we see in manuscripts submitted to HJH&SW. They are not meant to be all encompassing, or be restrictive to authors who feel that their data must be presented differently for legitimate reasons. We hope they are helpful to you; in turn, following these guidelines will reduce or eliminate the common errors we address with authors later in the publication process.

Percentages: Report percentages to one decimal place (eg, 26.7%) when sample size is >= 200. For smaller samples (<200), do not use decimal places (eg, 27%, not 26.7%), to avoid the appearance of a level of precision that is not present.

Standard deviations (SD)/standard errors (SE): Please specify the measures used: using "mean (SD)" for data summary and description; to show sampling variability, consider reporting confidence intervals, rather than standard errors, when possible, to avoid confusion.

Population parameters versus sample statistics: Using Greek letters to represent population parameters and Roman letters to represent estimates of those parameters in tables and text. For ex ample, when reporting regression analysis results, Greek symbol (β), or Beta (b) should only be used in the text when describing the equations or parameters being estimated, never in reference to the results based on sample data. Instead, one can use "b" or β for unstandardized regression parameter estimates, and "B" or β for standardized regression parameter estimates.

P values: Using P values to present statistical significance, the actual observed P value should be presented. For P values between .001 and .20, please report the value to the nearest thousandth (eg, P=.123). For P values greater than .20, please report the value to the nearest hundredth (eg, P=.34). If the observed P value is great than .999, it should be expressed as "P > .99". For a P value less than .001, report as "P < .001". Under no circumstance should the symbol "NS" or "ns" (for not significant) be used in place of actual P values.

"Trend": Use the word trend when describing a test for trend or dose-response. Avoid using it to refer to *P* values near but not below .05. In such instances, simply report a difference and the confidence interval of the difference (if appropriate), with or without the *P* value.

One-sided tests: There are very rare circumstances where a "one sided" significance test is appropriate, eg, non-inferiority trials. Therefore, "two-sided" significance tests are the rule, not the ex ception. Do not report one-sided significance test unless it can be justified and presented in the experimental design section.

Statistical software: Specify in the statistical analysis section the statistical software used for analysis (version, manufacturer, and manufacturer's location), eg, SAS software, version 9.2 (SAS Institute Inc., Cary, NC).

Comparisons of interventions: Focus on between-group differ ences, with 95% confidence intervals of the differences, and not on within-group differences.

Post-hoc pairwise comparisons: It is important to first test the overall hypothesis. One should conduct *post-hoc* analysis if and only if the overall hypothesis is rejected.

Clinically meaningful estimates: Report results using meaningful metrics rather than reporting raw results. For example, instead of the log odds ratio from a logistic regression, authors should transform coefficients into the appropriate measure of effect size, eg, odds ratio. Avoid using an estimate, such as an odds ratio or relative risk, for a one unit change in the factor of interest when a 1-unit change lacks clinical meaning (age, mm Hg of blood pressure, or any other continuous or interval measurement with small units). Instead, reporting effort for a clinically meaningful change (eg, for every 10 years of increase of age, for an increase of one standard deviation (or interquartile range) of blood pressure), along with 95% confidence intervals.

Risk ratios: Describe the risk ratio accurately. For instance, an odds ratio of 3.94 indicates that the outcome is almost 4 times as likely to occur, compared with the reference group, and indicates a nearly 3-fold increase in risk, not a nearly 4-fold increase in risk.

Longitudinal data: Consider appropriate longitudinal data analyses if the outcome variables were measured at multiple time points, such as mixed-effects models or generalized estimating equation approaches, which can address the within-subject variability.

Sample size, response rate, attrition rate: Please clearly indicate in the methods section: the total number of participants, the time period of the study, response rate (if any), and attrition rate (if any).

Tables (general): Avoid the presentation of raw parameter estimates, if such parameters have no clear interpretation. For instance, the results from Cox proportional hazard models should be presented as the exponentiated parameter estimates, (ie, the hazard ratios) and their corresponding 95% confidence intervals, rather than the raw estimates. The inclusion of *P*-values in tables is unnecessary in the presence of 95% confidence intervals.

Descriptive tables: In tables that simply describe characteristics of 2 or more groups (eg, Table 1 of a clinical trial), report averages with standard deviations, not standard errors, when data are nor mally distributed. Report median (minimum, maximum) or median (25th, 75th percentile [interquartile range, or IQR]) when data are not normally distributed.

Figures (general): Avoid using pie charts; avoid using simple bar plots or histograms without measures of variability; provide raw data (numerators and denominators) in the margins of meta-analysis forest plots; provide numbers of subjects at risk at different times in survival plots.

Missing values: Always report the frequency of missing variables and how missing data was handled in the analysis. Consider add ing a column to tables or a footnote that makes clear the amount of missing data.

Removal of data points: Unless fully justifiable, all subjects included in the study should be analyzed. Any exclusion of values or subjects should be reported and justified. When influential observations exist, it is suggested that the data is analyzed both with and without such influential observations, and the difference in results discussed.



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Hawaiʻi Journal of Health & Social Welfare Style Guide for the Use of Native Hawaiian Words and Diacritical Markings

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	Kaua'i	Oʻahu
Hawai'i	Lāna'i	'ohana
kūpuna	Mānoa	Wai'anae

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