Journal of Racial and Ethnic Health Disparities (2019) 6:652–659
https://doi.org/10.1007/s40615-019-00563-2

"You Want to Give the Best Care Possible, and You Know When They Leave Your Pharmacy, You Didn't Give the Best Care Possible Most of the Time": Pharmacist- and Community Health Worker-Identified Barriers and Facilitators to Medication Adherence in Marshallese Patients

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Received: 23 October 2018 / Revised: 22 January 2019 / Accepted: 23 January 2019 / Published online: 8 February 2019

Abstract

Background The Marshallese experience high rates of chronic diseases including hypertension and diabetes. Medication adherence is crucial to successful disease management, and healthcare providers play a crucial role in assisting their patients with medication adherence.

Methods A qualitative study design was used with individual interviews and focus groups with pharmacists and community health workers (CHWs) serving the Marshallese community in Northwest Arkansas. Participants were asked about their experiences with and perceptions of barriers and facilitators to medication adherence among Marshallese adults in Northwest Arkansas.

Results Eight pharmacists and nine CHWs were interviewed. Five themes emerged regarding barriers to medication adherence: (1) financial, (2) transportation, (3) language, (4) health literacy and understanding of Western medicine, and (5) mistrust. Four themes emerged regarding facilitators to medication adherence: (1) in-depth patient education strategies, (2) efforts to address the language barrier, (3) family engagement, and (4) public transportation and prescription home delivery.

Discussion Pharmacists and CHWs identified the same barriers to medication adherence, which are consistent with those documented in previous studies. Pharmacists also reported distress over their inability to confirm Marshallese patient understanding in relation to the use of prescribed medications.

Keywords Marshallese · Pharmacy · Pharmacist · Medication adherence · Minority health · Pacific Islander · Community health worker

Background

Over 1 million US residents reported their ethnicity as Pacific Islander on the 2010 census [1]. The Pacific Islander population has experienced rapid growth in the USA, most notably in the South, with a 66% increase between 2000 and 2010 [2]. Arkansas has the largest Marshallese population in the continental USA with a dramatic population increase of 197% in the number of migrant residents from 2000 to 2016 [3, 4]. Marshallese are from the Republic of the Marshall Islands (RMI), which served as the primary site of the US military's nuclear testing program from 1946 to 1958 [5]. The RMI signed a Compact of Free Association (COFA) with the USA in 1986 that allows Marshallese migrants to travel to, live, and work in the USA without a visa [6]. In exchange, the COFA gave the US military exclusive use and control over a strategic portion of the Pacific where it maintains a large military base at Kwajalein Atoll [6]. Subsequently, many Marshallese have moved to the USA for educational and employment opportunities. Marshallese COFA migrants were eligible for Medicaid until the passage of the Personal

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Responsibility and Work Opportunity Reconciliation Act (PRWORA) in 1996, which excluded COFA migrants from the "qualified immigrants" category leaving many uninsured or underinsured [6–9]. A recent study of Marshallese adults living in Northwest Arkansas documented that 46.4% (n = 401) had no health insurance [10].

The Marshallese population has rates of chronic diseases that exceed those of the general US population [11]. Higher rates of diabetes, hypertension, and obesity have been reported among Marshallese adults residing in Northwest Arkansas [10]. Medication adherence is necessary for management and sustained control of chronic diseases. While literature on medication adherence among Pacific Islanders is sparse, a 2013 study among American Samoans documented financial, cultural, and knowledge-based considerations as barriers to medication adherence [12]. A recent study among Marshallese patients in Northwest Arkansas also found that cost, transportation, and patient forgetfulness were reported as barriers to medication adherence [13].

Pharmacists and CHWs play an important role in assisting patients with chronic disease management and medication adherence [14]. This study aimed to explore pharmacist and CHW identified barriers and facilitators to medication adherence among Marshallese adults in Northwest Arkansas. This study is a part of a community-based participatory research (CBPR) initiative between the University of Arkansas for Medical Sciences (UAMS) and the Marshallese community in Arkansas, which works to identify primary health concerns and address health disparities [15, 16].

Methods

The qualitative data for this study was collected through individual and focus group interviews. A qualitative descriptive study design was used to explore barriers and facilitators related to medication adherence for Marshallese patients. A qualitative descriptive study summarizes experiences and the meanings participants ascribe to those experiences [17–19]. The study design and procedures were reviewed and approved by the University of Arkansas for Medical Sciences' Institutional Review Board (IRB #206483). Inclusion criteria included two groups of participants. The first group of participants were pharmacists who were 18 years or older and prescribe or dispense medication to Marshallese patients. The second group of participants were Marshallese CHWs 18 years or older who assisted Marshallese patients. The CHWs had all completed a CHW training and certification program. The research team compiled a list of 12 pharmacists known to prescribe or dispense medication to Marshallese patients at local community or outpatient pharmacies to target for recruitment. The team also compiled a list of nine Marshallese CHWs who work in area clinics with Marshallese patients. All eligible pharmacists and CHWs were invited to participate in the study. In total, eight pharmacists and nine CHWs enrolled in the study and were interviewed. While the sample size is small, saturation was achieved after the first six pharmacist and nine CHW interviews [20].

After the consent, pharmacist and CHW participants completed a brief demographic questionnaire (Table 1). Interviews were conducted by two researchers trained in qualitative research methods in the setting of the participant's choice. To accommodate schedules, individual interviews were used with pharmacists and a focus group was held with the CHWs. One individual interview was conducted with an additional CHW who could not attend the focus group. No compensation was given for participation in the study.

Two semi-structured interview guides were developed by the research team with input from Marshallese community members, one for pharmacists and one for CHWs. The semi-structured interview guides were used to allow for in-depth discussion about experiences and perceptions related to Marshallese patients' adherence to medication and also ensured consistency across the interviews. Individual interviews and focus groups lasted from 30 to 60 mins and were audio recorded. Interviews transcripts were transcribed verbatim.

Each transcript was reviewed and coded independently by the two researchers. The research team then reviewed the first four independently coded interviews together, collaboratively identified themes emerging from the data, and organized the themes into a codebook. The two researchers then independently coded the remaining transcripts, and two additional confirmation coders reviewed codes to ensure accuracy and scientific rigor.

Results

A total of eight pharmacists and nine CHWs were interviewed. Participant demographics are presented in Table 1. The majority of those interviewed were female (70.6%). The pharmacists were primarily Caucasian (87.5%) and all CHWs were Marshallese. All participants were located at practice settings in either Fayetteville or Springdale, Arkansas. When asked about the number of Marshallese patients served, pharmacists reported varying answers from two patients per day (~600 per year) to ~1000 per year, and CHWs reported caring for 100–700 patients annually. Only three pharmacists had access to a Marshallese interpreter on-site, and only one pharmacist had access to a phone interpretation service that offered the Marshallese language.

Qualitative data analysis identified seven themes related to barriers and facilitators to Marshallese patients' medication adherence. Five main themes emerged regarding barriers to medication adherence and four main themes emerged regarding facilitators to medication adherence. Each theme is

Table 1 Provider demographic characteristics ($n = 17$)

Parameter	Pharmacists ($n = 8$)	CHWs ($n = 9$)
Gender, female: *n* (%)	5 (62.5)	7 (77.8)
Years in practice: average (range)	12.6 (1–27)	4.0 (8 months–13 years)
On-Site translation, yes: *n* (%)	3 (37.5)	N/A
Free or low-cost services available, yes: *n* (%)	4 (50)	N/A

presented with a description and quotes that best represent the barriers and facilitators reported by participants. In addition, pharmacists reported distress in relation to the barriers they encountered while serving their Marshallese patients. This related salient emergent theme is also presented with supporting quotes.

Barriers to Medication Adherence

Five themes emerged regarding pharmacist and CHW-identified barriers to medication adherence for their Marshallese patients. These include (1) financial, (2) transportation, (3) language, (4) health literacy and understanding of Western medicine, and (5) mistrust.

Financial

All pharmacists identified financial considerations as a primary barrier to medication adherence among Marshallese patients. Financial barrier subthemes included the high cost of medications and a lack of insurance. As one pharmacist stated "they can't afford it… and you notice when you put their stuff back in stock, oh no, they didn't pick it up." (Pharmacist [P] 5) Other pharmacists commented on patients utilizing family financial resources to pay for medications and stated that Marshallese patients, as one pharmacist explained, "would round it [money] up from family… they went to everyone's house and gathered up the money." (P4) Another pharmacist described the financial barrier as "very great" and discussed the difficult dilemmas that Marshallese patients have when trying to pay for basic needs and medication: "If you're going to keep your lights on or take your diabetes medicine, I think most people would say I'm going to keep my lights on, put food in my fridge." (P6)

Prescription insurance coverage, or the lack thereof, was mentioned by pharmacists as a barrier to medication adherence for their Marshallese patients. "If it's not fully covered by insurance, they just don't get it. I usually try to talk to them if it's an antibiotic for a child, or something like that and try to stress the importance of it, but I mean sometimes it's just [financially] out of their reach." (P8) Pharmacists discussed the dilemmas they faced when they know a patient needs medication, but they also know they cannot afford the medication. For example, one pharmacist said "I'm in a bind… what am I going to do… not going to let this kid go without their antibiotic?" (P6) and another explained "it upsets me so much… I'm like should I make it [medication] for them? Should I just give it to them? Should I pay for it?" (P4).

Financial constraints were reported as a barrier to medication adherence by CHWs as well. The cost of medication was the first point voiced by the CHWs when the investigators inquired about barriers to medication adherence. One CHW explained, "Maybe the mom or dad cannot get their medications because the son cannot afford it at that time because he would rather pay for electric, car payments, rent, and all of that." (CHW9) Another CHW said, "In the islands [RMI], you go, you pay your five dollars, and you get seen and get your medication. Here… you're paying a lot of money." (CHW1) Frustration regarding the lack of insurance coverage was also mentioned by CHWs. "Even the disabled ones [Marshallese patients] that were born here and are supposed to have it [and] were or are on Medicaid get cut off" (CHW6) and are unable to purchase their medications.

Transportation

Pharmacists identified limited access to transportation as a barrier. Pharmacists stated "one of the big ones [barriers] I think is transportation… to pick up their prescriptions that they need" (P7) and "Transportation is an issue... they have to leave before it's [their appointment] over because they have to get back because somebody is at work… and somebody needs the car." (P1) CHWs also identified transportation as a barrier to medication adherence. "They don't have transportation to go get the refills." (CHW2) CHWs also highlighted the problem of patients having to travel to several locations for each aspect of health care as the doctor and pharmacy are not in the same building. They discussed that if problems arise at the pharmacy, it may be difficult for the patient to return to obtain medications. "They come to the clinic a far distance and go back to the pharmacy." (CHW9)

Language

All of the pharmacists interviewed reported language as a primary barrier to medication adherence. Language barrier subthemes included difficulty in providing patient education and confirming patient understanding. Pharmacists expressed frustration with their inability to communicate effectively with Marshallese patients. One pharmacist stated "there are words

in the English language that don't translate to Marshallese." (P6) Another pharmacist explained the difficulty of communicating proper dosage amounts: "I'm trying to explain to them 10 mg/mL versus 20 mg/mL… this is 5 mL and this is 10 mL… they have no idea what I'm talking about." (P4) One pharmacist mentioned that communication is limited because "we don't really have any print outs or anything like that for them. Sometimes you have to do like almost an interpretive dance to try to help get their medication across." (P8)

Additionally, pharmacists reported being unable to confirm patient understanding:

> "You can use the most basic language that you can think of and that's what we were taught to do, but a lot of the time, they just shake their head. There is not a way, you can't do the talk back method to them, you can't say can you review what I just told you because either they don't understand those words, or they don't know how to do it." (P8)

Another pharmacist said "we don't speak any Marshallese or I don't understand it so I don't even know if they're telling me something." (P5) One pharmacist specifically requested assistance with increasing their personal knowledge of the Marshallese language.

> "I think it would be very helpful if there were a place where we can learn a little bit of Marshallese language just like, doctor, pharmacist, once daily, very important, twice a day, morning, evening, food. That would be very helpful. I don't need to know much, I just need to know the basics." (P3)

CHWs also identified language as a barrier for medication adherence. CHWs stated that patients often do not understand the instructions on the prescription labels, and CHWs explained that accurate translation from English to Marshallese is difficult. Multiple CHWs reported that "a lot of words" that are used in English are not used in the Marshallese language. CHWs identified that there is only one pharmacy with a Marshallese employee in the Northwest Arkansas area. CHWs stated that access to in-language services was so important that if the Marshallese employee is not working, patients may not go to the pharmacy and may skip refilling prescription(s). "If [the employee] gets a week off of vacation, that patient is going to go on without medication for a week because they [Marshallese patients] prefer to get the service from the Marshallese [pharmacy employee]." (CHW2) This employee is helpful as they "can answer their questions in their own language." (CHW3) CHWs also described Marshallese patients' lack of comfort with phone interpretation services. "Our patients are not comfortable with phone interpreting." (CHW6) When asked if patients liked the phone interpreters, one CHW replied: "No they don't, so they don't really say what's going on with them or if the medicine is really working for them." (CHW9).

Health Literacy and Understanding of Western Medicine

Pharmacists discussed their perception that Marshallese patients do not have basic health literacy and do not understand many processes common in Western medicine. Pharmacists voiced the most concern that their Marshallese patients did not understand the concepts of chronic disease management or medication refills. "I've had some patients tell me that they [patient's health care provider] gave me 30 days for it [medication], that's all I took. I thought I was cured of my blood pressure." (P2) Another pharmacist shared their perception that Marshallese patients do not understand "that once the medication is gone… they need to take it back and get refills." (P7)

CHWs had in-depth discussions about the many differences between health care in the RMI and USA. CHWs described that as a result of these differences, Marshallese patients are often not familiar with health care concepts of preventative care, chronic disease management, prescription refills, and medical appointment scheduling. "Once they [Marshallese patients] run out of it [medication], they don't know that they are supposed to go back and refill it." (CHW2) A lack of understanding of chronic disease management garnered extensive discussion among the CHWs. "A lot of people not taking their medication because they don't feel anything… so if you're saying you have diabetes and your blood sugar is this high, but I feel fine, why should I take medicine that will give me… complications." (CHW1)

The lack of health literacy and understanding of Western medicine extended to patient and provider interactions. CHWs explained that Marshallese patients rarely question their doctor, pharmacist, or other healthcare providers even if they do not understand and even if they have concerns about the side effects or cost of a medication. One CHW explained "people [are] not asking a lot of questions because they feel like they are going to be a burden." (CHW9) The CHWs also reported that Marshallese patients do not understand they can request the doctor send prescriptions to their preferred pharmacy. "The doctor tells them this is where I'm going to have your prescriptions, they'll go there. They're not going to ask questions or say can you send it to this place." (CHW1) Another CHW explained that Marshallese patients also do not know to ask for generic or more affordable medication options and provided an example of a Marshallese patient that "didn't understand that there were other [medications]… that she could ask the doctor to change the medication, and she didn't question it or ask if the doctor could [change it] until I explained that she could." (CHW1)

CHWs also discussed a lack of understanding about Western prescription medication and how it created

concerns among Marshallese patients about side effects. One CHW explained that medication adherence is low among Marshallese patients "because of the stigma that they are going to get sick" because the medicines are "foreign to them [and] they don't know what's in there [because] it is all chemicals." (CHW9) Another CHW stated that medication adherence was low because "side effects scare them." (CHW4)

Mistrust

Perceived mistrust of the pharmacist emerged as a theme. For example, a pharmacists described that "sometimes I feel like they [Marshallese patients] don't feel comfortable asking me questions because they don't know me." (P4) Pharmacists expressed their desire to facilitate trust as well as their discomfort with their lack of understanding regarding how to interact with their Marshallese patients. A pharmacist explained:

> "I feel like they [Marshallese patients] don't trust me, and I don't think I'm doing some random cultural thing correctly. Maybe I'm just not saying something right to create that trust of the pharmacist and a patient. I'm not approaching the situation correctly to create a trustworthy relationship." (P4)

Mistrust of pharmacists and Western medicine emerged as a barrier to medication adherence with CHWs as well. "It's not all the time we tell what we really feel; it has to be somebody we trust." (CHW9) CHWs explained that the lack of trust stems from the US nuclear testing program. "It's really simple because the United States came to the Marshall Islands and destroyed it. I would think that's the first reason Marshallese would say. Of course, I don't trust the white people." (CHW2) Some of the mistrust also stems from the differences in the cost of health care in the USA versus the RMI. One CHW mentioned patients are not often sure where their money goes and stated: "In the Marshall Islands, you go to the hospital and you know they're not making money out of you. It's not for profit. Over here, almost every clinic and hospital, they are for profit." (CHW1)

Facilitators to Medication Adherence

Two themes emerged from both pharmacists and CHWs regarding facilitators to medication adherence with their Marshallese patients. These included (1) in-depth patient education strategies and (2) efforts to address the language barrier. Pharmacists also identified (3) family engagement as an additional medication adherence facilitator, and CHWs described (4) public transportation and prescription home delivery as a facilitator to medication adherence for Marshallese patients.

In-Depth Patient Education Strategies

Pharmacists discussed in-depth education strategies for Marshallese patients as a facilitator to medication adherence. These strategies included simplifying prescription education, visual or pictorial education tools, and regular follow-up with consistent and repetitive education. When describing education efforts, a pharmacist explained "I talk to the patient and every time I'm trying to do it exactly the same" (P3) when the patient comes in. Pharmacists reported using consistent and repetitive in-depth patient education strategies as a good way of "building that relationship and showing them this is really important and helping them along" (P2) and "with extra support it gets better." (P7)

Pharmacists discussed visual or pictorial strategies that they used to assist with patient education. "We have calendars that have pictures of morning, noon, evening, and bedtime and we write their medication down and put how many pills to take at each time to try and help. We use as many models as we can instead of words, we try to show them pictures." (P7) Another pharmacist echoed this strategy: "I know it helps when we give them sheets that have the moon and sun so they can identify with that" (P2) the appropriate times to take their medication. Another pharmacists described "pointing at things, doing once a day, twice a day, three times a day by holding fingers up. With food, just pointing to your mouth. At bedtime, before you go to sleep, I don't know if I've ever done the head on a pillow gesture, but you could try." (P8)

CHWs also identified in-depth patient education strategies as a primary facilitator for medication adherence. CHWs discussed emphasizing the disease being treated, taking lots of time to explain to the patient why the medicine must be taken, possible side effects, and alternatives if that medication does not work or causes adverse effects. When asked what strategies would be helpful to improve medication adherence, one CHW said "I think education is the most important part." (CHW6) Other CHWs stated "educate [patients] on why we need to take the medicine" (CHW1) as well as "offer [an] explanation" (CHW2) of why the patients have to take the medication. CHWs discussed the importance of pharmacists and other health care providers taking the time to explain what medications were made of and, when possible, connecting Western medication to plant-based therapy that are closer to Marshallese traditional medicine. "So when you tell them that the metformin is made from the plant lilac, they will take it since it is made from an herb." (CHW9) A CHW reported their observation that more in-depth patient education had been successful:

> "I will educate them and when they come back next time I know that they know that I taught them so it's like they have that responsibility to do it because they know now. They know what diabetes is doing to their body and they

know the medications and how it is working for them and their diabetes. I have seen people come from 14 A1C down to eight. Big numbers coming down." (CHW9)

Efforts to Address the Language Barrier

All pharmacists interviewed discussed the need to address the language barrier with their Marshallese patients and stated that providing services in the Marshallese language would serve as a facilitator for medication adherence. Pharmacists acknowledged that "if they [Marshallese patient] go to a pharmacy that has someone who speaks Marshallese, then I think it goes much smoother. If they go to a pharmacy where they don't, a lot can be lost in translation." (P7) One pharmacist mentioned wanting an on-site interpreter: "I definitely think if we had a translator that spoke their language, it would be a lot easier." (P4) However, only three pharmacists stated that they have access to a Marshallese interpreter on site.

CHWs discussed the importance of overcoming language barriers by increasing the number of trained Marshallese interpreters employed in local pharmacies. "Hire more people. It's like all these pharmacies would be better if they have more Marshallese." (CHW3) However, CHWs also cautioned that employing Marshallese was not enough and that the Marshallese staff would need advanced interpretation training. "But when you're hiring your interpreters, train them because people may have no clue with medical terminology… it's different. They need to be trained in order to interpret." (CHW1) CHWs also discussed printing prescription labels in Marshallese to overcome language barriers and stated that printing "Marshallese labels would help, really help." (CHW3) Another CHW went on to explain that "we should have the pharmacies print out Marshallese labels… especially the ones that most people take for diabetes and high blood pressure and high cholesterol." (CHW4)

Family Engagement

Pharmacists identified family engagement as a facilitator to medication adherence for their Marshallese patients. Pharmacists discussed the role of family members in encouraging and reminding patients to take their medication. One pharmacists explained "they [patients' family members] hold them a little more accountable [and] explain the info better and at least someone else says hey, you are supposed to be taking this medication." (P3) In describing a patient scenario with insulin dosing, appropriate use, and regular refills, another pharmacist stated "we've started calling his daughter to try to help. That seems to help a little." (P4) In addition, one pharmacist mentioned a son picking up refills for his parents as a successful experience that since it is the "kid that always picks up medications for his parents. He's [patient] very compliant." (P3).

Public Transportation and Prescription Home Delivery

When asked specifically about strategies for overcoming adherence challenges in Marshallese patients, CHWs discussed transportation and specifically recommended the need for better public transportation and prescription delivery to overcome transportation barriers. "More public transportation" (CHW3) and "I think delivery is really good option." (CHW2) Another CHW explained, "This [delivery] should be helpful because a lot of them has a transportation issue and they can't go get their medication." (CHW5)

Pharmacist Distress Regarding the Barriers to Serving Marshallese Patients

Beyond the discussion of barriers and facilitators, pharmacists expressed deep concern for patient outcomes and distress regarding the potential for harm when serving Marshallese patients. Pharmacists reported distress over the inability to confirm Marshallese patient understanding regarding medication utilization, frequency, dosing, and duration. "I'm not sure they [Marshallese patients] are taking it [medication] the way they're supposed to" (P7) and "They're going to get the wrong dose; I'm terrified every time I dispense it [medication] because they're going to take the wrong dose. There's no doubt in my mind. They're getting the wrong dose… and I don't know how to help them… showing them, getting them the syringe, telling them, drawing it out… I don't know what to do." (P4) Pharmacists expressed a desire to provide optimal care, but were distraught given the barriers that constrained them from doing so. As one pharmacist summarized: "You want to try to give the best care possible… you know when they [Marshallese patients] leave your pharmacy you didn't give the best care. You always feel weird when they leave because you don't know if you did everything you could; you just try your best." (P8)

Discussion

This study explored pharmacist and CHW identified barriers and facilitators to medication adherence among Marshallese patients in Northwest Arkansas. The major barriers identified in this study were (1) financial, (2) transportation, (3) language, (4) health literacy and understanding of Western medicine, and (5) mistrust. Interestingly, both pharmacists and CHWs identified the same barriers to medication adherence. These healthcare providers work with Marshallese patients in two different settings, and the fact that the same barriers appeared in both pharmacist interviews and the CHW focus

group strengthens the results. The findings are consistent with prior literature that found that economic concerns, transportation, language, health literacy, and trust are barriers to medication adherence among Asian American, Native American, and Pacific Islander populations in the USA [13, 21, 22]. However, the study adds several significant insights into the nuances of these barriers for Marshallese patients. For example, while financial barriers have been identified as a barrier to medication adherence in other populations, it appears to be more acute among Marshallese. This may be due to the high rates of uninsured and the low-income Marshallese [10, 23]. Furthermore, while language barriers have been identified in other populations, CHWs identified that language barriers go beyond interpretation of words. CHWs described that many English words and Western medical concepts are not easily translated into Marshallese. CHWs also described that Marshallese patients are not comfortable using standard phone interpretation services offered in many health care facilities.

The major facilitators identified in this study by both pharmacists and CHWs were (1) in-depth patient education strategies and (2) efforts to address the language barrier. Pharmacists also identified (3) family engagement as a facilitator, and CHWs described efforts at increasing (4) public transportation and prescription home delivery as ways to increase medication adherence. A primary facilitator identified was the use of language services. This finding is consistent with a 2010 meta-analysis of culturally and linguistically diverse populations, which found the availability of verbal and written translation services improved medication adherence; however, the meta-analysis included minimal Pacific Islanders [24]. CHWs mentioned that addressing the language barrier goes beyond offering in-person interpretation services as they emphasized that printed prescription labels in Marshallese may also help their patients. The need for language services and in-depth patient education to facilitate medication adherence supports the need for the training and employment of more Marshallese interpreters and CHWs in local pharmacies. The use of CHWs to increase patient medication adherence has shown promise with other populations [25, 26]. Interestingly, pharmacists discussed the importance of family engagement. This finding is consistent with prior literature that demonstrates the importance of family members' education and support for improving patient medication adherence [27].

Another primary finding noted was that pharmacists were very concerned and distressed when providing care to Marshallese patients. Pharmacists articulated that their primary concern was regarding adverse events related to improper administration of medications that may occur when they are unable to verify patient understanding. In the state of Arkansas, pharmacy law requires pharmacists to perform patient counseling, defined as "the effective communication by the pharmacist of information… to the patient or caregiver, in order to improve therapeutic outcome by encouraging proper use of prescription medications and drug delivery devices" [28]. A survey of pharmacists on work-related stress found that more involvement in direct patient-care activities correlated with less stress [29]. This is contrary to the results found in this study demonstrating the potential for inadequate patient understanding and patient harm among Marshallese patients may increase pharmacist stress. This study provides new findings related to pharmacist job-related stress and further points to the need for additional training for those caring for the Marshallese in this community.

Limitations

This qualitative study included pharmacists and CHWs who provide care to Marshallese living in Arkansas, which limits the generalizability of this study. However, Arkansas is home to the largest Marshallese population in the continental USA and therefore appropriate for the study. The sample size for pharmacists and CHWs was relatively small; however, no new themes emerged after six interviews suggesting that the sample size was sufficient to reach saturation. The investigators invited several CHWs to participate in this study, but due to CHWs time constraints, only one focus group was conducted. While the study does have limitations, the information gained from this study provides new insights into the barriers and facilitators to medication adherence and can serve as an important basis for policy, practice, and interventions.

Future Plans and Recommendations

The results of this study will be disseminated back to community stakeholders and pharmacists. Pharmacists may deliver better care to their Marshallese patients if they are more aware of barriers to and possible facilitators for medication adherence. Pharmacists are well positioned in the community setting to improve medication adherence by addressing barriers and focusing on facilitators. Pharmacists' efforts could include more individualized patient education. Pharmacists could also hire Marshallese CHWs or other Marshallese interpreters and provide written educational materials in Marshallese. Cultural competency training may also improve the pharmacist-patient relationship and aid pharmacists in improving patient communication, education, and medication adherence. Interprofessional models of care that include multiple health professions working together to provide health education may be particularly important for the Marshallese community. Lack of insurance coverage is crucial, and pharmacists could advocate for policy change to restore Medicaid coverage for Marshallese migrants. This is particularly important for states, like Arkansas and Hawaii, which have not extended Medicaid coverage to Marshallese migrants. Pharmacists should be more conscious of medication costs and seek out medication changes if lower cost alternatives are available. If available, prescription delivery services should be offered to

Marshallese patients to address the transportation barrier. Through advocacy for change and efforts to provide optimal care by addressing barriers to medication adherence, pharmacists can develop better patient-pharmacist relationships, provide better patient care, and improve patient outcomes.

Funding Information The project described was supported by the Translational Research Institute (TRI), grant 1U54TR001629-01A1 through the National Center for Advancing Translational Sciences of the National Institutes of Health (NIH). This pilot study was also funded in part by a grant from the Sturgis Foundation. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH or Sturgis Foundation.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The study design and procedures were reviewed and approved by the University of Arkansas for Medical Sciences' Institutional Review Board (IRB #206483).

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