Health Problems of Micronesian Patients at a Student-Run Free Homeless Clinic

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Abstract

Background: As of November 2006, 41.3% of the residents at a newly established transitional homeless shelter in Hawai'i were of Micronesian descent. A student-run medical clinic operates at this shelter every week. This study examines the medical problems found in the Micronesian patients at this clinic. Methods: A retrospective chart review of 213 patients was conducted. Data was compiled from registration forms, intake forms, and progress notes. Results: The most common medical conditions that patients reported having were musculoskeletal problems, hypertension, and diabetes. For actual patient encounters, health maintenance visits and acute conditions such as upper respiratory infections were the most frequent. Conclusions: Homeless Micronesian patients seen at this shelter presented with problems more similar to the general homeless population than for chronic conditions commonly cared for by providers of care to Micronesians in the community. More information about the health and other needs of homeless Micronesians in Hawaii is warranted. (PHD 2007 Vol 14 No 1 Pages 57 - 65)

Introduction

On March 27, 2006 the city of Honolulu closed Ala Moana Beach Park at night, displacing hundreds of homeless who slept there.^a Local churches attempted to fill the void left by the closure of the park, but their resources were quickly overwhelmed by the number of homeless affected. The State of Hawai'i stepped in on May 1, 2006, and designated a former storage facility as a temporary shelter for those who had been residing at the churches.^b In response to the homeless crisis, the Next Step shelter opened the following day. Coincidentally, the warehouse that houses the shelter is located next to the University of Hawai'i, John A. Burns School of Medicine (JABSOM).

The Hawai'i Homeless Outreach and Medical Education (H.O.M.E.) Project is a JABSOM project committed to healthcare for the homeless, medical education and curriculum development in caring for the underserved, and patient advocacy for the homeless. Shortly after the Next Step shelter's establishment, the first JABSOM H.O.M.E. Project student-run free clinic site was created on May 30, 2006, to provide and coordinate medical care for the shelter's residents. The Next Step shelter initially opened to 200 residents; however, by September the numbers grew to more than 300. Although this is a temporary shelter, the majority of homeless residents at the Next Step shelter have resided there since its opening through the present (March 2007). According to census reports from the Next Step shelter, as of September 2006, of the over 300 residents, 49% were of Micronesian descent.c Children comprised approximately 28% of the shelter's occupants, and 82% of these children were Micronesian.

Through Compacts of Free Association between the United States, the Federated States of Micronesia (FSM [Yap, Chuuk, Pohnpei, and Kosrae]) and the Republic of the Marshall Islands, a large number of migrants from

Micronesia now reside in Hawai'i. Micronesians make up a growing percentage of patients seen in Hawai'i's community outpatient clinics, and are increasingly utilizing the healthcare systems in Hawai'i. It is estimated that from 1996-2000, that Micronesians accounted for approximately \$86 million in costs to Hawai'i's healthcare system.⁴ The majority of these visits are for the care of chronic medical conditions such as hypertension, diabetes mellitus, pregnancy, respiratory problems, and abnormal lipid metabolism. Routine visits, such as contraception management, well child and prenatal care also occur frequently.^d

Homeless patients, on the other hand, often present for acute medical problems. National data illustrate that infections, trauma, and mental health problems are some of the more frequent reasons for homeless patients to seek medical care.^e One of the reasons homeless

patients are not seen for routine visits stems from the large number of homeless without health insurance. Some national estimates put the percentage of homeless without medical insurance as high as 75%.5 The actual number of homeless individuals in Hawaii without health insurance is uncertain and has not been well quantified.

Since Micronesians make up а large proportion of the residents of the Next Step shelter, we sought determine number of homeless Micronesian patients cared for at the H.O.M.E. shelter's clinic. We attempted characterize the medical conditions that the Micronesian patients at the H.O.M.E. clinic are seen for, as well as the preexisting medical conditions that they may have.

We anticipated that many of the problems we would encounter in our H.O.M.E. Micronesian homeless patients would mirror the common problems, as documented by the Hawai'i Primary Care Association,⁴ that Micronesian patients present with in other local outpatient clinics. We further hypothesized that not only would our Micronesian patients have multiple chronic diseases, such as diabetes, hypertension and asthma, but that these would be compounded by health conditions that are common to the homeless, including cellulitis, insect bites, and musculoskeletal injuries.

So that we may better care for our patients, we plan to use the demographic and medical data obtained to tailor the H.O.M.E. clinic to address the unmet needs of our homeless clinic population.

Methods

Table 1. Demographics of Micronesian H.O.M.E. Clinic Patients

Total H.O.M.E clinic patients (as of 11/20/06)	213	
	#	%
Number of Total Patients that are Micronesian	88	41.3
Number of Micronesian patients that were seen by a provider	76	86.4
Number of Micronesian patients that registered but did not see a	10	40.0
provider	12 N=88	13.6 100.0
	N=88	100.0
Sex of Micronesian Patients Seen by a Provider		
Male	22	28.9
Female	54	71.1
Tomale	N=76	100.0
	11.10	100.0
Mean Age	22.9	
Median Age	26	
Age Range: 5 months – 73 years		
Total Number of Children (17 or younger)	29	38.2
Male	10	34.5
Female	19	65.5
	N=29	100.0
Total Number of Adults	47	61.8
Male	12	25.5
Female	35	74.5
	N=47	100.0
Reported Ethnicity of Micronesian Patients		
Chuukese	64	84.2
Marshallese	10	13.2
Kosraean	1	1.3
Pohnpeian	1	1.3
	N=76	100.0

University of Hawaii Institutional Review Board (IRB) approval was obtained for this study (IRB number CHS#14886). A retrospective chart review was performed on the patients seen at the Hawai'i H.O.M.E. Project student-run free medical clinic. As of November 20, 2006, 213 charts, representing the clinic's active population from its inception on May 30, 2006, were available for review. For each patient, we examined the self-reported ethnicity, age, sex and medical history on the clinic intake forms. Visit diagnoses, as documented in the progress note assessment and plan section, were also reviewed. The self-reported history asks whether or not our adult patients have or have ever had the following illnesses/conditions: allergies (hay fever), anemia, arthritis, back trouble, bowel, cancer, cataracts, diabetes, emphysema, fractures, gastroesophageal reflux disease (GERD), glaucoma, heart problems, hepatitis, high blood pressure, HIV/AIDS, leprosy, liver problems, mental illness, pneumonia, seizures, stroke, thyroid problems, tuberculosis, ulcers, or venereal diseases/STDs. Children are screened for histories of asthma, anemia, allergies, chicken pox, cancer, fractures, heart problems, kidney problems, measles, mumps, polio, rheumatic fever, rubella, scarlet fever, and whooping cough. This historical data is reviewed with patients/parents through medical interviews on their initial visit. Clinic providers, comprised primarily

of third year medical students under the supervision of attending faculty physicians performed the historytaking. The patient intake form also asks whether or not the patient has health insurance and responses to this question were reviewed.

Patient progress notes were reviewed by the attending physicians, and final visit diagnoses were taken from the note assessment and plans. The data were compiled, categorized, and analyzed to determine the most common diseases and ailments of the Micronesian adult and pediatric patients. Children were classified as age 17 or younger.

Results

Demographics

Of the 213 patient charts examined, 88 individuals were of self-reported Micronesian ethnicity; this represented 41.3% of the patients seen at the clinic as of Novebmer 20, 2006 (see Table 1). From the 88 charts, 12 were excluded for having registered at the clinic, but never received medical care, and consequently they were not interviewed to complete the history intake forms. Therefore, 76 charts of Micronesian patients were included in our final analysis. The patients of Micronesian ethnicity were further subdivided by their state of origin. 84% of the patients were Chuukese, 13% were

> Marshallese, 1% were Pohnpeian, and 1% were

Kosraean.

The vast majority of

Table 2. Patient Reported Medical Conditions - Adults Condition # of reenenees

<u>Condition</u>	# of responses
None/did not Answer	21
Back trouble	14
Arthritis	9
High blood pressure	9
Diabetes (Type I or II)	8
GERD	7
High cholesterol	7
Bowel trouble	6
Other condition not specified	6
Allergies (hay fever)	5
Fractures	5
Heart problems	4
Anemia	3
Asthma	2
Kidney problems	2
Seizures	2
Stroke	2
Venereal diseases	2
Cancer	1
Cataracts	1
Glaucoma	1
Hepatitis (A, B, or C)	1
Liver problems (non hepatitis)	1
Migraine headaches	1
Thyroid problems	1
Emphysema, HIV/AIDS, leprosy, mental illness, pneumonia, TB, ulcers	0

Table 3. Patient Reported Medical Conditions - Children*

<u>Condition</u>	# of responses
None/not completed	22
Chicken pox	5
Asthma	5
Anemia	1
Allergies	1

^{*}Cancer, fractures, heart problems, kidney problems, measles, mumps, polio, rheumatic fever, rubella, scarlet fever, whooping cough – asked but no reported answers

Reported Existing Medical Conditions

The most common response reported on the medical history intake form for existing medical conditions in both adults and children was "none." This response included those who reported "none" to the questions as well as those who did not answer the question (i.e., space left blank). Of those adults who responded that that they had pre-existing medical conditions, musculoskeletal

problems were the most commonly reported, with back problems being the most frequent response in 14 patients and arthritis in nine. Hypertension, diabetes, GERD, and high cholesterol followed musculoskeletalproblems in decreasing frequency (Table 2).

For children, 22 respondents did not have any reported existing medical conditions. Of those who responded, histories of chicken pox and asthma were the most frequently cited, followed by anemia and allergies (Table 3).

Medical Visit Diagnoses Table 4 lists the H.O.M.E. visit diagnoses for all patients. Upperrespiratory tract infection (URI) was the most common diagnosis for all patients, representing 11.9% of all visit diagnoses. Health maintenance visits and musculoskeletal complaints were the next most common

assessment diagnoses, making up 8.6% and 6.6% of the total, respectively. Health maintenance included visits for physical examinations, well-child care, vaccinations, and disease screening (i.e., hepatitis B). Examples of musculoskeletal diagnoses included patello-femoral syndrome, knee pain, neck strain, chest wall pain, plantar fasciitis, shoulder strain, costochondritis, neck strain, and sciatica. In descending order, the next most common assessed

diagnoses were headaches, menstrual problems, diabetes, pulmonary problems, and insect bites, including scabies and bedbugs.

For adults, the two most common reasons for clinic visits were musculoskeletal complaints (8.2%) and headache (7.3%) (Table 5). This was followed by URIs,

Table 4. Numbers of Medical Visit Diagnoses - Total

<u>Diagnoses/Problems</u>	<u>#</u>	<u>%</u>
Upper respiratory tract infection	18	11.9
Health maintenance/vaccination update	13	8.6
Musculoskeletal problems excluding arthritis	10	6.6
Headache (including migraine)	8	5.3
Menstrual problems	6	4.0
Diabetes and associated complications	6	4.0
Pulmonary problems (including asthma)	6	4.0
Insect infestations	5	3.3
Conjunctivitis	5	3.3
Urinary problems (including urinary tract infections)	5	3.3
Abdominal pain	4	2.6
Acute gastroenteritis	4	2.6
Arthritis	4	2.6
Cellulitis/abscess	4	2.6
Eczema	4	2.6
Non-eczematous / Non-infectious skin lesions	4	2.6
Tinea pedis/corporis/facialis	4	2.6
Vaginitis	4	2.6
Chlamydia	3	2.0
Gastroesophageal reflux disease	3	2.0
Ophthalmologic problems	3	2.0
Otitis externa/media	3	2.0
Allergic rhinitis	2	1.3
Dental problems	2	1.3
Ear nose and throat problems	2	1.3
Gastrointestinal problems	2	1.3
Gynecologic problems (excluding disorders of menstruation/vaginitis)	2	1.3
Hypertension	2	1.3
Neurologic problems	2	1.3
Pneumonia	2	1.3
Polydipsia	2	1.3
Psychiatric problems	2	1.3
Anemia	1	0.7
Fever	1	0.7
Laceration	1	0.7
Pinworms	1	0.7
Venous insufficiency	1	0.7
	N=151	100.0

Table 5. Numbers of Adult Medical Visit Diagnoses

<u>Diagnoses/Problems</u>	<u>#</u>	<u>%</u>
Musculoskeletal problems	9	8.2
Headache	8	7.3
Upper respiratory tract infection	7	6.4
Health maintenance/vaccine update	7	6.4
Menstrual disorders	6	5.5
Diabetes and associated complications	6	5.5
Respiratory symptoms	5	4.5
Abdominal pain	4	3.6
Arthritis	4	3.6
Tinea pedis/corporis/facialis	4	3.6
Urinary symptoms/problems	5	4.5
Cellulitis/abscess	3	2.7
Skin lesions	3	2.7
Vaginitis	3	2.7
Chlamydia	3	2.7
GERD	3	2.7
Insect bites/infestations	2	1.8
Eczema	2	1.8
Ocular problems	2	1.8
Otitis externa/media	2	1.8
Allergic rhinitis	2	1.8
Other gynecologic symptoms	2	1.8
Hypertension	2	1.8
Neurologic symptoms	2	1.8
Polydipsia	2	1.8
Psychiatric problems	2	1.8
AGE	1	0.9
Conjunctivitis	1	0.9
Dental problems	1	0.9
Ear nose throat problems	1	0.9
Other gastrointestinal symptoms	1	0.9
Anemia	1	0.9
Laceration	1	0.9
Pinworms	1	0.9
Urinary tract infection	1	0.9
Venous insufficiency	1	0.9
	N=110	100.0

health maintenance, menstrual disorders, diabetes, and respiratory symptoms.

URI was the leading diagnosis in children (26.8%) (Table 6). Healthcare maintenance visits were the second leading reason for pediatric clinic visits (14.6%). This was followed by acute gastroenteritis, insect bites, and conjunctivitis, each representing 7.3% of visits. Eczema, and pneumonia followed, both at 4.9%.

Health Insurance

Of the 76 Micronesian patient charts examined, 77.6% reported having some form of health insurance (Table 7). Twenty-two percent of the charts had no insurance listed. The most common insurance that the homeless

Micronesian patients had was Med-QUEST (60.5%), the state insurance coverage for low income individuals. Of those with a Med-QUEST plan, 78.3% had Aloha Care. Almost all of the insured (n=50, 84.7%) belonged to programs for low-income individuals, including Aloha Care, Hawaii Medical Service Association (HMSA) Quest, and Medicaid.

Twenty (26.3%) of the patients with health insurance reported having a primary care physician that they had seen before their H.O.M.E. clinic visit. Patients who did not know if they had a primary care physician or who had never established care with their primary care physician were counted the same as those patients without one.

Discussion

The Hawai'i H.O.M.E. Project clinic patients reflect the overall ethnic distribution of the shelter's residents as a whole. At the time of this chart review, Micronesians made up 49% of the residents of the Next Step shelter,³ and represented 41% of the patients seen in the clinic (Table 1). However, the

percentage of men and women seen in the clinic was reversed. Females represented 43.4% of the shelter population and 71.1% of the clinic patients. Males represented 56.6% of the shelter population but only 28.9% of the clinic patients. This discrepancy may be expected given the general propensity for women to seek medical care at a higher rate than men.

By far, the largest Micronesian group living in the shelter, and cared for by our clinic, are the Chuukese (84%) (Table 1). In contrast, the largest Micronesian group living in Hawai'i as suggested by recent counts, are the Marshallese.⁴ However, the Marshallese comprised only 13% of the clinic's Micronesian population. We speculate that the numbers of Chuukese living in the Next Step

shelter and receiving care at our clinic may be higher than other groups because they are the fastest growing community of Micronesians living in Hawai'i.4 As newer migrants, they may not have as many established ties to Hawai'i and, as such, may be more likely to be homeless as compared to the Marshallese. The reasons for their homelessness, however, were not addressed in this study. Percentages of the different Micronesian groups cared for by our local outpatient clinics and community health centers have not been officially quantified and may also be an additional area of further inquiry.

Table 6. Numbers of Children (≤17) Medical Visit Diagnoses

Diagnoses/Problems	<u>#</u>	<u>%</u>
Upper respiratory tract infection	11	26.8
Well child care/vaccine update	6	14.6
Acute gastroenteritis	3	7.3
Bedbugs/insect bites/scabies	3	7.3
Conjunctivitis	3	7.3
Eczema/atopic dermatitis	2	4.9
Pneumonia	2	4.9
Abscess	1	2.4
Acute otitis media	1	2.4
Asthma	1	2.4
Candidal vaginitis	1	2.4
Diarrhea	1	2.4
Epistaxsis	1	2.4
Fever	1	2.4
Strabismus	1	2.4
Teething	1	2.4
Hives	1	2.4
Shoulder strain	1	2.4
	N =41	100.0

For both children (76%) and adults (28%), the most common response to the medical history intake form was no prior existing conditions or no response to the questions (Tables 2 and 3). Because our overall patient population is young (mean age 23), they may be less likely to have existing chronic diseases such as diabetes and hypertension.

Of the responses we did gather from the history forms regarding prior existing medical conditions, chronic diseases such as diabetes, high cholesterol, and hypertension were reported in greater frequency by our patients (Table 2). This is consistent with what would be expected from a Micronesian population. According to the World Health Organization, chronic disease accounted for 64% of all deaths in the FSM in 2002. ^f Common chronic diseases included cardiovascular disease, cancer, respiratory disease, and diabetes. Furthermore, while there is limited data about chronic diseases among Micronesians in Hawai'i, according to the Hawai'i Primary Care Association, top reasons for medical visits among Micronesians in Hawai'i in 2003-2004 included hypertension (first), diabetes (second), and disorders of lipid metabolism (eighth).4 Hence, our study results coincide with observational and anecdotal reports from providers of care to Micronesian patients in outpatient clinics and community health centers in Hawai'i.

While our adult patients reported having existing chronic medical conditions, with the exception of diabetes and pulmonary problems such as asthma, the majority of our actual patient visits were for acute problems such as URIs, musculoskeletal complaints, headaches and skin conditions (Tables 4 and 5). When patients presented for chronic medical conditions, the visits were focused more on management of these conditions, such as providing refill prescriptions, checking of blood sugars, and taking blood pressure measurements, rather than diagnosis of them. Homeless individuals in general have high rates of both acute and chronic health problems, however, because they lack housing and are often subject to financial difficulties and harsh conditions of life on the street, meeting basic needs such as shelter, food and finances takes priority over receiving care for chronic diseases. For these reasons, health problems commonly encountered in homeless health clinics tend toward the acute, including URIs, trauma, infectious diseases and skin conditions.5,g,h Our Micronesian patients were no exception to this.

Likewise, the conditions for which we treated our pediatric patients are consistent with national homeless statistics for children's healthcare (Table 6). Studies examining the medical problems of homeless children have also shown that the leading health concerns for patient medical visits in this population are acute illnesses with URIs, ear disorders, skin disorders and gastrointestinal problems topping the list.⁷

Due to a recent hepatitis awareness campaign at the shelter, as well as the availability of vaccinations at our clinic, health maintenance items including vaccination updates, hepatitis screening, and physical examinations may have been seen in relatively higher frequency in both our adults and children than may be expected for a homeless shelter clinic. The fact that the majority of the medical students providing care to our H.O.M.E. patients are in their third year Family Medicine clerkship where health prevention and promotion are emphasized may have also influenced the higher numbers of adult and pediatric patients seen for health maintenance visits as the students are expected to inquire about what preventive services their patients need.

Approximately 1/3 of the homeless nationally have mental illnesses with up to ½ having substance abuse disorders.⁵ In a needs assessment performed at the shelter prior to the clinic's opening, out of 96 shelter residents surveyed, 51 (49%) responded that they were in need of mental health services. Of these 51 residents, almost ½ (n=25) identified themselves as being of Micronesian ethnicity. Contrary to our needs assessment, none of our Micronesian patients have identified themselves as having a mental illness on our review of their history intake forms (Table 2), and only two were assessed as having mental illness on actual patient encounters (Table 4). The discrepancy between our needs assessment and actual numbers of

Table 7. Health Insurance Status & Visits to Primary Physician per Patient Report

	# of responses	%
None/no response	17	22.4
Med-QUEST plan	46	60.5
Private (non-QUEST insurance)	9	11.8
Medicaid	4	5.3
	N=76	100.0
Total Percentage of Micronesian Patients with Health Insurance	N = 59	77.6
Med-QUEST breakdown		
Alohacare	36	78.3
HMSA Quest	10	21.7
	N=46	100.0
Private Insurance Plans Breakdown		
HMSA	7	77.8
HMAA	1	11.1
Summerlin	1	11.1
	N=9	100.0
Reported having been seen by primary care physician prior to visiting the H.O.M.E clinic	N=20	26.3
priyaidian prior to vialung the H.O.W.L Clinic	11-20	20.5

patients being treated for mental illness may be due to patients not being comfortable with seeing our providers for a problem like mental illness. Language barriers in obtaining the needs assessment data, in completing our history forms or in patients communicating their illness to our providers may also have influenced this variance. Furthermore, since most of our patients have health insurance, patients may seek mental healthcare from other health providers in the community, just as many patients see their primary care physician for chronic medical conditions and use the H.O.M.E. clinic mainly for acute visits.

In order to address the mental health needs of our patients, we hope to recruit mental health professionals as volunteers at our clinic as well as to collaborate with the University of Hawai'i's Department of Psychiatry. We are also in the process of hiring Chuukese and Marshallese translators to assist us in obtaining more accurate histories and to help the patients with completing intake paperwork.

Homelessness seems to play a larger role than being of Micronesian descent in determining the types of conditions our clinic treats; however it is not the only possible explanation. As illustrated in Table 7, over 3/4 of our homeless Micronesian patients had some form of health insurance, a surprising statistic since the majority of homeless nationwide lack health insurance as well as

access to medical care.5 Although the specific number of homeless in Hawaii with and without health unknown, insurance is anecdotal report from another local shelter estimates that 70% of their population has health insurance. Despite a large percentage reporting having health insurance, only 1/4 of the Micronesian patients seen in our clinic reported having visited a primary care physician prior to visiting our clinic. Due to language barriers, our patients may not understand the concept of having a primary care physician, or, being homeless, establishing care with one may not be as important as meeting basic needs, and as such, they may only seek medical care when acute illnesses arise, which may have influenced our results.

Since we are only present one evening per week, we encourage

patients with health insurance to follow-up with their primary care physicians or to establish one, not only for their chronic problems but to follow-up on any recommendations we may make with regards to their acute complaints as well. Our clinic availability may also have independently contributed to the primarily acute nature of our clinic visits.

With nationwide statistics suggesting that the majority of homeless lack healthcare resources, it may at first seem surprising that our Micronesian patients are homeless yet a majority have health insurance. Understanding reasons for migration of Micronesians to Hawai'i helps put this into perspective and has been reviewed by Pobutsky.⁴ In brief, poor health and education systems in Micronesia coupled with opportunities for migration to Hawai'i via the Compacts of Free Association have

enabled large numbers of Micronesians to emigrate freely to the United States for medical, social and financial reasons. Many are eligible for health insurance under the state Med-QUEST program, qualification of which is based on the federal poverty level. Prior to 1996, many were eligible for Medicaid without waiting periods. In 2003, \$18 million was spent by the Hawai'i Department of Human Services for Micronesians migrants under the QUEST program.⁴

We speculate that the inability of many Micronesian patients to find adequate housing highlights a perhaps unforeseen challenge of the Compacts of Free Association whereby the Micronesian migrants are eligible for certain social services but others, such as public housing, may not be as readily available. Given that there are as many as 6,000 homeless individuals in Hawai'i on any given day, lack of affordable housing is a problem that many in Hawai'i, Micronesian, or otherwise, face.

While anecdotal reports from the community as well as Pobutsky's⁴ review suggest that large numbers of Micronesians, including the Chuukese, are being cared for by Hawai'i's community health centers and outpatient clinics. The exact numbers of those cared for that are homeless have not been well quantified with the exception of the data reported here from those living at the Next Step shelter. Given that at least 8,000 to more than 12,000 Micronesians now reside in Hawai'i with more growth anticipated, further inquiry about Micronesians in Hawai'i, including the number that are homeless would be valuable.

Although we limited our chart review to those of Micronesian ethnicity for purposes of this paper, further reviews to compare non-Micronesian patients in terms of their stated medical histories and reasons for visiting the clinic would not only allow comparison between our Micronesian and non-Micronesian homeless patients, but provide further detail about the services our clinic has provided to the shelter residents. Just as our current review allows us to anticipate what types of problems our Micronesian patients may present for, a similar review will allow us to anticipate the needs of our patients in general.

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