

KOKUA NA`AUAO – LEARNING THROUGH SERVICE; EVALUATION OF A VALUES-BASED HEALTH SCHOLARSHIP PROGRAM

Palama Lee, Director, MSW, LSW, QCSW¹

Native Hawaiian Health Scholarship Program of Papa Ola Lokahi

ABSTRACT

Background. Many Native Hawaiians live in rural areas of Hawai`i that are medically underserved. Contributing to the shortage of healthcare professionals in rural areas is the disproportionately low enrollment of Native Hawaiians in healthcare education. The Native Hawaiian Health Scholarship Program (NHHSP) of Papa Ola Lokahi addresses the shortage by providing scholarships to Native Hawaiians in healthcare professions and facilitating their employment in Hawaiian underserved communities to meet their service obligation.

Objectives. This paper highlights evaluation findings of a values-based scholarship program and its impact on Native Hawaiian health through the capacity building efforts of scholars.

-
1. Address correspondence to Palama Lee, MSW, LSW, QCSW, Director, Native Hawaiian Health Scholarship Program of Papa Ola Lokahi, 345 Queen St. Ste. 706, Honolulu, Hawaii 96813; (808) 585-8999; fax (808) 585-8081; email palama@nhhsp.org.

Acknowledgements: This evaluation was funded by the Bureau of Health Professions of the Health Resources and Services Administration. The author expresses his thanks to the kupuna or elders who guided the Native Hawaiian Health Scholarship Program's spiritual and cultural development, my mother's sister Aunty Lilia Hale who is now in spirit, Aunty Aggie Cope, Aunty Betty Jenkins, and Aunty Malia Craver. Also, a special thanks to Sandy Ritz for her tireless work, Kathryn Braun for her inspiration, Kama`oha Kahiwa for his consultation, Katy Miller, Doremy Tyrrell, Jaime Boyd, and Donna Palakiko for their support, and lastly all the Native Hawaiian health scholarship staff and scholars for their participation.

Methods. The NHHSP uses a values-based assessment to select scholarship awardees. All 104 scholars who were performing or completed their service obligation were surveyed. The 54 returned surveys were analyzed to measure impact and to see if scholars who integrated these community-identified values into their lives made greater contributions in their rural sites.

Conclusion. NHHSP scholars are making significant contributions to develop the capacity of community healthcare systems. Seventy-three percent of clinicians who completed their service remained in their rural sites an average of 2.8 years, exceeding the retention rate for National Health Service Corps scholarship and loan repayment programs. Respondents held significant leadership roles and active memberships in Native Hawaiian communities. Eighty-five percent developed an average of 3–4 Native Hawaiian community programs during their service. Those rating themselves higher on the community-identified values scale held more leadership positions and Native Hawaiian committee memberships, and developed behavioural and cultural programs.

Keywords: Native Hawaiians, health, community-identified values, medically underserved areas, scholarship, retention, impact, service obligation.

INTRODUCTION

In the state of Hawai`i, many Native Hawaiians live in rural areas that are medically underserved. Contributing to the shortage of health care professionals in medically underserved areas is the low enrollment of Native Hawaiians in primary health care professions (Else, Palafox, and Little, 1998). Financial and academic supports are needed for Native Hawaiians to increase educational retention and achievement in postsecondary education (Kamehameha Schools, 2005). As a result, there is a shortage of Native Hawaiian primary care professionals to work with Native Hawaiians in rural Hawaiian communities.

The poor health status of Native Hawaiians highlights the need to target educational and health strategies to improve health outcomes. Native Hawaiians suffer from one of the highest prevalences of chronic diseases in the State of Hawai`i when compared to other ethnic populations (Tsark, 1998; Office of Hawaiian Affairs, 2000; Hawai`i State Department of Health, 2004) and experience one of the lowest life expectancies (Look and Braun, 1995). The longstanding health problems of Native Hawaiians were cited in

the first comprehensive health assessment known as the *E Ola Mau* report (Alu Like, 1985). The report identified issues related to accessibility, availability, affordability, and acceptability as barriers to positive health for Native Hawaiians. Submitted to the US Congress, the *E Ola Mau* report provided the health data for the *Native Hawaiian Health Care Act* (P.L. 100-579, *Native Hawaiian Health Care Improvement Act*, 1988) in 1988 and its reauthorization (P.L. 102-396, *Native Hawaiian Health Care Improvement Act*, 1992) in 1992.

Authorized by P.L. 102-396, the Native Hawaiian Health Scholarship Program (NHHSP) addresses both education and health barriers. The NHHSP supports Native Hawaiians in health education as students and then assists them in securing employment as health providers in underserved areas to increase the capacity of communities to provide culturally appropriate healthcare. The NHHSP is a service-obligated scholarship program that provides financial, academic, cultural training, and employment support services to Native Hawaiian scholarship recipients or scholars. Eligible individuals are Native Hawaiians who have been accepted for enrollment or are enrolled in an accredited educational institution, and are in an approved course of study in selected primary care health professions. Similar to the National Health Service Corps Scholarship Program (NHSC) of the Health Resources and Services Administration, which is committed to improving the health of underserved populations, NHHSP scholars provide one year of service in Hawai`i in return for each year of support (National Health Service Corps, 2003).

After completion of the professional course of study and achievement of licensure, if required, the NHHSP facilitates employment of scholars in a Hawai`i medically underserved area for the period required to fulfill their contractual or service obligation. The first priority of employment is the Native Hawaiian Health Care Systems that provide targeted healthcare services to Native Hawaiians. The minimum service obligation is two years, with a maximum of four years. During their service and postservice obligations, scholars address some of the longstanding issues in the provision of healthcare services to Native Hawaiians by removing barriers at healthcare access points, expanding the array of available Western and non-Western health services, addressing issues related to the cost of affordable healthcare, and developing trust through the provision of culturally acceptable practices.

The objective of the NHHSP is to maximize a scholar's success during their education and service obligation. The overarching priority of the NHHSP is to improve the health status of Native Hawaiians by increasing

the quantity and quality of health providers serving Native Hawaiians. The strategies used to ensure scholar success during education and service obligation are activity based. During education, activities promote the retention and timely graduation of scholars, prepare them for licensure, and develop their knowledge and skills as a culturally competent provider. During service obligation, activities build the capacity of sites to employ clinicians and prepare and retain clinicians in employment. Strategies are implemented by staff responsible for providing the specific activity.

Since 1991, the NHHSP has awarded 180 scholarships. In 2003, with collaboration of community partners, a values-based assessment for scholarship awards was developed and applied to each eligible applicant to indicate suitability as a healthcare provider working with Native Hawaiians in medically underserved areas. The values-based assessment consists of five categories that are anchored to eight community-identified values.

In this paper, we present key findings from the first evaluation conducted by the NHHSP. These findings highlight the capacity-building roles and activities of clinicians and alumni as indicated by employment retention rates, types of leadership and community memberships held, and community programs developed. We use the term program development to include programs created or expanded. Finally, findings from self-reported values-based assessments are discussed as they relate to these capacity-building roles and activities.

METHODS

VALUES-BASED EVALUATION

The primary purpose of this evaluation was to assess the impact of the NHHSP on Native Hawaiian health and to determine the impact of community-identified values. We reviewed workforce literature on health providers in rural areas (Scammon, Williams, and Li, 1994; Xu et al., 1995; Rosenblatt et al., 1996; Pathman et al., 2004a; 2004b; Holton and O'Neill, 2004; Rosenblatt et al., 2006). We also searched for literature related to values-based evaluations and located only one based on the Interactive Domain Model for Best Practices from Canada (Kahan and Goodstadt, 2005). Although this model had similarities, such as use of a logic model as was done for this evaluation, there was limited applicability because its focus was on health promotion practice, rather than a scholarship program.

Evaluating impact was a challenge for the program since there was no apparent way to directly measure improvement of health from a scholar-

ship position. We explored ways in which clinicians increased the capacity of healthcare systems as a means to indirectly measure impact and decided to use the rate of clinician retention, leadership roles and Native Hawaiian committee memberships held, and programs developed. We assessed these factors during service and postservice obligations. We then asked scholars to self-rate on community-identified values to determine if possession of these values influenced these factors. Since the evaluation assessed scholars as healthcare providers, scholars in education were not surveyed. Our target population was 104 scholars, including 22 clinicians who are still in service (21.2%) and 82 alumni who completed their service obligation (78.9%).

DATA COLLECTION

The data collection tool was a 3 page, double-sided survey with 26 questions, including 2 community-identified values questions. A Likert Scale (from 1=Poor to 5=Excellent) was used to assess a scholar's possession of community-identified values. The community-identified values were measured using the values-based assessment developed by the NHSP in 2003. Values are clustered into five categories indicating a scholar's suitability as a Native Hawaiian healthcare professional working in Hawai'i medically underserved areas (Appendix 1). We then asked scholars to rate their service obligation site using the same assessment. The survey was pilot tested on three alumni. Prior to the mail-out of 104 surveys, an e-mail was sent describing the purpose of the survey. Each survey was individually numbered for tracking purposes and to avoid duplication from respondents. A tracking database was designed and developed to monitor survey receipt. Telephone calls were made to nonrespondents to maximize survey response. A total of 54 out of 104 completed surveys were received, for a response rate of 52%. The sample size of 54 is a representative sample of the target population at 95% confidence level with a confidence interval (margin of error) of 9%. Data sets were analyzed using a t-test.

RESULTS

DESCRIPTIVE ANALYSIS

The sample included 13 clinicians (24%) still performing their service obligation and 41 alumni (76%) who completed their service obligation. The mean age of respondents was 38.5 years, ranging from 25 to 57. Thirteen respondents were male (24%) and 41 were female (76%). Over half or 30 respondents (56%) are presently married, 7 respondents (13%) live with a

partner, 4 respondents (7%) are divorced or separated, and 13 respondents (24%) are single. Distribution of professions in the sample population was representative of greater than 25% of each profession in the target population, ranging from a low of 28% of total target RNs, about one-third of all physicians (32.0%), half of all dental hygienists (50.0%), about two-thirds of all dentists (67%) and MPHs (63%), about three-quarters of all social workers (73%), and all (100%) of target advanced practice nurses and psychologists (Appendix 2).

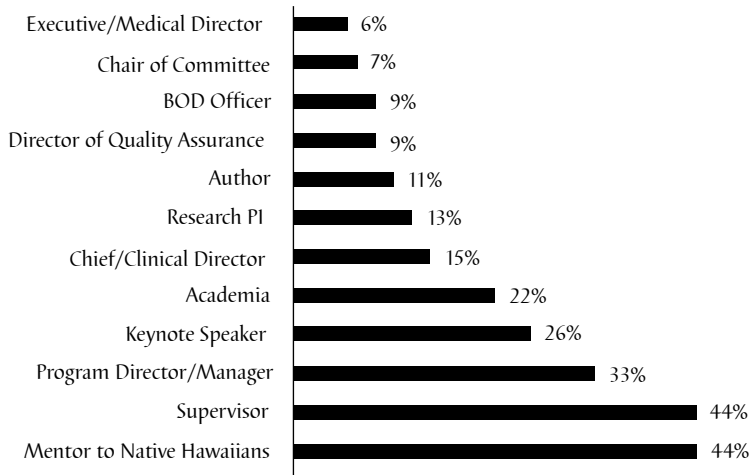
RETENTION

Thirty of the 41 alumni (73%) continued to work at their site after completion of their service obligation for an average of 2.4 years, ranging from 4 months to 8 years before they left. About one-quarter or 11 alumni left at end of service. We also asked alumni about their present work site (see Appendix 3). Twenty two of the 41 alumni (54%) presently work at a site serving Native Hawaiians, 14 (34%) are working in a medically underserved area, 11 (27%) at a site serving Native Hawaiians in a medically underserved area, 8 (20%) on a neighbour island other than O`ahu, and 5 (12%) at a Native Hawaiian Health Care System (NHHCS). Of 27 factors related to experiences and characteristics at the service obligation site (see Appendix 4), scholars rated the 3 highest positive scores as relationship with patients (4.54), access to care for Native Hawaiians (4.02), and preparation to perform administrative duties (3.92). The 3 lowest scores were housing or location assistance support (1.90); night and weekend call duties (2.48); and access to specialists (2.58). Alumni who stayed rated the 27 site characteristics and experiences significantly higher than alumni who left ($p=.0003$). There was no significance in retention and alumni self-rating on the community-identified values scale. However, retention was higher ($p=.0004$) for those who rated their service obligation sites higher in the community-identified values.

LEADERSHIP

Many of the respondents were in health professional leadership positions during or since their service obligation (Figure 1). Of the top 3 leadership positions, 24 of the 54 respondents (44%) were mentors to Native Hawaiians; 24 respondents (44%) were supervisors; and 19 respondents (35%) were a program or project director or manager. Eight respondents (15%) reported no leadership roles.

Clinicians holding one or more leadership roles rated themselves significantly higher ($p=.03$) on community-identified values than those who had no

Figure 1. Percent of Clinicians in Leadership Position

leadership roles. The largest difference was in the community-identified values category of “Leadership and Team Orientation” as the average self-rating was 3.50 out of 5 for those with no leadership positions vs. 4.31 for those with one or more leadership positions. Clinicians who self-rated higher in community-identified values were more likely to take leadership positions in Academic ($p=.002$), Research P.I. ($p=.02$), Keynote Speaker ($p=.01$), Program/Project Director, Manager, or Coordinator ($p=.005$), Chair of Community-based Committee ($p=.0001$), Board of Director Officer for Professional Association ($p=.0001$), Published Author/Co-Author in Professional Role ($p=.04$), and Native Hawaiian Mentor ($p=.004$).

COMMITTEE MEMBERSHIP

Twenty-nine of the 54 respondents (54%) held memberships in one or two community-based committees, boards, or groups focused on Native Hawaiian health. Eight respondents (14.8%) were active members in 3 to 5 committees, and 4 respondents (7.4%) were members of 6 or more committees. Thirteen of the 54 respondents (24%) reported no active committee memberships. When we looked at community-identified values there was a difference ($p=.0005$) in self-rating of values and the number of committee memberships. Those who had no committee memberships rated themselves significantly lower on all five categories of values compared to those who were on one or more committees. For those with no committee memberships, “Leadership and Team Orientation” scored the lowest. It is worth

noting that the higher the self-rating in each of the 5 categories of values, the greater the number of Native Hawaiian committee memberships.

COMMUNITY PROGRAMS

Forty-six of the 54 respondents (85%) created or expanded an average of 3.5 community health programs for Native Hawaiians. Almost one-half or 26 respondents created or expanded a behavioural health program or an adult health program while 25 respondents (46%) developed a Native Hawaiian mentoring program. Twenty-one respondents (39%) developed cultural programs, and 19 respondents (35%) developed adolescent programs, and/or human services program. The results also indicated which programs were less likely to be developed by scholars. Nine respondents (17%) indicated they developed dental and/or HIV/AIDS programs, while 7 respondents (13%) developed geriatric programs (Appendix 5).

Scholars with higher self-rating of values developed two types of programs, behavioural (p=.006) and cultural (p=.01), more often than scholars with lower self-ratings. In addition, scholars who rated their site higher were more likely to develop community programs for Native Hawaiians during their service obligation (p=.02) than those who rated their site lower. The only exception was adult health programs which were less likely to be developed at a site rated higher in values.

COMMUNITY-IDENTIFIED VALUES

Overall, respondents rated themselves high on the possession of community-identified values. The highest average rating of 4.35 was within the category of “Fulfill Commitments, Fair and Ethical” with associated community-identified values of *Pono*, *Kuleana*, and *Ha`aha`a*. The lowest average rating of 4.11 was under “Leadership and Team Orientation” with associated values of *Ha`aha`a*, *Hana Ka Lima*, *Ka`i*, *A`o* (Appendix 6). Table 1 provides definitions of these values.

Table 1. Definitions of Community-identified Values.

<i>Community-identified values</i>	<i>Working Definition</i>
`Olu`olu	Flexible, adaptable, resilient
Ha`aha`a	Humility
Pono	Doing what is right, just, and fair.
Kuleana	Responsible for improving Native Hawaiian health
Hana Ka Lima	Cooperation
Ka`i	Leadership
A`o	Responsible for learning and teaching
Ho`iho`i	Commitment to work in a medically underserved area

DISCUSSION

The scholars of the NHHSP are making significant contributions to improve the health of Native Hawaiians. As a health workforce, almost three-fourths (73%) of clinicians stayed at their service obligation site an average of 2.8 years. This is in contrast to the 21% retention rate (at least one month at same site) of NHSC scholarship recipients and 57% retention rate (at least one month at same site) of NHSC loan repayment recipients (Holmes, 2004). Also, the present work site data of alumni indicated that 53% were at agencies serving Native Hawaiians and 34% at sites in medically underserved areas. This suggests that even after their contractual obligation, scholars continue to seek employment at sites to improve the health of Native Hawaiians. Additionally, alumni who stayed at their work site longer than those who left rated their site significantly higher on 27 factors and experiences. As suggested from the findings, understanding the reasons for remaining (e.g., relationship with patients and access to care for Native Hawaiians) as well as leaving (e.g., need for housing assistance and night and weekend call duties) provides valuable information to employers of health providers in Hawai`i rural areas.

As healthcare leaders, scholars are actively participating in the development and implementation of capacity-building activities at their service obligation sites, such as supervision, quality assurance, and clinical practice guidelines. This has important implications for NHHCS since there has been an increase in clinician employment at these sites, playing a greater role in site development and contributing positively to the quality of health services provided in Native Hawaiian communities.

As Native Hawaiian health providers and community members, 76% of scholars are involved in boards and groups to plan community health activities and determine health policy. Most scholars (85%) are also expanding the capacity of health care systems by developing a wide variety of important community-based health programs for Native Hawaiians throughout Hawai`i. These culturally competent programs are meeting needs identified as essential for the improved health of Native Hawaiian communities.

The examination of values adds an innovative approach to measuring health impact. In our study, we found that the extent to which scholars possessed community-identified values seemed to be an important factor in their level of contribution to Native Hawaiian health. Scholars who rated higher on these values assumed more leadership roles, held more com-

munity committee memberships, and developed behavioural and cultural types of programs. Although scholars with higher self-rating of values did not stay longer at their service sites, our study indicated that when scholars perceived their employment sites possessed these community-identified values, their retention rates were significantly longer.

ETHICS

A discussion of values, however, also warrants a discussion of ethics and dilemmas. Basic questions must be tackled before proceeding in any type of research with indigenous communities. Otherwise, we assume that the foundation upon which models of ethics are based is universal. For example, what ethical framework is primary? In discussions related to health, does the ethical hierarchy of decision making come only from a medical model? Who are the “experts” to provide consultation on ethical dilemmas when working in indigenous communities? And, when an issue or harm occurs, what model of justice (e.g., remediation/restitution) will be used? As one can glean from the questions posed, a comprehensive examination of ethics is beyond this paper. However, to frame this discussion constructively, an example of how we addressed an ethical dilemma follows.

The existence, degree of importance, and definition of community-based values will vary from one Native Hawaiian community to the next. This could be problematic when selecting and defining values to incorporate into a values-based program and a values-based assessment. To address this dilemma, we first recognized that values are contextual and not all Native Hawaiians will agree to our definition of each community-identified value (Appendix 1). We then used the method of consultation with *kupuna* or elders. Four of the five *kupuna* were Native speakers, and all were raised in rural, underserved areas throughout the islands of Hawai`i. The values were selected by the *kupuna* and they developed working definitions for each value. To facilitate their work, they used the method of prayer to open and close their meetings and the method of “talk-story” as a basis of culturally appropriate interaction utilizing localized expressions and informal communication.

LIMITATIONS

Several limitations of this evaluation need to be identified. We found no previous studies to inform our evaluation that used a values-based assessment or examined community-identified values and its influence on health.

Sampling was also an issue. The sample size was small ($n=54$) so significant differences would have to be closely examined for valid inferences to the target population. Also, it is likely that the scholars who had a positive relationship with the NHHSP and/or their service obligation were more likely to respond to the survey and willing to share their contributions to health. Lastly, generalizing the findings to all Native Hawaiian Health providers in Hawai'i should be done cautiously, since data was only gathered from the NHHSP scholars.

IMPLICATIONS AND RECOMMENDATIONS

While scholars as healthcare providers have made significant contributions to Native Hawaiian health, their work has implications for the NHHSP. To prepare scholars better for work in underserved communities, the NHHSP might consider arranging capacity-building seminars such as grant-writing workshops and leadership development trainings to influence the future success of scholars. The data also revealed a need for scholars to expand on certain types of community programs for the unmet health needs of Native Hawaiians, such as for *kupuna* or the elderly, HIV/AIDS, and dental programs. Preparation of scholars to develop programs for special populations is likely needed.

The benefits of this evaluation were many. Further investigation and statistical analysis of scholar data is recommended to ascertain specific characteristics, significant associations, and factors of scholars who have stepped forward to take health leadership positions, created community-based health programs, stayed or left their service site, and assumed committee memberships. Awareness of these factors will be useful to NHHSP staff in selecting future NHHSP scholars who will have a more positive and wide-spread impact on improved health of Native Hawaiians in medically underserved areas, as well as on all vulnerable populations throughout the state of Hawai'i. Likewise, work site factors as to why alumni left or stayed have implications for hiring and retention practices of healthcare employers in Hawai'i rural areas.

CONCLUSION

Considering the shortage of healthcare providers in medically underserved areas, it is important to increase the retention of existing health providers in these communities and build the capacity of communities to develop healthcare systems to meet their needs. In this paper, we have examined the

capacity-building activities of our scholars to address the health disparities experienced by Native Hawaiians. We also presented an innovative way of understanding the role of community-identified values on health impact. We believe that studies conducted on the health of Native Hawaiians, as well as the health of vulnerable populations, warrants novel ways of understanding how health providers contribute to the elimination of health disparities.

REFERENCES

- Alu Like. (1985). *E Ola Mau: the Native Hawaiian Needs Study Report*. Honolulu, HI.
- Else, I., Palafox, N., and Little, D. (1998). Where are the Native Hawaiian physicians? *Pacific Health Dialog*, 5, 246–252.
- Hawai`i State Department of Health (2004). *The 2004 Hawai`i Diabetes Report*. Honolulu, HI: Hawai`i State Department of Health.
- Holmes, G. (2004). Does the National Health Service Corps improve physician supply in underserved locations? *Eastern Economic Journal*. Retrieved March 9, 2005, from http://www.findarticles.com/p/articles/mi_qa3620/is_200410/ai_n9472625
- Holton, B. and O'Neill, B. (2004). Job embeddedness: A theoretical foundation for developing a comprehensive nurse retention plan. *Journal of Nursing Administration*, 34, 216–227.
- Kahan, B. and Goodstadt, M. (2005). *Interactive Domain Model for Best Practices*. Retrieved July 22, 2005, from <http://www.idmbestpractices.ca/idm.php?content=basics-overview#framework>
- Kamehameha Schools. (2005). *Ka Huaka`i: Native Hawaiian Educational Assessment*. Honolulu, HI: Pauahi Publications.
- Look, M. and Braun, K. (1995). A mortality study of the Hawaiian people 1910–1990. *The Queen's Health System*. Honolulu, HI.
- National Health Service Corps. (2003). *About NHSC*. Retrieved February 2, 2006, from <http://nhsc.bhpr.hrsa.gov/about/>
- Native Hawaiian Health Care Improvement Act*. (1988). P.L. 100-579, 42 USCS 11701.
- Native Hawaiian Health Care Improvement Act*. (1992). P.L. 102-396, 42 USCS 11701.
- Office of Hawaiian Affairs. (2000). *Native Hawaiian Data Book*. Honolulu, HI: Office of Hawaiian Affairs.

- Pathman, D., Konrad, T., King, T., Taylor, D., and Koch, G. (2004a). Outcomes of states' scholarship, loan repayment, and related programs for physicians. *Medical Care*, 6, 560–568.
- Pathman D., Konrad, T., Dann, R., and Koch, G. (2004b). Retention of primary care physicians in rural health professional shortage areas. *American Journal of Public Health*, 94, 1723–1729.
- Rosenblatt, R., Saunders, G., Shreffler, J., Pirani, M., Larson, E., and Hart, L. (1996). Beyond retention: National Health Service Corps participation and subsequent practice locations of a cohort of rural family physicians. *Journal of the American Board of Family Practice*, 9, 23–30.
- Rosenblatt, R., Andrilla, C., Curtin, T., and Hart, L. (2006). Shortages of medical personnel at community health centers: Implications for planned expansion. *Journal of the American Medical Association*, 295, 1042–1049. Retrieved February 20, 2005, from <http://jama.ama-assn.org/cgi/content/full/295/9/1042>
- Scammon, D., Williams, S., and Li, L. (1994). Understanding physicians' decisions to practice in rural areas as a basis for developing recruitment and retention strategies. *Journal of Ambulatory Care Marketing*, 5, 85–100.
- Tsark, J. (1998). Cancer in Hawaiians. *Pacific Health Dialog*, 5, 315–327.
- Xu, G., Veloski, J., Hojat, M., and Fields, S. (1995). Physicians' intentions to stay or leave primary care specialties and variables associated with such intention. *Evaluation and the Health Professions*, 18, 92–102.

APPENDIX 1

Figure 2. Self-rating on Community- identified Values Categories.

	<i>Poor</i>	<i>Fair</i>	<i>Good</i>	<i>Very Good</i>	<i>Excellent</i>
Behavioral Flexibility and Resilience (<i>‘Olu‘olu & Ha‘aha‘a</i>)	1	2	3	4	5
Fulfilling Commitments, Being Fair and Ethical (<i>Pono, Kuleana, Ha‘aha‘a</i>)	1	2	3	4	5
Leadership and Team Orientation (<i>Ha‘aha‘a, Hana Ka Lima, Ka‘i, A‘o</i>)	1	2	3	4	5
Commitment to Improving Access to Health Care (<i>Kuleana, Ho‘iho‘i, Pono, A‘o</i>)	1	2	3	4	5
Suitability for Native Hawaiian Medically Underserved Areas (all 8 values)	1	2	3	4	5

Table 1. Working Definitions of Above Listed Values.

<i>Community-identified values</i>	<i>Working Definition</i>
‘Olu‘olu	Flexible, adaptable, resilient
Ha‘aha‘a	Humility
Pono	Doing what is right, just, and fair
Kuleana	Responsible for improving Native Hawaiian health
Hana Ka Lima	Cooperation
Ka‘i	Leadership
A‘o	Responsible for learning and teaching
Ho‘iho‘i	Commitment to work in a medically underserved area

APPENDIX 2

**Table 2. Number and Percent of Sample (n=54) and Target (N=104)
Populations by Profession**

<i>Profession</i>	<i>Number (n=54)</i>	<i>Percent of n=54</i>	<i>Percent of total profession</i>	<i>Total N=104</i>	<i>Percent of N=104</i>
1) RDH (Dental Hygienist)	4	7.4	50	8	7.7
2) DDS (Dentist)	2	3.7	66.7	3	2.9
3) MPH/MS Nutrition (Masters Public Health)	5	9.3	62.5	8	7.7
4) MSW (Masters Social Work)	19	35.2	73.1	26	25.0
5) APRN/NP/CNM/MSN (Advanced Practice Nurse)	6	11.1	100	6	5.8
6) MD/DO (Medical Doctor)	8	14.8	32.0	25	24.0
7) PhD/PsyD (Psychologist)	3	5.6	100	3	2.9
8) All RNs	7	13.0	28.0	25	24.0
a) RN ADN	1	1.9	9.1	11	10.6
b) RN BSN	6	11.1	42.9	14	13.5

Table 3. Percent of Sample and Target Populations by Profession

<i>Profession</i>	<i>Percent of n=54</i>	<i>Percent of N=104</i>	<i>Sample percent of total in each profession in target population</i>
1) RDH (Dental Hygienist)	7.4	7.7	50
2) DDS (Dentist)	3.7	2.9	66.7
3) MPH/MS Nutrition (Masters Public Health)	9.3	7.7	62.5
4) MSW (Masters Social Work)	35.2	25.0	73.1
5) APRN/NP/CNM/MSN (Advanced Practice Nurse)	11.1	5.8	100
6) MD/DO (Medical Doctor)	14.8	24.0	32.0
7) PhD/PsyD (Psychologist)	5.6	2.9	100
8) All RNs	13.0	24.0	28.0

APPENDIX 3

Table 4. Present Work Situation of Alumni who have Completed Service.

Work site characteristics <i>after</i> completion of service obligation	<i>The next place you went to work (check all that apply)</i>	<i>Present work situation (check all that apply)</i>
Site serving Native Hawaiians		
MUA (medically underserved area)		
NHHCS (Native Hawaiian Health Care System)		
Developing new community programs for NH		
Health Professions Shortage Area		
Federally Qualified Community Health Center		
Other Native Hawaiian agency		
Federal Primary Clinic working with more than 50% Native Hawaiians		
Neighbor Island, NOT O`ahu		
Private, in medically underserved area		
Private, NOT in medically underserved area		
State government		
Other (describe):		

Note: Alumni were asked to check all that apply in both columns.

APPENDIX 4.

Table 5. Rating of EXPERIENCE at Service Obligation Site using Likert Scale from Poor=1, Fair=2, Good=3, Very Good=4, Excellent=5.

<i>Rating of EXPERIENCE at Site</i>	<i>Rate by all respondents (n=54)</i>
a) Work with Native Hawaiians	3.71
b) Supports Community-identified values	3.51
c) Access to care for Native Hawaiians	4.02
d) Relationship with patients	4.54
e) Preparation for administrative duties	3.92
f) Availability of administrative support	3.37
g) Support of supervisor	3.48
h) Support of professional role	3.70
i) Employee support	3.21
j) Support for new programs	3.15
k) Opportunity for professional growth	3.57
l) Teamwork	3.65
m) Meeting family needs	3.32

Table 6. Rating of CHARACTERISTICS of Site using Likert Scale from Poor=1, Fair=2, Good=3, Very Good=4, Excellent=5.

<i>Rating of CHARACTERISTICS at Site</i>	<i>Rate (n=54) by all respondents</i>
a) Compensation	3.00
b) Fringe Benefits	2.87
c) Malpractice Coverage	3.22
d) Housing (n=29)	1.90
e) Social/Recreation opportunities	3.15
f) Coverage/locum (n=41)	2.91
g) Night/weekend call (n=24)	2.48
h) Patient Flow (n=36)	3.13
i) Flexibility of patient scheduling	3.53
j) My work schedule flexibility	3.62
k) Number of physicians at site	2.93
l) Number of non-physicians at site	2.96
m) Access to specialists	2.58
n) Other providers in community	2.98

APPENDIX 5

Table 7. Percent and Number of Respondents by Type of Native Hawaiian Community Program Developed

<i>Type Program</i>	<i>Percent of Sample (n=54)</i>	<i>Number of Sample</i>
a) Adolescent	36	19
b) Adult	47	25
c) Behavioral	48	26
d) Cultural	39	21
e) Dental	17	9
f) Geriatric	13	7
g) HIV/AIDS	17	9
h) Human Services	35	19
i) Native Hawaiian Mentoring	46	25
j) Pediatric	20	11
k) Prenatal	22	12
l) Other	9	5

Note: Some programs came under more than one category for type of program and so there is some duplication, as they are listed in each appropriate category as designated by the respondents.

APPENDIX 6

Table 8. Ratings of Self on Community-identified Values during Service Obligation by all Respondents (n = 54) using Likert Scale from Poor=1, Fair=2, Good=3, Very Good=4, Excellent=5.

<i>Category</i>	<i>Values</i>	<i>Definition</i>	<i>Score</i>	<i>Percentages of ratings</i>
Behavioral Flexibility and Resilience	`Olu`olu	Flexible, adaptable, resilient	4.17	(3.7% fair; 16.7% good; 38.9% Very good; 40.7% Excellent)
	Ha`aha`a	Humility		
Fulfill Commitments, Ethical, and Fair	Pono	Doing what is right, just, and fair	4.35	(3.7% fair; 7.7% good; 38.9% Very good; 50.0% Excellent)
	Kuleana	Responsibility to improve Native Hawaiian health		
	Ha`aha`a	Humility		
Leadership and Team orient	Ha`aha`a	Humility	4.11	(3.7% fair; 22.2% good; 33.3% Very good; 40.7% Excellent)
	Hana Ka Lima	Cooperation		
	Ka`i	Leadership		
	A`o	To learn and teach		
Commitment to Increase Access to Healthcare	Kuleana	Responsibility to improve the Native Hawaiian health	4.22	(1.9% fair; 22.2% Good; 27.86% Very Good; 48.2% Excellent)
	Ho`iho`i	Commitment to work in underserved area		
	Pono	Doing what is right, just, and fair		
	A`o	To learn and teach		
Suitability for Native Hawaiian MUA	All 8 values		4.20	(1.9% fair; 16.7% good; 36.5% Very good; 44.4% Excellent)

