

Nā Liko Noelo: a program to develop Native Hawaiian researchers

Abstract: Native Hawaiians are underrepresented in health research. They also have expressed dissatisfaction with the way in which many non-native researchers have formulated research questions, conducted research, and disseminated findings about Native Hawaiians. *'Imi Hale* – Native Hawaiian Cancer Network was funded by the National Cancer Institute to increase research training and mentorship opportunities for Native Hawaiians. To this end, *'Imi Hale* has followed principles of community-based participatory research to engage community members in identifying research priorities and assuring that research is beneficial, and not harmful, to Native Hawaiians. Developing indigenous researchers is a cornerstone of the program and, in its first 4 years *'Imi Hale* enrolled 78 Native Hawaiian “budding researchers (called *Nā Liko Noelo* in Hawaiian), of which 40 (68%) have participated in at least one training and 28 (36%) have served as investigators, 40 (51%) as research assistants, and 10 (13%) as mentors on cancer prevention and control studies. The major challenge for *Nā Liko Noelo* is finding the time needed to devote to research and writing scientific papers, as most have competing professional and personal obligations. Program evaluation efforts suggest, however, that *'Imi Hale* and its *Nā Liko Noelo* program are well accepted and are helping develop a cadre of community-sensitive indigenous Hawaiian researchers. **Key Words:** action research, Native Hawaiians, Pacific Islanders, research training, mentorship, community-based participatory research.

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Introduction

Over the past three decades, Native Hawaiians, the indigenous people of Hawai'i, have become more vocal with concerns about what gets researched, who conducts the research, cultural appropriateness of research, how researchers assure that no individuals or groups are harmed, who owns the data, how findings are disseminated, and who benefits from the research. Part of the problem stems from the underrepresentation of Native Hawaiians in health research professions, leaving communities open to being studied and “explained” by non-Hawaiians. *'Imi Hale* – Native Hawaiian Cancer Network (*'Imi Hale*) was funded by the Center to Reduce Cancer Health Disparities (CRCHD) of the National Cancer Institute (NCI) to increase cancer prevention and control research training and mentorship opportunities for Native Hawaiians. This paper describes the methods by which indigenous researchers are recruited, trained, and supported through *'Imi Hale's* *Nā Liko Noelo* (Budding Researchers) Program. This paper presents the program's milestones and outlines the challenges and benefits of the *Nā Liko Noelo* program.

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Background

The cancer prevention and control research potential of Native Hawaiians has been largely untapped. Prior to 2000 there were approximately five Native Hawaiian researchers actively involved in cancer prevention and control research. This reflects the underrepresentation of Native Hawaiians in graduate and postdoctoral programs, the limited opportunities for Native Hawaiians in the cancer research arena, and the historical memory of “bad” research in Hawaiian communities^{1,2}.

Over the past 20 years, a number of events have served as catalysts for increased interest of Native Hawaiians in research careers. The Native Hawaiian Health Scholarship Program (NHHSP) supports the education of Native Hawaiians in primary care health professions, and NHHSP scholars studying nursing, medicine, psychology, public health, and social work are introduced to research and its conduct. The University of Hawai'i's (UH) psychiatry department has been at the forefront in training and developing a critical cadre of Native Hawaiian researchers addressing mental health among Native Hawaiians. The Native Hawaiian Center of Excellence (UH) provides introduction and instruction in research to first-year medical students. Newer endeavors, such as the EXPORT Program at the Department of Native Hawaiian Health (UH) and the CARE program at Kapi'olani Health Center, have expanded health research opportunities in the areas of diabetes, asthma, cardiovascular disease, and maternal and child health.

Other catalysts that have contributed to increasing the number of Native Hawaiian health researchers include three community-based research studies: the Moloka'i Heart Study (1985); Ho'oke 'Ai—the Moloka'i Diet Study (1987); and the Wai'anae Cancer Study (1991–1996). The challenges and lessons learned in these projects, coupled with innovative, culturally based methodologies, established these initia-

Table 1. Benefits of <i>Na Liko Noelo</i> membership	
Information	<ul style="list-style-type: none"> • E-Listserve with announcements of training, research, internship, networking, dissemination, and funding opportunities • Networking opportunities, particularly within Hawaiian communities • 'Imi Hale website: www.imihale.org
Training	<ul style="list-style-type: none"> • Invitation to participate in <i>'Imi Hale</i> training in community-based participatory research, intervention research design, proposal writing, survey design, focus group methods, data analysis, program evaluation, research and policy, developing tailored cancer education materials for Native Hawaiian audiences, writing for publication, human subjects protection, and principles of HIPAA and confidentiality
Internships and stipends	<ul style="list-style-type: none"> • Internship opportunities at 'Imi Hale • Linkages to other internship opportunities • Research stipends • Financial assistance to attend conferences and training programs in Hawai'i and the continental US (limited)
Research and dissemination opportunities	<ul style="list-style-type: none"> • Opportunities to conduct community-based participatory research • Access to research funds • Opportunities to present findings at meetings and conferences • Publishing opportunities in special issues of the <i>Pacific Health Dialog</i> journal focused on Native Hawaiians • Opportunities for peer review of manuscripts among <i>Na Liko Noelo</i> • Annual "Report to the Community," where <i>Liko</i> present their work (through posters and oral presentations) to community members and partner agencies
Technical assistance	<ul style="list-style-type: none"> • Help with applications • Assistance with proposals • Assistance with IRB process • One-on-one training, mentoring, technical assistance, and trouble-shooting during the conduct of research • Assistance with preparing abstracts and presentations • Assistance with preparing scientific reports and manuscripts

tives as benchmarks for how indigenous research and training could and should be conducted in Hawaiian communities^{3, 4}. Common components of the three research projects were: community endorsement of the topic of the research; community participation in almost all phases of the research; capacity building in the community; strength-based methodologies that incorporated Hawaiian values and practices; shared power and decision making between researchers and community, and the inclusion of Native Hawaiians as co-investigators, community council members, project directors, project staff, and co-authors of publications. In these projects, Native Hawaiians demonstrated their tenacity to challenge Western research intent and methodologies. They refused to be the victims of research, or even to be mere subjects of research. Instead, they became active participants in research, exercising their voices in the formulation of research questions, the designs of protocol, the building of community capacities, and the dissemination of findings (including mandating that findings be shared with the community first).

Another catalyst was, and continues to be, the Native Researcher Cancer Control Training Program (NRCCTP), established in 1996 to increase the number of indigenous researchers in cancer prevention and control. Housed at Oregon Health and Sciences University (OHSU), this program identifies, trains, and supports Native Americans, Alaska Natives, Native Hawaiians, and Samoans who want to learn about research⁵. This 3-week program emphasizes community-based participatory research, and applicants must get the approval of their tribe or endorsement of community leaders to attend the course. Training is provided by Native and non-Native American faculty, who also provide technical assistance and mentorship to graduates beyond the formal training period. Program funds are available for graduates who want to conduct pilot projects in their home communities, through which they can apply new skills. More than 25 individuals (78% of Native Hawaiian ancestry) from Hawai'i have participated in the NRCCTP since its inception and, of this cohort; approximately 35% have successfully competed for grants from this program to conduct small pilot projects in cancer prevention and control.

'Imi Hale and its Nā Liko Noelo (Budding Researchers) Program

Building on these earlier programs, 'Imi Hale – Native Hawaiian Cancer Network was established in 2000 to address the shortage of indigenous Hawaiian researchers in cancer prevention and control research. 'Imi Hale is one of 18 Special Population Networks (SPNs), funded from 2000-2005 through a cooperative agreement with the NCI. The SPNs represent a \$16 million commitment by NCI to establish a robust and sustainable infrastructure to promote cancer awareness within minority and medically underserved communities and to launch from these more research and cancer-control activities aimed at specific population sub-groups (see article in this issue by Chu and Jackson).

The work of 'Imi Hale is based on principles of community-based participatory research (CBPR). CBPR provides the framework for responding to health issues within a social and historical context, in contrast to approaches that focus on health issues solely in clinical terms and/or in relationship to individual behaviors⁶. The underlying principles are to: 1) address issues within the broader community context; 2) involve the community at all phases of research; 3) identify community needs and concerns; 4) build on community strengths; 5) promote co-learning; and 6) provide tangible benefits to the community.

Indigenous researchers are developed and supported through 'Imi Hale's Nā Liko Noelo program (Hawaiian for "budding researchers"). Any Native Hawaiian interested in research—including community members, 'Imi Hale council members, high school students, university students, and MD- and PhD-prepared individuals—can participate in the program. Potential researchers are identified through outreach to undergraduate and graduate academic programs, Native Hawaiian agencies, 'Imi Hale's network of partner agencies, and word-of-mouth. Applications also are accessible through the 'Imi Hale website at www.imihale.org.

Components

Core components of the Nā Liko Noelo program are information, training and mentoring, internships and research stipends, access to research funds, technical assistance, and a community-based infrastructure (see Table 1).

Information. All members of the Nā Liko Noelo program are placed on an electronic list serve and alerted to opportunities for training, internships, stipends, research funding, conference participation, publication, and presentation. They also receive periodic mailings of special events

and copies of 'Imi Hale's quarterly newsletter. 'Imi Hale's website (www.imihale.org) posts current events and maintains archived issues of the newsletter, a list of current research projects, membership rosters of 'Imi Hale's Community and Scientific Councils and Steering Committee, and links to other relevant cancer resource websites.

Training and Mentoring. 'Imi Hale serves as both a provider of, and conduit to, research training and mentorship. Targeted primarily to Nā Liko Noelo are training programs in CBPR research principles, intervention research design, proposal writing, survey design, focus group methods, data analysis, program evaluation, research and policy, developing tailored cancer education materials for Native Hawaiian audiences, writing for publication, and protection of human subjects. Nā Liko Noelo are assisted with applications to other research training programs, including the 3-week Native Researchers Cancer Control Training Program at OHSU and the Moffitt training program on Cancer, Culture and Literacy. Those who have funded research projects are required to complete training in the laws and principles of protecting individuals who volunteer to participate in research, and most of this training is done online through the Office of Human Research Protection.

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'Imi Hale also supports Community Outreach Staff (COS) working at the Native Hawaiian Health Care Systems on each of 5 islands. The COS represent the front-line community workers that focus on cancer education and awareness. They periodically partici-

participate in cancer prevention and control research projects as appropriate for their respective communities. For this group, training curricula is designed around building community outreach skills, using cancer education materials effectively, navigating patients through cancer prevention and control services, understanding clinical trials, writing proposals for services, and evaluating programs.

Additionally, 'Imi Hale provides training for physicians and other health providers through continuing medical education (CME), the annual Symposia on Cancer, and periodic trainings. Topics for CME are solicited from physicians who attend 'Imi Hale events and from the 'Ahahui ONā Kauka (Association of Native Hawaiian Physicians).

Internships and Stipends. 'Imi Hale earmarks funds for stipends (at approximately \$2,000 each) to support Nā Liko Noelo interning at 'Imi Hale or another research site. Interns with 'Imi Hale are engaged in research and awareness projects conducted by staff, such as a colorectal screening project with the Association of Hawaiian Civic Clubs, an educational intervention with canoe clubs, or a project to

develop and test culturally appropriate educational brochures. Others may be engaged to write position papers on a timely topic (e.g., genetic research in indigenous communities) or to help with editing manuscripts being prepared for submission to a peer-reviewed journal. Stipends also may be used to support participation of *Nā Liko Noelo* at conferences and workshops. *‘Imi Hale* provides 8 to 10 stipends per year.

Access to Research Funds. As an SPN, *‘Imi Hale* can compete for pilot research project awards. *Nā Liko Noelo* are encouraged and supported to develop and submit proposals for these NCI pilot funds and research funds from other sources as well. *‘Imi Hale* staff provides technical assistance to *Nā Liko Noelo* throughout the process, from research concept and proposal writing, through project implementation, data analysis, and write-up.

‘Imi Hale’s internal process for proposal review takes about 4 months. It begins with review and approval of research concepts by *‘Imi Hale’s* Scientific and Community Councils and Steering Committee. This initial review assures that research ideas are of interest to the Native Hawaiian community and address community priorities. It also operationalizes the CBPR principle of involving community in the research process from the start, which provides the researcher feedback about potential problems and concerns that need to be addressed as the research proposal is developed. Pursuant to concept approval, research proposals are completed and reviewed by up to 3 members of the Councils and/or Steering Committee. An external reviewer also may be invited to review a proposal if a particular expertise is required. These same groups review and approve/disapprove the completed proposals prior to submission to potential funding agencies.

All *Nā Liko Noelo* actively involved in research are required to present their research projects to the Native Hawaiian Health Care Systems - Institutional Review Board (NHHCS-IRB). The NHHCS-IRB is a community-based IRB, composed of Native Hawaiian community members and researchers from across Hawai‘i. Founded in 2000, the NHHCS-IRB pays particular attention to community concerns of group harm, community protocols, and community-based participatory research principles. Unlike most IRB processes, *Nā Liko Noelo* who have successfully competed for research awards are invited to meet with the IRB membership prior to the review of their proposal. This pre-review session provides the opportunity for researchers to talk about their project, and for IRB members to meet the researcher and familiarize themselves with a project beyond what the paper application presents.

Technical Assistance and Mentorship. Developing researchers requires a substantial investment in technical assistance and mentoring. Technical assistance is provided to individual *Nā Liko Noelo* on all aspects of proposal development, research conduct, data analysis, and the presentation of findings. Technical assistance may also be needed in community organization and outreach for researchers who have little or no experience working in Native Hawaiian communities. A request for technical assistance can be made at any time and involves both face-to-face consultation and electronic communication (i.e., phone and email). This allows the mentor and the junior researcher to send documents (e.g., proposals, consent forms, questionnaires, and manuscripts) back and forth quickly, trading questions and suggestions, and strengthening documents with each exchange.

Sometimes, technical assistance takes the form of “just-in-time” training, through which small groups of *Nā Liko Noelo* are provided with a mini-lecture or workshop on a specific topic and/or a hands-on demonstration of a specific skill. Common one-on-one training topics include searching MedLine, identifying and applying conceptual frameworks in research, constructing control groups, designing surveys, using SPSS or EpiInfo to manage and analyze data, and preparing abstracts.

Whenever appropriate, *‘Imi Hale* creates opportunities for peer support, where *Nā Liko Noelo* provide training and technical assistance to other *Nā Liko Noelo*.

In line with CBPR principles, *Nā Liko Noelo* are required to share research findings with project participants through face-to-face community forums and with *‘Imi Hale’s* Community, Scientific, and Steering Committee members. Technical assistance is provided to *Nā Liko Noelo* who (subsequent to sharing with communities) want to present their results at local and national conferences and to publish their findings in regional, national, and international scientific journals. *‘Imi Hale* also holds an annual “Report to the Community” event, a forum for *Nā Liko Noelo* to present research updates and findings to community members and partnering agencies and programs.

Nā Liko Noelo are paired with mentors who are seasoned researchers in a particular area of research. Mentoring is particularly important for *Nā Liko Noelo* who are new to research and/or exploring how research fits into education and career paths that are not research-dominant, which describes the majority of our investigators. Mentors model different aspects of research conduct and collegiality and the research process. Mentoring also supplements the

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Table 2. Program accomplishments, 2000-2003

Information	<ul style="list-style-type: none"> 78 received announcements of training, research, internship, networking, dissemination, and funding opportunities through the <i>Na Liko Noelo</i> E-Listserve
Training	<ul style="list-style-type: none"> At least 40 attended at least 1 training session or workshops sponsored by <i>‘Imi Hale</i>. 9 Native Hawaiians and 4 non-Hawaiians completed the Native Researcher Cancer Control Training Program (NRCCTP) sponsored by the Oregon Health and Sciences University (OHSU).
Internships and stipends	<ul style="list-style-type: none"> 1 received a 1-year fellowship at NCI to study immunology and has opted to remain for an additional year to attain a PhD degree concurrent with his medical degree 1 attended research training at the University of Michigan 3 completed the Moffitt program on Cancer, Culture, and Literacy 8 completed internships with labs or research programs 17 were supported through <i>‘Imi Hale</i> student stipends 13 received compensation through funded research grants
Research and dissemination opportunities	<ul style="list-style-type: none"> 28 served as investigators 40 served as research assistants 10 had served as mentors on active research protocols 44 made conference presentations on their work 25 had their work published and another 8 have submitted or are preparing their first manuscripts on work conducted through <i>‘Imi Hale</i> 1 submitted a proposal for an R03 award (June 2004) that expands on her completed pilot research project 1 had a K-series proposal funded and 2 more were provided training in writing and submitting K-award proposals
Technical assistance	<ul style="list-style-type: none"> 40 received help with applications 31 were assisted with proposals and the IRB process 39 received one-on-one training, mentoring, technical assistance, and trouble-shooting during the conduct of research 28 were helped to prepare abstracts and presentations 23 received assistance with preparing scientific reports and manuscripts

scientific and academic perspectives for many of the *Nā Liko Noelo*.

Partners in training

Imi Hale takes advantage of a number of local and national training resources. These include OHSU’s Native Researchers Cancer Control Training Program (mentioned above), the Center for Sustainable Health (Mississippi), Hawai’i Pacific Health (IRB training), American Cancer Society (Ka Lōkahi Wahine), Kamehameha Schools, APPEAL (Asian Pacific Partnership for Empowerment and Leadership), National Library of Medicine, Office of Human Research Protection (IRB training) and the Intercultural Cancer Council.

Milestones

The *Nā Liko Noelo* program is evaluated through the tracking of its membership, through summarizing of program and member accomplishments (Table 2), and periodic surveys of individuals in the program.

Membership

In its first 4 years (2000-2004), 78 individuals had enrolled in the program, 97% of whom were Native Hawaiian. These included 51 females and 27 males. Upon enrollment, 2 were high school students, 9 were bachelors-prepared individuals, 25 had masters degrees, 14 were physicians, and 15 had doctoral degrees. *Nā Liko Noelo* come to participate in *‘Imi Hale* programs through multiple avenues, including the Native Hawaiian Health Scholarship Program, the University of Hawai’i, Kamehameha Schools, other Hawaiian health and minority education programs, and the Native Researcher Cancer Control Training Program. The most common way people learn about and join the program, however, is through individuals, including other *Liko*, physicians affiliated with or familiar with *‘Imi Hale* (including members of *‘Ahaui o Nā Kauka*, Association of Native Hawaiian Physicians), and *‘Imi Hale* staff, council members, and partners.

Table 3. Funded research projects, 2000-2004

- A study to compare prognostic factors, stage of diagnosis, and 3-year survival in female breast cancer patients in Hawai'i across ethnic groups
- Native Hawaiian research training using the search for bioactive compounds in Hawaiian medicinal plants
- Piloting a culturally appropriate intervention to increase colorectal cancer screening among Native Hawaiians
- Exploring the feasibility of *ho'oponopono* for enhancing adjustment and adaptation to breast cancer diagnosis and treatment among Native Hawaiians
- Exploring the feasibility of a family (*'ohana*) intervention to promote the well-being of families of Native Hawaiian women with breast cancer
- Developing a culturally appropriate intervention for tobacco cessation in Native Hawaiians
- Nasal ciliary function in Native Hawaiians
- Feasibility of incorporating physical activity and nutrition education interventions into an after-school program as a method for achieving healthy body weights among elementary school children
- Examining adolescent cigarette use in Hawai'i: implications for prevention and cessation
- Working with Samoan churches to design a culturally appropriate church-based intervention to improve cancer screening
- Developing cancer education brochures that are attractive, readable, and acceptable to Native Hawaiians
- Ten-year changes in breast cancer knowledge, attitudes, and practices in Native Hawaiian women
- Developing a family intervention to support Native Hawaiian women through the cancer experience and increase their quality of life
- Cultural expressions of cancer pain
- Spirituality and acculturation in Native Hawaiian cancer survivors
- Identifying motivators and barriers to breast and cervical cancer screening behaviors among *kanaka maoli* women living on Maui
- Native Hawaiian preferences for informed consent and research reporting
- *'Ohana* day cancer education intervention program
- Developing a culturally appropriate intervention to improve colorectal cancer screening among Native Hawaiians
- Improving Native Hawaiian health, fitness, and diet
- Native Hawaiian *kane* (men's) views of health care and cancer screening
- Healthy lifestyles for Native Hawaiian adolescents
- Cancer mortality study of Native Hawaiians, 1910-2000

Program and member accomplishments

In the first 4 years, at least 40 *Nā Liko Noelo* participated in at least one of the 15 formal training programs sponsored by *'Imi Hale*. These trainings have focused on topics such as cancer epidemiology, genetics, tobacco prevention and control, breast cancer survivorship, survey design, data analysis, and proposal and manuscript preparation. Additionally, *'Imi Hale* supported 13 individuals—including 9 Native Hawaiians and 4 non-Hawaiians—to attend the 3-week Native Researchers Cancer Control Training Program at OHSU.

Between 2000-2004, 24 research proposals submitted by *Nā Liko Noelo* were funded. This includes 12 pilot projects funded by NCI, 8 projects funded through the Native Researchers Cancer Control Training Program, and 4 projects funded through other mechanisms (Table 3). These projects ranged from a cross-ethnic comparison of breast cancer survival based on data from the Hawai'i Tumor Registry and a high-school science training program, to qualitative studies aimed at helping design effective and culturally appropriate interventions and pilot tests of innovative ways to

promote cancer screening and complete cancer treatment.

To date, 68 (78%) *Nā Liko Noelo* have served as investigators, research assistants, or interns in these projects, and 10 *Nā Liko Noelo* have served as mentors to other junior researchers (Table 2). Also, 44 *Nā Liko Noelo* have presented research findings at conferences, 25 have published findings in peer-reviewed journals, and 8 more have manuscripts in preparation. Part of our publishing success reflects *'Imi Hale's* role in guest editing two issues of the *Pacific Health Dialog* (PHD), a journal of community health and clinical medicine for the Pacific that is published in New Zealand. *Nā Liko Noelo* are encouraged to publish their findings in PHD and other peer-reviewed journals and to participate as peer reviewers of manuscripts submitted by others.

Survey findings of *Nā Liko Noelo*

Nā Liko Noelo were surveyed in 2004 to assess how useful this program has been to them and their levels of participation. The survey also asked for their recommendations on how the program could be improved and desired topics for

future training. All components of the program were given high ratings, in particular the mentorship and technical assistance components. The majority (70%) of respondents reported that they would not be involved in research if they were not part of this program.

Sample comments included:

- I have felt (and received) an incredible amount of support, mentorship and encouragement as I develop professionally. The model is great and really fosters an environment that is safe and supportive. It is critical that the program continue for our up-and-coming *Nā Liko Noelo*.
- My experience with these professionals and projects has been extremely beneficial. Access to these people and projects is stimulating and goes a long way to keep the wheels of research turning. I may have hit a brick wall and come to a dead stop without this type of professional support.
- Grant program, grant mentors, and I wish I could have taken more advantage of the training offered.
- This program has taught me to develop two research projects, both of which were funded. I have also learned to prepare for the IRB process, to develop consent forms, and to develop questionnaires. I have also become motivated to pursue an MPH.
- This is a terrific program. I learned a significant amount about research. The mentors were understanding, helpful, and a necessary part of my positive experiences. Staff support was instrumental in the success of my project.
- The support and encouragement from administrators and staff at *'Imi Hale* have been great. They are smart and caring and comfortable to work with.

Challenges

Overall, the program is well received by the Native Hawaiians who want to develop research skills to benefit themselves, also report benefits to themselves and their communities.

Although it is gratifying to help Native Hawaiians develop their research skills and successfully compete for pilot research funds, developing career researchers is dependent on many factors:

- Desire and commitment on the part of *Nā Liko Noelo* to pursue research as a career;
- Availability of opportunities for academic training in research;
- Availability of financial support while attending school, ideally as a research assistant;
- Qualified mentorship in the areas of interest to *Nā Liko Noelo* and the Native Hawaiian community;
- Availability of and ability to win post-doctorate research and training awards so that junior researchers can devote the time needed to hone their research skills, and

- Allowances for clinically trained Native Hawaiian scholarship recipients who have payback requirements to count research as part of their payback.

The major challenges for *Nā Liko Noelo* are finding the time, the financial means, and the institutional support to devote to research and writing. Most have other work and family obligations and are not on full-time research career tracks. The challenge for *'Imi Hale* program staff is making the research experience meaningful in the limited time available. As a community-based research infrastructure, it means prioritizing capacity building and skill building in research into manageable and realistic milestones for the research interns. For example, if a *Liko* only has a 1-year window to engage in research before starting medical school, it is important to prioritize and build capacity in the research skills that can be mastered in the time available. Ultimately, we strive to provide a productive and developmental experience that whets the *Liko's* appetite for research and demonstrates the role indigenous research can play in positively affecting the health of their communities.

Developing indigenous researchers also requires that *'Imi Hale* staff be cognizant of the historical and current concerns among Native Hawaiian groups and communities about research. These concerns stem from past research abuses that have led to feelings of anger and distrust towards research conducted by non-Hawaiian researchers^{1,3,7,8}. These issues are not unique to Native Hawaiians and are common among other minority groups^{9,10,11}. As the *'Imi Hale* research infrastructure developed, it was important that research training, methodologies, and protocols were supported and endorsed by Native Hawaiians. It has been important not to repeat the mistakes of past research efforts and to support new researchers by providing checks and balances to ensure research that is responsive to community priorities, respectful of cultural beliefs and practices, and reciprocal in nature—leaving tangible outcomes for individuals and communities that partner in research.

Conclusions

The targeted efforts of *'Imi Hale* to develop indigenous researchers represent commitment from multiple levels, partners, and individuals. The time commitment is substantial, the community involvement is critical, and the support of local, national and federal partners is essential. These factors are all necessary to be able to provide Native Hawaiian researchers with research skills and opportunities. The combined commitment of the NCI's Center to Reduce Cancer Health Disparities, *'Imi Hale*, and the agencies, programs and individuals who serve as mentors, council members, educators and trainers, IRB members, and community liaisons has provided a comprehensive infrastructure for cancer prevention and control research—for Hawaiians, by Hawaiians. As the *cadré* of indigenous

researchers grows, we anticipate an increase in cancer prevention and control research, an increased awareness in Native Hawaiian communities about research, and ultimately, a reduction in the cancer burden among Native Hawaiians.

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A man should eat like the Peluhs bird,
sparingly and not stuff his stomach.
He eats a little, flies away, and then eats a little again.
Pohnpeian proverb