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The Review of the Changes of Britain's National Health Service for the Impending Change of the United States

Ming Chen MD, FACS, Assistant Clinical professor, University of Hawai'i

President Obama is currently proposing a major change in our health and social care system. Since Britain has already had three major health care changes since 1991, its experience can be a good reference point for the changes of the United States.

The NHS (National Health Service of Britain) was established in 1948 to be a command-and-control model for organizing health care.¹ The first change was the introduction of the so-called "internal market" by the Conservative Government in 1991. The Labor Government introduced the second change in 1997 and called "the modernization project." Years later, the strategy of centralized control has been criticized as being counterproductive. Finally, the emphasis on "localism" was introduced in 2002 with "foundation trusts". This paper will review the history of Britain's healthcare change, and relate them to the United States.

The change in the NHS started in 1991. Before then, hospital and other health services were directly managed and funded by the local health authorities. After the change, the local health authorities became responsible to contract with health service providers to take care of their own population, the so-called "internal market". General practitioners were also offered the option of becoming fund-holders while the local health authorities remained the key purchasers. The reason for this was to create competition among providers in order to improve efficiency and responsiveness. Unfortunately, this did not happen.

In 1997, the labor government introduced the "modernization project." This included three features:¹

- 1) Competition was replaced by cooperation, and a one-year contract was replaced by a three-year contract.
- 2) All primary care providers were enrolled in the primary care trust.
- 3) Emphasis was on uniform high quality care throughout the country.

A more centralized control of the clinical audit and clinical governance was developed for the implementation of the "modernization project." The Labor Government committed to a modern and dependable health care service. It has made every effort to implement the changes by creating more than 300 targets,¹ and over 100 organizations to perform the audits.² The anxious ministers transferred their ambitions to visible improvements by creating rhetorical exuberance of policy documents and a series of initiatives which eventually caused turmoil. Medical workers were swamped with duplicate demands. Clinicians spent excessive time and effort on the audits instead of on their patients. There were too many targets, service standards, penalties, data and budget disciplines in the clinical governance. Consequently, clinicians and service provider organizations were dealing with distortion, excessive time

consumption and game playing. The National Institute for Clinical Excellence of Britain reported a "mixed record" and listed its flaws and shortcomings including poor project design, inadequate data, bad project management, lack of commitment, poor support and inconsistent follow ups.⁴ Although the data showed an overall improvement according to an independent audit by the Commission for Health Improvement of Britain, there was skepticism as well.¹ The budget of the NHS of Britain has increased by more than 10 percent in the fiscal year 2002-2003. With the money pumped into the service, the NHS was still plagued by discontent and controversy.¹ The poll showed that as many as 69 percent of those interviewed believed that the government was not improving the NHS's service. All of these factors caused the NHS to suffer from an acute case of "change fatigue." Finally, in 2002, the third change came with new ideas and new leadership in an attempt to react to the "change fatigue". The Secretary of State, Alan Milburn, acknowledged that the Labor's strategy of "a plethora of service targets, inspection regimes, and national standards," had become counterproductive.¹ He argued, "The NHS cannot survive as a monolithic top-down centralized system. Without greater diversity the NHS cannot be more responsive. Without responsiveness there cannot be public confidence. Without the public confidence the NHS will not be sustainable".¹ So, the "foundation trusts" were then introduced in 2002. The key changes in the "foundation trusts" are:¹

- 1) Have the freedom to decide on salary structures and levels for doctors and other staff.
(Instead of being bound by national agreements)
- 2) Raise the capital on the market
(instead of being dependent on the Treasury)
- 3) The governing bodies of the existing trusts are accountable to the Secretary of State; those of the new bodies will be elected locally and will be accountable to an independent regulator.
- 4) It is a more pluralistic, consumer-oriented health care system.
- 5) Patient choice by ensuring that diverse providers can be funded according to where the patients choose to be treated.
- 6) Uniform national prices for specific interventions and conditions like United States.
- 7) Consumer choice includes the private sectors.

Interestingly enough, the third change looks more like the current health care system of the United States. After almost a decade of multiple changes and researches, the NHS of Britain ended up copying the current health care system of the United States. In the mean time, because of the dissatisfaction of increasing health care cost and poor coverage of a large part of population in the United States; the Obama administration is seriously looking at a change away from the current system. Could this change follow the same path of the NHS “Modernization project” of 1997?

Walshe indicated that health care reform is clearly not “rocket science.”⁴ Furthermore, the Oxman’s pioneering review concluded that there were “no magic bullets” to change professional practice.³ Every time there is a change there will be an uncertainty and chaos. The time-consuming learning processes for both the government and health care professionals are required. All this can create frustration

and anger among health care providers and subsequently can affect their patient care.

In conclusion, the health care changes in Britain during the past decade are a mirror to the proposed change of the United States. Shouldn’t the Obama administration look carefully into the experiences of Britain before committing any changes to the healthcare system of the United States?

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SPECIAL COMMENTARY

A Critique of the Changes in Hawai‘i’s Medicaid System

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The Department of Human Service (DHS) of State of Hawai‘i implemented the new managed care system to replace Medicaid for the elderly and the disabled in February of this year.^{1,2} Subsequently, there were numerous complaints from patients and providers. The claim processors of the two managed care companies rejected many claims filed for services by the providers for various reasons such as code changes or coverage changes. As a result, some of the providers could not get payment for their services and began to refuse to take Medicaid patients. Consequently, those patients have encountered difficulties in receiving needed medical services.

There was inadequate education and insufficient communication between health care providers, patients and insurance companies. This article intends to discuss the concepts from the report of “Organizational change”³ (National Health Service, Britain)” to the DHS for facilitating the implementation of those changes.

The implementation of the changes in the Department of Human Service (DHS) Medicaid program began February 1, 2009. Elderly persons (seniors over 65 years of age) and persons with disabilities were moved into the “QUEST Expanded Access” program.^{1,2} This program was instituted to provide services under a managed care system via two for-profit mainland-based, health plan providers. These companies had been awarded contracts by the DHS on February 1, 2008, for a total value of \$1.5 billion. Recipients were told to choose between one of the two plans. They were instructed to enroll in the plan of their choice to receive medical care. Once enrolled in a plan, recipients needed to select a primary care provider (PCP) to be responsible for their overall medical care. If they wanted to see a specialist, they had to make a request through (PCP) for referral.^{1,2}

In the past, patients received the following services:

- They could use any doctor or any specialist of choice, willing to provide service and to accept the scheduled payment approved by the State of Hawai‘i.
- They could also use any hospital willing to provide services for the scheduled payment.
- They could use any Pharmacy willing to provide services for the scheduled payment.
- Rides to some appointments
- Care at home if person is homebound
- Preventive health care
- Vaccines
- Health education
- Help with mental, drug or alcohol issues
- Interpreter service

After the changes were made, all the above services required a referral from the PCP. This has reduced the utilization of services because of the gatekeeper role of the PCP and has inconvenienced the elderly and the disabled patients. Furthermore, the providers were poorly informed regarding the correct billing process to get prompt payment by the insurance companies. The accumulation of rejected claims and redundant paper work has created frustration and anger among the providers. Some providers have faced cash flow problems as a result of the payment delay and have struggled to stay in practice. Consequently, some of the providers have already stopped providing services to the clients of these two new managed care companies. Britain experienced similar problems after that country’s government created an “internal market” in 1991. Indeed, that effort failed because it did not create the competition among managed care companies that were expected.⁶

For the State of Hawai'i, it may be more practical and easier to change locally, instead of using mainland companies. The DHS could work within the same framework of service and structure with parallel approaches of clinical audit and guidance to control the quality and prevent unnecessary waste.

However, since the change has already been made, the question is how to implement them correctly. Evidence shows that leadership, organizational culture, training and practical support are important to help manage a change to improve the quality of health care.⁴ The report on "managing change in the NHS³ (National Health Service, Britain)" has provided tools, models and approaches from various sources of evidences to help answer the question.

The background of this report came from the White Paper (DOH, Britain, 1998). While the NCCSDO (National Coordinating Center for NHS Service Delivery and Organization, Britain) was commissioned to review the evidence of change management, it stated (Section 5.14); "Change may be an imprecise science, but evidence is available on what works and what do not". There are ten models and tools to approach the understanding of the complexity such as Weisbord's Six-Box organizational Model, 7S Model, and PESTELI and so on. The "Weisbord's Boxes" consist of the central leadership surrounded by five boxes of purpose, structure, rewards, helpful mechanisms and relationships. It should first find a qualified leader as the center then fill each of the boxes with clear purpose, structure of the organization and plan, incentive plan, study of helpful mechanism and build up good relationship with all parties involved. The SWOT (Strength, Weakness, Opportunities, and Threats) is

used to reconfirm the question of "Why do we need to change?" The DHS (Department of Human Service, Hawai'i) has the strength of many years successful experience in managing its own services within the budget. The weakness is that the budget may be cut in half. When individual clinicians' behavior becomes a driving force, the changes are more likely to succeed. People will either support or resist the changes depending upon how the changes will affect them. The reasons for individual resistance to change was pointed out by Kanter and included: loss of control, too much uncertainty, surprise, confusion, past resentment and real threats.⁵ These issues should be explained and reassurance provided to individuals to convert their resistance to support.

In conclusion, Maxwell pointed out that you cannot achieve a good quality product by inspection at the end of the production line, nor can it be imposed from above. It is the culture of an inspiration and cooperative effort of all the workers within the organization to set the priorities to achieve a quality product.⁷ The DHS can consider these models and restructure the changes for a better health care system for elderly and disabled patients.

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Strategies to Increase Breast and Cervical Cancer Screening Among Hawaiian, Pacific Islander, and Filipina Women in Hawai'i

Nia Aitaoto MPH, MS; JoAnn U. Tsark MPH; Danette Wong Tomiyasu MBA; Barbara A. Yamashita MSW; and Kathryn L. Braun DrPH

Abstract

The Hawai'i Breast and Cervical Cancer Control Program (BCCCP) offers free mammograms and Pap smears to women who are uninsured or underinsured through a statewide provider network. Native Hawaiians, Pacific Islanders and Filipinas are priority populations for this program, and BCCCP providers are required through contract with the Hawai'i Department of Health to utilize half of their allotted mammograms and Pap smears for eligible women from these groups. To identify strategies for increasing use by these groups of mammography and Pap smear screening services through BCCCP, we held focus groups with women who could potentially use BCCCP services, and we conducted key informant interviews with 9 of Hawai'i's 11 BCCCP providers and 9 non-BCCCP outreach workers serving these populations. Findings led to recommendations for promoting awareness of BCCCP and enhancing outreach to Native Hawaiian, Pacific Islander and Filipina communities in Hawai'i.

Introduction

Filipina, Hawaiian, and other Pacific Islander women experience breast health disparities.^{1,2} As shown in Table 1, women in these groups are less likely than Caucasian and Japanese women to participate in breast and cervical cancer screening.³ They also are more likely than Caucasian and Japanese women to be diagnosed at later stages of the diseases, when chances for cure are compromised. Specifically, 35.4% of Native Hawaiian women and 34.9% of Filipino women with breast cancer are diagnosed with late-stage disease, compared to 29.4% of Caucasian and 22.4% of Japanese women with breast cancer.^{1,4} Among women with cervical cancer, 41.2% of Native Hawaiians and 61.0% of Filipinas are diagnosed at a late stage, compared to 34.1% of Caucasians and 29.5% of Japanese.¹

Most of the Pacific Islander migrants to Hawai'i are from American Samoa, the Republic of the Marshall Islands (RMI), and the Federated States of Micronesia (FSM), which is comprised of four states—Chuuk, Kosrae, Pohnpei, and Yap. Each Pacific Island group has its own distinct culture and language, but they share a history of colonization by various European nations, Japan (in the RMI and FSM), and the United States. Since World War II, these islands have been used by the United States for military purposes, and the RMI was used for nuclear weapons testing.⁵ Because the numbers of Hawai'i residents from these Pacific Islands are relatively small, estimates of cancer mortality and screening behaviors are not available for each specific group. However, a chart review conducted by a Community Health Center frequented by women from the RMI and FSM found that 74% of female patients over the age of 40 had never had a mammogram, even though 65% had medical insurance.⁶ Surveillance data gathered in the late 1990s from Samoan women in Hawai'i and Los Angeles suggested that only 33% of US-residing Samoan women over the age of 40 had ever had a mammogram and only 64% of Samoan women over the age of 18 had ever had a Pap smear.^{7,8} At the time, these rates were among the lowest reported for any ethnic group in the United States.

Breast and cervical cancer screenings are effective secondary prevention strategies for reducing cancer morbidity and mortality. To provide these services for medically underserved, low-income women, the Centers for Disease Control and Prevention (CDC) established the National Breast and Cervical Cancer Early Detection Program (NBCCEDP), which covers breast and cervical cancer screening and diagnostic follow-up.⁹ U.S. states, territories

Table 1.—Hawai'i State Breast and Cervical Cancer Screening Prevalence 2005 – 2007

Year and Ethnicity	% age 40+ who ever had mammogram	% age 40+ who had mammogram in past 2 years	% age 18+ who ever had Pap	% age 18+ who had Pap in past 2 years
2005				
Hawaiian	86.6	66.0	91.7	76.9
Filipino	84.9	72.2	85.9	80.1
Caucasian	91.7	75.9	96.2	86.6
Japanese	93.5	83.9	90.1	83.9
2006				
Hawaiian	88.2	70.3	92.9	81.9
Filipino	88.1	73.7	84.5	78.4
Caucasian	93.1	75.7	94.5	81.4
Japanese	94.9	81.1	92.5	82.2
2007				
Hawaiian	91.8	76.1	94.5	81.9
Filipino	90.9	74.0	93.6	82.7
Caucasian	93.1	76.0	96.9	83.1
Japanese	94.5	78.6	94.3	81.3

(eg, American Samoa), and freely associated states (eg, the RMI, and the FSM) may apply for CDC funding to establish a program in their communities.⁹ The Hawai'i Breast and Cervical Cancer Control Program (BCCCP) program was established in 1993, and began targeting its services to medically underserved women in 1997. Currently, the Hawai'i Department of Health (DOH) administers the program, contracting with 11 BCCCP providers across the state. DOH mandates that at least 50% of mammograms and Pap smears provided under BCCCP be for clients from 3 priority populations—Filipinas, Native Hawaiians, and other Asian/Pacific Islander (API).

Between Fiscal Years (FY) 2002 and 2007, 6,884 women received a screening mammogram through the Hawai'i BCCCP, and 50% (3,473) of these women were Native Hawaiian, Filipina, or other API. In FY 2007, for example, about 14% of BCCCP clients were Native Hawaiian, 19% were Filipina, and 19% were Other Asian/Pacific Islander. However, when data were examined by county, only 38% of Maui participants, 27% of Kaua'i participants, and 21% of Hawai'i participants were members of these priority groups in FY 2007, compared to 72% of clients in Honolulu County. Also, some BCCCP providers had trouble using their priority population allotment (50% of their mammograms) for the year. In FY 2007, for example, only 1,073 (82%) of the 1,305 budgeted mammograms for the state were completed, and 553 (52%) of completed mammograms were provided to women from the priority populations.¹⁰

To identify strategies for increasing use of BCCCP services by these groups, an assessment was conducted by 'Imi Hale Native Hawaiian Cancer Network ('Imi Hale) through a subcontract with the Hawai'i DOH. 'Imi Hale is a program of Papa Ola Lōkahi and one of 25 Community Network Programs funded by the National Cancer Institute's Center to Reduce Cancer Health Disparities. 'Imi Hale was founded in 2000 and is guided by principles of community-based participatory research, emphasizing community involvement, capacity building, respect for cultural values, and the sharing of information.^{11,12} The DOH and 'Imi Hale have a history of collaboration on community-based projects related to tobacco cessation, diet, and exercise, as well as BCCCP. Prior to this study, 'Imi Hale and the DOH co-sponsored two meetings in 2003 and 2007 to foster relationships between community outreach staff serving Native Hawaiians and BCCCP provider staff, and to identify barriers to participating in the BCCCP.¹⁰

The specific goal of this assessment was to examine outreach and recruitment barriers to expanding BCCCP participation by Native Hawaiian, Filipina and other API women and to identify strategies that could potentially increase participation, especially on the Neighbor Islands.

Method

In this qualitative study, focus groups were conducted with potential users of BCCCP services from Filipina, Hawaiian, and other API communities. The authors also conducted key informant interviews with BCCCP providers and with non-BCCCP community outreach workers serving these priority populations. Data were collected by 'Imi Hale to identify common and ethnically unique barriers to service use, as well as successful recruitment strategies that could be applied across the state. Findings were reviewed and recommendations developed with DOH BCCCP staff.

Focus Groups

To hear from potential BCCCP clients, 5 focus groups were conducted: 2 with Native Hawaiian women, one with Filipino women, one with Marshallese women, and one with Chuukese women. We focused on Marshallese and Chuukese because these groups are among the largest from the Western Pacific, and a large percent of them do not speak English. Participants were identified by community outreach staff, community leaders, and advocates for these ethnic groups. An effort was made to enlist women who were eligible for BCCCP services but had not used the program within the past two years. In all, 42 women were identified and invited to participate, and 33 did so. Those that did not attend cited prior commitments or last-minute illness or time conflicts. Participants' ages ranged from 42 to 69 years; 15 were Native Hawaiian, 6 Filipina, 7 Chuukese, and 5 Marshallese. None had health insurance, qualifying them for BCCCP benefits.

Focus group size ranged from 5 to 8 women. Questions included: 1) What have you heard about breast cancer, cervical cancer, mammography, Pap tests, and BCCCP? 2) What are some barriers to getting screened for breast and cervical cancer? 3) Where do you usually get health information or advice? and 4) What can BCCCP do to promote its services? The Chuukese group was conducted in Chuukese, Marshallese group in Marshallese, the Filipina group in Ilocano, one Hawaiian group in Hawaiian and one Hawaiian group in English. Translators were selected for their language skills and their status within the group, and all translators except the one for the Hawaiian-language group were elders. Conducting the focus groups in the native language with a trusted translator helped build trust and reduce the chances of misinterpreted and misleading responses. Because of our commitment to increasing community capacity, we trained 14 health workers to conduct the focus groups, and each attended three hours of training. Tailored focus group guides and scripts were developed by 'Imi Hale and used by each group. Informed consent was obtained from each participant. In appreciation for their time, participants received a \$10 gift certificate.

Focus group discussions were audio-taped with participants' permission. Key ideas also were recorded on paper posted on the wall for all to review, and participants were free to offer corrections to this record. Focus group discussions were subsequently transcribed in English. The trained health workers and the investigators worked together to identify the key themes and to code the transcripts. We counted the number of individuals in each group that spoke to each theme.

Key Informant Interviews

BCCCP Providers

The authors interviewed representatives from nine of the eleven BCCCP providers: four on O'ahu, two on Hawai'i, and one each on Maui, Moloka'i, and Lana'i. Two of the 11 BCCCP providers were not included in the study because they were newly contracted and had been in operation less than a year. Key informants had been working with members of the priority populations from 3 to 14 years and with the BCCCP program from 1 to 10 years. Interviews were conducted by phone and took about 45 minutes. Prior to the scheduled interview, respondents were sent materials to review, including a list of recommendations generated at a previous DOH BCCCP provider meeting and a copy of the questions to be covered on the

interview. The survey questions were developed by 'Imi Hale staff and reviewed and approved by the DOH. Participants were asked to describe the strategies they used to recruit Filipina, Hawaiian, and Pacific Islander women to their sites. Interview notes were transcribed. They also were asked to review a list of ten recruitment strategies identified at a previous DOH BCCCP provider meeting and score each one on a scale from 1 = not important to 10 = very important. Scores were averaged across participants. In appreciation for their time, participants received a \$25 gift certificate.

Non-BCCCP Outreach Workers

The authors interviewed nine female community outreach workers, selected because of their role in community outreach with Filipina, Hawaiian, and other Pacific Islander groups. Specifically, we interviewed two Marshallese and three Chuukese lay educators affiliated with Micronesia United's Breast Cancer Lay Education program and two outreach workers with the Native Hawaiian Health Care Systems—one on Kaua'i and one on Maui. Also on Kaua'i, we interviewed two lay educators from Kaua'i Diabetes Today who worked with Filipinas. Three questions were asked: 1) What are the barriers to reaching BCCCP-qualified women in your community? 2) What are the community strengths that help you reach BCCCP-qualified women in your community? and, 3) If you had adequate resources, how would you reach BCCCP-qualified women in your community?

Interviews were conducted by phone and in English, and each interview took two to three hours to complete. In appreciation for their time, participants received a \$25 gift certificate. Interview notes were transcribed, and the investigators identified key themes and coded the transcripts.

Findings

Focus Group Findings

Knowledge and Practice

Overall, the 33 focus group participants had heard of breast and cervical cancer, 79% knew about Pap testing, and 55% knew about mammography (Table 2). Although 24 (73%) reported ever having a Pap test, only 14 (42%) reported ever having had a mammogram (Table 2). Examining by ethnic group, none of the Chuukese or Marshallese participants had ever had a mammogram, compared to 50% of Filipina participants and 73% of Hawaiian participants. Although the number that had received Pap testing was relatively high, we learned that the Chuukese and Marshallese only had Pap testing done when they were pregnant, rather than routinely. Eight women had used BCCCP for breast cancer screening, and four more had heard of the program, but none of the Chuukese and Marshallese participants had used it or heard of it.

Barriers to Screening

Focus groups identified five common barriers across the groups: 1) limited understanding of breast and cervical cancer; 2) competing priorities; 3) lack of transportation; 4) cultural beliefs that impact health seeking behaviors; and 5) fear of bad news. Although all women had heard of breast and cervical cancer, 94% did not feel they had enough information about cancer, about the need for screening, the recommended frequency of screening, and how to go about getting it, especially since none had insurance and only 11 (33%) had a

regular source of care (primary care provider or clinic). Competing priorities were identified by 64% of the participants, and the most common was the need to care for grandchildren, ailing relatives, and parents. Others mentioned the need to work two or more jobs to make ends meet in Hawai'i, and others noted competing church, social and cultural obligations. Transportation issues were raised, especially among the Neighbor Island participants. Many told of difficulties getting to appointments on islands with limited or no bus service. Taking a taxi is very expensive, and many were reluctant to ask neighbors and relatives for help.

The Hawaiian, Chuukese, and Marshallese focus groups discussed the affects of culture on their health-seeking behavior. One suggested that information is shared differently in their traditional cultures:

"The western medical/public health system relies heavily on mass distribution of information. They announce programs and give phone numbers for us to call to get information about services. We do not respond to that type of call to action because in our culture we don't do "cold calls." If we don't know a warm body on the other end, we don't do it. Health information needs to be personal, and the messenger is just as important as the message."

Participants also explained that their traditional cultures were more group-oriented than Western culture. Thus, women were more likely to seek help if they were motivated by family or church, especially if they could seek help in a group. Another participant explained why Pacific Islanders usually do better when they bring advocates with them to appointments.

"In the Micronesian culture it is not appropriate for a person to advocate for themselves. You need someone to be your advocate regardless of whether or not you are competent in the English language."

In the Filipina and Hawaiian focus groups, participants spoke specifically about the fear of getting bad news as a barrier to screening. Other participants nodded when one woman remarked,

"I did not want to go in because I am afraid that they will find something wrong, and then who will take care of my family? My family doesn't have the money to pay for treatment and I heard it's very expensive and I know my family will suffer financially. Besides that, I am the caretaker for my family, and they rely heavily on me."

Sources of Health Information

Seven sources were discussed. All five focus groups mentioned that they got health information from family and community gatherings they attended. One participant said,

"I attend at a lot of meetings throughout the week. Last week was a great example, Monday was my granddaughter's open house at school, and after that there was the Parents and Teacher's Association meeting with a presentation on nutrition. On Tuesday I attended a meeting for farmers about water rights, Wednesday was my Filipino association meeting, and I'm the secretary so I have to attend that meeting. Thursday was my ballroom dancing club meeting, and on Friday my sewing club had a birthday dinner for one our members."

Other participants echoed this, adding that they attended housing meetings; family meetings to plan reunions, weddings, and funerals; and meetings of various boards, ethnic clubs, social clubs, and recreation clubs. The authors asked about the type of health information

Table 2.— Number of focus group participants that spoke to each theme

	Filipina (n=6)	Hawaiian (n=15)	Chuukese/ Marshallese (n=12)	Total (n=33)
Knowledge				
Heard of breast and cervical cancer	6 (100%)	15 (100%)	12 (100%)	33 (100%)
Know about Pap testing	5 (83%)	15 (100%)	6 (50%)	26 (79%)
Know about mammography	4 (67%)	13 (87%)	1 (8%)	18 (55%)
Had Pap test	4 (67%)	14 (93%)	6 (50%)	24 (73%)
Ever had mammogram	3 (100%)	11 (73%)	0	14 (42%)
Heard of BCCCP	4 (67%)	8 (53%)	0	12 (37%)
Barriers to Screening				
Limited understanding of screening	5 (85%)	15 (100%)	11 (92%)	31 (94%)
Competing priorities	6 (100%)	8 (53%)	7 (58%)	21 (64%)
Lack of transportation	6 (100%)	13 (80%)	0	19 (58%)
Cultural beliefs that impact health seeking	0	10(67%)	9 (75%)	19 (58%)
Fear of bad news	2 (33%)	4 (27%)	0	6 (18%)
Sources of Information				
Family or community gathering	5 (83%)	12 (67%)	7 (58%)	24 (73%)
Trusted and respected leaders and relatives	6 (100%)	7 (47%)	12 (100%)	25 (76%)
Church	5 (83%)	5 (33%)	4 (33%)	14 (42%)
Television	6 (100%)	8 (53%)	0	14 (42%)
Radio	3 (50%)	8 (53%)	2 (17%)	13 (40%)
Print media	4 (67%)	2 (13%)	1 (8%)	7 (21%)
Health care providers	3 (50%)	6 (40%)	2 (17%)	11 (33%)
Suggestions for Outreach				
One-on-one outreach	6 (100%)	14 (93%)	12 (100%)	32 (97%)
Community or church presentation	6 (100%)	10 (67%)	12 (100%)	28 (85%)
Special campaign or project	5 (83%)	13 (80%)	3 (25%)	21 (64%)
Media campaign on television and radio	5 (83%)	4 (27%)	9 (75%)	18 (55%)
Targeted health education materials	3 (50%)	9 (60%)	8 (67%)	12 (37%)
Health fairs	2 (33%)	7 (47%)	0	9 (27%)
Health providers	0	0	1 (8%)	1 (3%)

they receive at gatherings, and learned that it varied from passing mentions about a relative or friend diagnosed with an illness to a full presentation on a health issue by an outside speaker.

Three-quarters of participants also noted receiving health information from trusted and respected leaders, including pastors, civic and social leaders, family, friends, and neighbors.

Another source of health information mentioned by all five groups was church. This includes the regular Sunday service and church-related meetings held throughout the week, like church leadership meetings, choir practice, women’s meetings, and bible studies. Again, the type of information received varied from discussions about a congregant’s diagnosis to presentations by visiting health care providers.

Focus group participants on Kaua’i and the Big Island said they got information from television. The Filipina group said that they preferred watching Filipino programs (mostly in Ilocano or Tagalog), while the Hawaiian group watched mainstream television. The Marshallese and Filipina groups reported listening to ethnic-language radio stations, which sometimes broadcast health

information. Filipinas also reported getting health information from Filipino-language newspapers, newsletters, or magazines. *Midweek*, a weekly newspaper, was mentioned by O’ahu participants. Three of the groups mentioned health care settings as a source of health information. This included reading a poster at a provider’s office, receiving health education materials (flyers and brochures), and having one-on-one talks with providers.

Promoting BCCCP

Focus group participants had several suggestions for promoting BCCCP services among their peers. All but one woman said that one-on-one education was the most effective means of outreach. One participant explained the various roles that this outreach worker would play:

“The ideal outreach program for my community is to have health outreach educators who are also encouragers. They would come out to the various housing projects and neighborhoods to tell us about health issues and screening. These health outreach educators can

also serve as the navigator to navigate us through the system; they would do everything from calling in for appointment to escorting us to the doctor's office. And finally, they would also be our translator, to translate difficult medical terms to us and also help us articulate our needs and concerns. This seems like a massive and costly undertaking but it can be done. We can train our own people to do it. 'Imi Hale is doing a similar project with Micronesians United and it is very effective."

The second most popular suggestion was to provide presentations in community or church settings, especially if the presenter is from the same ethnic group and speaks the same language. When this is not possible, presenters should use plain English; for Filipino, Chuukese, and Marshallese groups, non-native speakers should be assisted by a translator. A Micronesian participant explained the appeal of presentations:

"Presentations are culturally appropriate for Micronesians. It is, was and still is our mass media. For example, back in the islands, we used to have a meeting that takes hours where people listen to presentations and discuss everything. We are still wired up like that, and that is why we need to initiate a health program like that."

Each ethnic group gave ideas for tailoring outreach to its community. The Micronesian women thought that hosting a competition between groups might motivate them to get screened. The Filipino groups suggested attaching screening to a fun, festive activity, for example hosting a ballroom dancing bash open only to women who were screened in the previous year. Hawaiians suggested targeting family reunions.

About half of the women recommended a mass media campaign using television and radio. While Hawaiians recommended a campaign in mainstream media, Marshallese and Filipino asked for health programming on ethnic radio. One participant explained,

"Health is not necessarily a top priority for the ethnic stations but it can be. If the public suggests or demands more health programming I am sure they will do it. They will be more than willing to air health messages as long someone else prepares the scripts ahead of time."

Ethnic-language educational materials were important to the Filipina, Marshallese, and Chuukese women.

"We all know the importance of one-on-one and group sessions but we can't remember everything and we need to have reminders in between sessions and that is where educational materials come in. The materials need to be in our language and show familiar faces from our community to be effective."

The women also suggested reminder posters to be posted in church halls, ethnic stores, community bulletin boards and meeting places.

Getting the message out through health fairs at the mall, Costco, or Kmart was recommended by the 3 Neighbor Islands focus groups. They explained that health fairs were well attended on their islands. Only one participant mentioned health care providers, saying that they should be educated about BCCCP and the importance of referring women to the program.

Interview with BCCCP Providers

Interviews were conducted with nine of eleven BCCCP providers. There was great diversity among providers, from hospitals to clinics to access-oriented programs. Each provider has different strengths and capacities to facilitate recruitment. For example, the NHHCS are largely staffed by community outreach workers, and their programs target Native Hawaiian women on their respective island. They do not, however, offer mammograms onsite. One has the capacity to provide transportation to clients, which greatly facilitates screening compliance, but the other NHHCS provider does not. Most of the hospital-based BCCCP providers have the capacity to do mammograms onsite, but most do not have community outreach workers on staff, and outreach is confined to media messages. Only one of the hospitals provides van services to clients needing transportation. While BCCCP providers serve all eligible women, many providers actually serve clients from the priority group in their catchment area or identified in their mission.

In the interviews, providers described an array of strategies that they had found successful. To increase access to screening, one BCCCP provider books appointments while conducting outreach at health fairs and community presentations. She does this by setting aside "blocks" of appointment times before she goes out. At the health fair or presentation, she can assess eligibility of women and schedule appointments on the spot. This also allows her to accommodate friends in adjoining time slots, recognizing their comfort in doing things together. This provider is able to arrange all services in one place, from registration to clinical exam, education, and mammogram. Women are encouraged to bring family members with them, and in some cases babysitting is provided onsite. Finally, women and their families are offered a tour of the facility to increase familiarity with the Western health care system.

Some providers offer evening and Saturday clinic hours. Several BCCCP providers outreach through existing social and church groups, providing education and encouraging screening participation, and several encourage clients to refer their friends. Some programs provide incentives, for example a bag of rice to each woman who shows proof of having had a mammogram. Some spend time educating physicians and health agencies about BCCCP to increase referrals from these sources.

BCCCP providers rated ten strategies to increase recruitment that emerged from a previous provider meeting (Table 3). They believed that the most important strategies (scoring 8.5-9.4 out of 10 where 10 = very important) were to increase outreach efforts, either their own outreach or through the use of lay educators, to increase participant incentives, and to educate agencies that work with vulnerable groups about BCCCP. The next most important (scoring 7.2-7.8 out of 10) were to increase the number of BCCCP mammograms that can be provided to women ages 40-50 (at this time, only 25% can be used for this age group), to increase transportation support, to educate physicians about the BCCCP, and to advertise using ethnic-preferred media. Providers felt the least important (scoring 6.6-6.9 out of 10) were advertising through mainstream mass media and increasing available appointments.

Recruitment strategies	Mean score*
Increase outreach efforts	9.4
Increase participant incentives	8.9
Support lay educators to outreach to their own communities	8.6
Educate agencies to encourage referrals	8.5
Increase mammograms for the 40 – 50 year olds	7.8
Increase transportation support	7.6
Educate physicians to encourage referrals	7.3
Advertise using ethnic media	7.2
Advertise using mainstream, mass media (TV, Radio)	6.9
Increase appointment times and slots	6.6

* From 1=least important to 10=most important

Interviews with non-BCCCP Outreach Staff

Informant interviews were conducted on three islands with nine community outreach staff working with Native Hawaiian, Filipina or Micronesian women. Their insights confirmed and extended the information heard in the focus groups. Salient barriers, strengths, and outreach suggestions are presented for each group.

Filipina Women

Most Filipina immigrants to Hawai‘i are working 2 or 3 jobs or are self-employed as farmers, seamstresses, store-keepers, housekeepers, baby sitters, and so forth. These women are not easy to reach through the workplace, and they are not at home during working hours when most health programs are operating and most outreach workers are trying to track potential clients. Weekends tend to be filled as well, with family, church, and social obligations. Most Filipino women enjoy congregating in groups, belonging to clubs, and having close-knit friends. Most do not understand English well enough to understand health messages. Most do not watch mainstream TV, listen to radio, or read the newspaper, so they are missing out on mainstream media campaigns. Some do not have telephones, and very few use the Internet.

Thus, outreach needs to be targeted to organized groups. Although it may not be easy to get into the circle, Filipinas are usually receptive to health messaging once it is presented in their language and by a trusted figure, like a group leader or a health care provider that is introduced by the leader. Parish nurses and health ministries are well respected, and they can help recruit to health programs. Mass media campaigns should be conducted using ethnic radio, television, and print media. BCCCP services need to be provided on weekends or very early morning (like 4 am) to accommodate working women.

Native Hawaiian Women

There is diversity in socio-economic status among Native Hawaiian women. Those eligible for BCCCP services are those without health insurance who are likely to have limited income, to lack permanent housing, and to have extensive family caretaking obligations. This group is somewhat transient, and many do not have phones. There is no single organization where you can reach large numbers of Hawaiian women that meet BCCCP criteria. Most of the time, one-on-one outreach is most effective. Women from Ni‘ihau (often living on Kaua‘i) have limited English language, and very few health

education pieces are available in Hawaiian. Whether in English or Hawaiian, health messages need to reflect Hawaiian cultural beliefs, ideas, and values. Hawaiian is a poetic and powerful language, and educational materials can be more effective when Hawaiian is incorporated. The best way to outreach is through small, naturally occurring groups and through family reunions. Ni‘ihau Hawaiians can be reached through their churches on Kaua‘i.

Marshallese and Chuukese

Key informants providing outreach to Marshallese and Chuukese women noted that Marshallese and Chuukese residents in Hawai‘i tend to be poor, to have low-paying jobs, to live in overcrowded housing, and to have many caretaker roles. Financial stress and crowding exacerbate problems like alcoholism and domestic violence. Thus, this group is highly transient, moving from one side of the island to the other and island to island to take advantage of the best arrangements for living, work, and education. This presents problems to programs like BCCCP, which needs to track women for purposes of follow-up and annual checks. They may also have family, social, and church obligations that keep them from seeking or keeping health appointments. Few women in this target group have telephones, or they share phones with others. Often, a woman will give a phone number that will be disconnected by the follow-up appointment. Very few have access to Internet.

A major barrier is language, as the majority of Marshallese and Chuukese women have limited English-language skills, especially those aged 50 and older. Discussing medical or health concepts is challenging, especially when the native language does not have words for these concepts or discussion of the topic is culturally taboo or considered rude. Even with women who understand English, there are cultural nuances and protocols that should be followed. For example, Micronesian women have social cliques and circles that may limit the amount of information that can get in or out of the group. Thus, providers may have a difficult time communicating and “getting in” with these groups. Most Micronesians do not tune into mainstream media, so they are not getting media campaign messages. To be effective, we need to “frame” our message in a way that follows cultural norms, values, and ways of understanding.

The most effective way to outreach to Marshallese and Chuukese women is to support lay educator programs, such as the lay education program operated by Micronesians United. Pacific Islander women tend to gather in groups and, if you get into the right group, you have a ready audience. Church outreach is effective, especially if you gain the support of the pastor and the pastor’s wife. Translating materials and conducting outreach in native languages can have a huge impact. A Micronesian Challenge, where women from different geographic, ethnic and church groups compete as teams, may be effective in getting women to screening and changing social norms.

Recommendations

Findings were reviewed with DOH BCCCP staff. Recommended strategies to increase BCCCP utilization by Native Hawaiians, Filipinas, and Pacific Islanders were developed in three areas: 1) outreach to other health care and social service providers; 2) outreach to potential clients; and 3) infrastructure changes to reduce access barriers to the BCCCP program.

Outreach to Providers

Providers in hospitals, clinics, offices, and agencies serving these groups need to learn about BCCCP and how to appropriately refer potential clients. This is best done through talks, preferably with continuing education credits attached. It is especially important to develop partnerships with agencies that serve vulnerable populations, such as the Native Hawaiian Health Care Systems, the Community Health Centers, DOH's bilingual health aides, the Women, Infant & Children (WIC) program, Micronesians United, and the Kaua'i Diabetes Association.

Outreach to Potential Clients

Educational programs need to be taken to the community. They should be offered through the clubs, churches, social and family networks appropriate to the target groups. Public service announcements, paid advertising, and ideas for stories should be directed at the preferred mainstream or ethnic media outlet. Support of lay educator and navigation programs empower women from the target groups to outreach in their own communities.

Infrastructure

Clinic hours at some sites could be arranged to better accommodate working people as well as small groups who want to schedule appointments in adjoining time slots. They should identify external funding sources to support transportation, client incentives, and in-language educational materials. Also BCCCP providers should be brought together with potential clients and non-BCCCP outreach workers to strengthen relationships and share successes and challenges in serving Native Hawaiian, Filipina and Pacific Islander women.

Discussion

Our findings are not surprising. Vulnerable populations in Hawai'i face many of the same barriers as vulnerable populations in the Continental United States, and strategies found to be successful in Hawai'i have also been found to work in other communities.¹³⁻¹⁹ Expanded outreach, use of lay educators, and cancer navigation programs have been shown to increase screening participation and reduce time to definitive diagnosis.²⁰⁻²⁴ Currently, both the National Cancer Institute (NCI) and the Centers for Medicare and Medicaid Services (CMS) are testing cancer patient navigation to determine if it increases the timeliness of cancer diagnosis, as well as successful resolution of cancers that are diagnosed.^{25,26}

What is revealing is that the BCCCP, like other national and local programs, has more to learn about their target populations, especially when their contracted service providers and the populations they serve are so diverse. This assessment was contracted by the DOH to gain insights into recruitment strategies that are working, barriers or inadequacies of current outreach practices, and recommendations for improved outreach and recruitment. 'Imi Hale agreed to conduct the assessment because it also is seeking ways to increase the participation of Native Hawaiians in the BCCCP program.

The study had several strengths. First, we gathered data from three distinct groups: BCCCP providers, non-BCCCP providers who are or could be referring clients to the BCCCP program, and potential BCCCP clients. Each group provided its view and, when combined, helped us develop a comprehensive understanding of the problems and potential solutions. Findings confirmed the need to improve ef-

forts to outreach to and recruit Native Hawaiian, Filipina and Pacific Islander women. Improving outreach and recruitment is a shared responsibility between the DOH, the BCCCP-contracted providers, and agencies that serve women in BCCCP priority populations. Unfortunately, time and funding constraints limited us to five focus groups for potential BCCCP clients. We were not able to conduct focus groups for each ethnic group on each of the major Hawaiian Islands. Nor could we conduct focus groups for other major Pacific Island ethnic groups, such as Samoans and Tongans.

The assessment process allowed BCCCP providers to identify issues specific to their program/facility. Comparing responses across providers helped identify cross-cutting issues and make beneficial recommendations. Cross-cutting barriers included: inadequate outreach capacity and/or culturally appropriate strategies; lack of promotion of the BCCCP; and low awareness among physicians and providers in the community about BCCCP. Consensus recommendations included: increased advertising through ethnic media; educating doctors and other providers serving these groups about BCCCP; and training more lay educators for outreach in their respective communities. This study also allowed providers the opportunity to share successful outreach approaches, including lay educator programs and group appointment scheduling strategies.

In addition to cross-cutting barriers and recommendations, the data identified ethnic-specific health-seeking behaviors and preferences. Micronesians are the newest migrants to Hawai'i and come from different Pacific Island nations with their own languages and cultures. Filipinas may come from families that have been in Hawai'i for a few generations, while others are new immigrants speaking different dialects. For Native Hawaiian women, mammography screening utilization remains lower than for their Caucasian, Japanese and Chinese counterparts, and past studies in Hawai'i have identified cost and lack of insurance as one cause for this.¹⁷⁻¹⁸ Some groups recognize their church as a good site for outreach (Pacific Islanders, Filipinas and Hawaiians women from Ni'ihau) and some were keen on special campaigns (Filipina and Hawaiian) or use of television and radio (Filipina and Pacific Islander), consistent with previous research with Samoans in Hawai'i.¹⁹ All potential client groups surveyed identified one-to-one outreach as a preferred outreach method, but Filipinas and Pacific Islanders also identified a trusted and respected leader or relative as a good source for information. The next step is to begin to implement some of the recommended outreach strategies and to test their effectiveness in increasing BCCCP participation by women from the priority populations.

Conclusions

Although the identified barriers and recommended solutions are not new, raising them among Hawai'i BCCCP providers and the DOH has set the stage for change addressing concerns prioritized by BCCCP providers. The assessment provides a platform for negotiations between DOH and CDC and between BCCCP providers and DOH since contracts are renegotiated annually. Having program-specific and program-wide insights to recruitment successes and challenges allows for targeted action for the betterment of women who bear the largest burdens of breast cancer in Hawai'i.

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Language Preference and Development of Dementia Among Bilingual Individuals

Aaron McMurtray MD; Erin Saito MSc; and Beau Nakamoto MD

Abstract

In bilingual individuals, regression to a primary language may be associated with development of cognitive impairment and increased risk for development of dementia. This report describes two bilingual patients who presented with early symptoms of dementia after regression to their primary language. The results of this study may help clinicians identify aging bilingual patients who are beginning to develop cognitive impairment or dementia and suggest that further studies on the long term cognitive effects of bilingualism and interactions with the aging process are indicated.

Introduction

Dementia is a major health care problem in this country affecting up to 10 percent of those over the age of 65 years,¹ and resulting in economic costs approaching \$100 billion per year.² The importance of dementia as a healthcare concern will also likely continue to increase as the mean age of the United States population rises.^{3,4} Due to the lack of definitive tests or biomarkers, the diagnosis of dementia typically depends on careful examination and application of clinical criteria.³ Cognitive testing is an important aspect of the assessment and is often essential in establishing the clinical diagnosis.⁵

Previous studies have demonstrated that while age and education are the most important determinants of normal variation in performance on cognitive testing,^{6,7} ethnicity and language may also affect selected items of standard cognitive screening instruments.⁸⁻¹³ This may be particularly important when assessing bilingual patients who may vary in comprehension and performance on cognitive tests depending on the language used to administer the tests. Additionally, loss of language abilities is a common finding in demented individuals that may precede other aspects of cognitive decline.¹⁴ Maintaining proficiency in multiple languages requires increased cognitive demands compared to a single language, consequently non-primary languages may be particularly vulnerable to the effects of cognitive decline.⁵ In the elderly retreat to a primary language may be an early indicator for development of cognitive decline or dementia.

This report describes two bilingual patients who regressed to the use of their primary language before developing symptoms of dementia. These patients underwent general physical and neurological examinations, blood tests for treatable or reversible causes of cognitive impairment and neuropsychological testing. The cases described in this report illustrate how regression to a primary language among bilinguals may be useful to clinicians caring for aging bilingual patients and assist in identification of bilingual patients at risk for cognitive impairment or early dementia.

Methods

Subjects

The two bilingual patients included in this study presented to a University affiliated Memory Disorders Clinic (MDC) during a one-year period from 2/1/2007 to 2/1/2008 with chief complaint of cognitive impairment and met the [Diagnostic and Statistical Manual-IV](#) criteria for dementia.¹⁴ This study was approved by the University

of Hawai'i Committee on Human Studies. Both patients were of Japanese ethnicity and had been born and raised in Hawai'i, with Japanese as their primary language and English as their secondary language. For both patients, the clinical diagnoses were established prior to obtaining MRI imaging. Neither of the bilingual patients had structural lesions on the MRI or cortical strokes.

The bilingual patients were screened for treatable causes of cognitive impairment including vitamin B12 deficiency, thyroid function abnormalities, neurosyphilis, and normal pressure hydrocephalus. All medical illnesses and medications were reviewed for cognitive effects. Neither of the patients had diagnoses of medical or psychiatric disorders that could affect cognition. Additionally, neither of the patients were on psychoactive medications (including antidepressant, antipsychotic, or benzodiazepine medications), acetylcholinesterase inhibitors, or other medications that could affect cognition.

The patients underwent neuropsychological tests at the time of initial presentation. The measures included the Mini-Mental State Examination (MMSE); digit span forwards and backwards; serial threes; language assessment including: verbal fluency, assessment of comprehension and repetition, the Mini-Boston Naming Test (MBNT), and brief reading comprehension and sentence writing tests; a ten-item Auditory Verbal Learning Test (AVLT); constructions from the Consortium to Establish a Registry in AD (CERAD); simple arithmetic calculations including single and two digit addition, multiplication, and an algebra problem; and frontal-executive functions including: interpretation of idioms and proverbs, category assignment, the Luria Hand Sequence test, the Go/NoGo Test, alternate tapping, and the Luria alternating programs.⁵

Illustrative Case Reports

Bilingual patient Number 1 was a 67-year-old Japanese-American man with past medical history significant for hypertension and type 2 diabetes, brought by his wife to the MDC for problems with his memory and cognitive abilities. He was born on O'ahu, and spoke both Japanese and English fluently for his entire life. His wife reported that ever since retiring at the age of 65 years he spoke Japanese mostly at home and had not spoken English on a regular basis. On interview, the patient's wife described his insidious development of memory problems exemplified by forgetting items said to him during conversation, asking repetitive questions, misplacing items and forgetting to pay bills. There was no report of motor or sensory change. Neurological examination revealed only bilateral absent ankle jerk reflexes, diminished patellar reflexes, decreased vibration sensation in the lower extremities at the toes, ankles and knees, and mildly wide based gait, all consistent with a peripheral neuropathy. Magnetic resonance imaging (MRI) of the brain showed only mild generalized brain atrophy.

Bilingual patient number 2 was an 85-year-old Japanese-American man with past medical history significant for hypertension, benign prostatic hypertrophy, bilateral hearing loss and cataracts. He was referred to the MDC by his primary care physician for suspected early dementia. The patient was accompanied by his wife who pro-

vided the majority of the history information. She described him as having an insidious and slowly progressive development of memory difficulties including forgetting items said to him during conversation, misplacing items, forgetting to turn the stove off after cooking, and not being able to find his car in a store parking lot. There was no report of motor or sensory change. Neurological examination revealed normal cranial nerve functions, grossly intact strength and sensation, normal and symmetrical deep tendon reflexes, and a gait with normal base and stride. Magnetic resonance imaging (MRI) of the brain showed moderate atrophy including the medial temporal lobes and hippocampi bilaterally. His wife reported that while he spoke both Japanese and English fluently during his adult years, he had stopped speaking English at home approximately 3 years ago and for two years prior to evaluation had spoken only Japanese.

Results

All subjects in the study were Japanese-American men. Demographic characteristics of the patients are given in Table 1. The two bilingual patients demonstrated poor performance on the MMSE and tests of verbal memory and visuospatial constructions (Table 1). They also displayed poor performance on delayed recognition of word list items resulting from increased frequency of false positive responses, possibly related to decreased self monitoring. The bilingual patients did not demonstrate significant impairment on measures of attention, mental control, frontal executive functions or calculations.

Discussion

This report illustrates the importance of language in detection of development of dementia. Regression to a primary language may indicate deterioration or decline in cognitive abilities and serve as an early indicator for development of cognitive decline or dementia. The cases described in this report supports the hypothesis that regression to the use of primary language among bilinguals may be associated

with poor cognitive performance and diagnosis of dementia.

Language proficiency is affected both by normal aging and development of dementia. Loss of language abilities is a common finding in demented individuals, and can be one of the most debilitating aspects of cognitive decline.¹⁴ In Alzheimer's disease and other neurodegenerative dementias, language difficulties are often present early in the disease course, with word-finding difficulties, decreased verbal fluency, or difficulties with naming, and comprehension frequently occurring.⁵ Language difficulties may be particularly evident among demented bilinguals, possibly related to the increased cognitive demands associated with maintaining proficiency in multiple languages.⁵ Indeed, even normal elderly individuals have decreased ability to maintain fluency in multiple languages, with older bilinguals often reverting to a single language despite a lifetime of dual language use.¹⁵

In the elderly, retreat to the primary language could result from the increased cross-language interference that typically occurs with advancing age or simply reflect declining cognitive abilities.¹⁵ Cross-language interference refers to deviations from the language being spoken due to the involuntary influence of the "deactivated" language. Because people who are bilingual never totally deactivate either of their two languages, this can result in interference and intrusions.¹⁵ Bilingual demented patients also tend to mix languages, and have special problems with language separation.⁵ Additionally, language impairment in dementia may be asymmetrical, with preferential preservation and use of the first acquired language.¹⁶ Asymmetric language deficits is common among bilinguals suffering from neurological disorders or after cerebral damage. This may be particularly evident in development of aphasia following stroke, in which bilinguals often demonstrate different levels of recovery for each language.¹⁶ In these circumstances the language with the best recovery may be the earliest acquired language, the language of greater use, or the language spoken in the patient's environment.¹⁶

		Patient 1	Patient 2
Age		67 Years	85 Years
Education		12 Years	10 Years
Mini Mental State Examination (MMSE)		23	22
Attention	Digit Span Forward/Reverse	5/3	6/4
Mental Control	Serial "3's"	5	5
Memory	Word List trial 5	7	6
	Word List Delayed Recall	0	1
	Word List Recognition	13	15
	Non-verbal Delayed Recall	0	1
	Non-verbal Recognition	2	2
Visuospatial Constructions		1	0
Calculations		3	3
Abstract Reasoning	Category Assignment	Non-impaired	Non-impaired
	Proverb Interpretation	Non-impaired	Non-impaired
Frontal/Executive	Alternating Programs	Non-impaired	Non-impaired
	Luria Hand Sequence	Non-impaired	Non-impaired
	Repetitive Designs	Non-impaired	Non-impaired
	Go/No-go	Non-impaired	Non-impaired

In dementia recently acquired information is typically most affected with relative preservation of older information, which is consistent with regression toward earliest acquired language in demented bilinguals.

In non-demented individuals, understanding the cognitive effects of bilingualism is an active area of research including differential language loss following brain injury, language recovery after stroke, and functional neuroimaging studies of language processing. Additionally, a recent epidemiological investigation demonstrated potential beneficial interactions between bilingualism and the aging process, resulting in delayed development of dementia in bilinguals compared to monolinguals.¹⁷

However, results of studies on bilingualism are sometimes difficult to interpret or compare between studies due to use of different definitions and classification systems for bilingualism.¹⁸ One of the earliest classification systems for bilingualism differentiates specific types of bilinguals based on language proficiency.¹⁹ In this system, balanced bilinguals denotes individuals with approximately equal language proficiency in two languages and dominant bilinguals denotes individuals in which one language is determined to be “dominant” either by frequency of use or greater proficiency.¹⁹ The term “semilingualism” is controversial, and used to imply a low level of language development of two or more languages without normal proficiency in either language. Another commonly used classification system distinguishes types of bilingualism based on the method of acquisition, which is theorized to influence cortical language representation.¹⁸ In this system, coordinate bilinguals denotes individuals who learn two languages in separate environments, theorized to result in separate semantic representations within the brain. Conversely, the term “compound bilingual” denotes individuals who learn two languages in the same context, theorized to allow coinciding representations of both languages with semantic knowledge.

Some studies report that bilingualism itself affects neuropsychological test performance. In coordinate bilinguals a detrimental effect on certain aspects of cognitive performance has been suggested to occur due to increased cross-language interference, while in compound bilinguals there may be beneficial effects on some areas of cognitive performance.¹⁸ For example, compared to monolinguals, bilinguals have been reported to perform less well on language based memory tests and measures of verbal fluency, possibly due to cross-language interference.²⁰ In these studies, poorer performance among bilinguals was not dependent on the language used and was observed when tested in either the primary or secondary language.²⁰ This finding has been replicated in studies of bilingual children and college students as well.²¹ Slower response times on list recognition and lexical decision tasks in bilinguals have been reported, which is also consistent with cross-language interference.²² Additional evidence supporting the occurrence of cross-language interference includes decreased performance on semantic but not phonemic or spontaneous verbal fluency tests in bilinguals compared to monolinguals.²³ Two possible theories of cross-language interference have been suggested to explain this pattern of results.²³ First, relatively greater impairment in semantic verbal fluency may result from increased cross-language interference, since concrete nouns may share more elements of their representations across languages than non-concrete words; alternatively, increased cross-language

interference may result from a greater state of second language activation in the semantic task.

Compound bilingualism, in contrast, is theorized to have beneficial effects on cognitive abilities. Supporting evidence may include reports of higher levels of phonological awareness,²⁴ increased cognitive flexibility,²⁵ and faster development of grammatical awareness in some bilingual children.²⁶ Compound bilingualism is also reported to improve performance on animal word list generation, a finding proposed to suggest the presence of richer associative networks for language.²⁷

Functional neuroimaging has been used to investigate cortical language representations in bilingual individuals. In subjects bilingual for Italian and English, different patterns of cortical activation associated with presentation of material in primary compared to secondary language have been demonstrated.²⁸ In this study, presentation of material in the non-primary language produced patterns of cortical activation more similar to presentation of the material in an unfamiliar language than in the primary language.²⁸ While these differences may in part reflect language proficiency, the subjects were considered fluent in English, indicating that even subtle differences in language ability may affect cognitive processing of information.²⁸ Additionally, task specific differences in language activation in older bilinguals have previously been suggested to result from differences in language processes that occur with performance of semantic versus phonemic fluency tasks.²³ This is consistent with functional neuroimaging studies of monolinguals which demonstrated frontal lobe activation in phonemic generation and temporal lobe activation in semantic word generation.²⁹ However, other studies have failed to demonstrate different cortical representations for language processing systems in bilinguals.³⁰⁻³²

In general, learning a second language may have both beneficial and detrimental effects in specific cognitive areas. Furthermore, the cognitive effects of bilingualism likely depend not only on type, but also on factors such as age of second language acquisition, proficiency, and number of years the second language was used. The results of this study support regression to primary language in bilingual individuals as possibly predictive of poor cognitive performance and development of dementia.

Even when patients are able to perform occupational and social activities using a secondary language without difficulty, the challenge of cognitive testing may reveal subtle deficiencies in language ability that would normally remain unnoticed, confounding detection of the cognitive deficits for which the tests were developed. Consequently, the value of regression to use of a primary language is likely greatest in ethnically diverse populations in which multiple languages are commonly used. In this setting, many individuals are likely to have functional knowledge of multiple languages. In this setting a patient's regression to the use of their primary language should be considered a possible early sign of cognitive impairment or development of dementia. Further studies on the long term cognitive effects of bilingualism and interactions with the aging process are warranted.

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Risk of Parasitic Worm Infection from Eating Raw Fish in Hawai'i: A Physician's Survey

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Abstract

Public health concerns have been raised over the risk of parasitic helminth (roundworm, tapeworm and fluke) infections from eating raw fish, an increasing US consumer trend. Hawai'i consumers eat seafood at nearly 3 times the US national average rate, with a long tradition and high level of raw fish consumption. The local fish species commonly eaten raw in Hawai'i include tuna (bigeye, yellowfin, albacore and skipjack), marlin (blue and striped) and deepwater snappers (long-tailed red, pink and blue green). Forty-eight Hawai'i-based physicians (gastroenterologists, internists, general and family practitioners) were surveyed to count known cases of parasitic worm infection linked to raw fish consumption and to explore physicians' perceptions of risk associated with the consumption of fresh, never frozen local fish with an emphasis on raw tuna and skipjack. No single known case of helminth infection due to consumption of raw tuna or skipjack, or other local fish species caught in Hawai'i was reported. The majority of the physicians surveyed reported that they eat raw yellowfin and bigeye tuna, also eat raw skipjack and do not think that these fish present a significant health risk of helminthic parasites. The survey results support the conclusion that the risk of parasitic helminth infection from the consumption of Hawai'i-caught tuna, skipjack, marlin and deepwater snappers is negligible.

Introduction

Eating raw fish is extremely important in Hawai'i. It is estimated that Hawai'i consumers eat 18.6 kg of seafood per capita annually (much of it consumed raw), nearly 3 times the US national average.¹ The US Food and Drug Administration (FDA) has expressed concerns that fish-borne parasitic infections from the consumption of raw fish may be a significant and increasing problem in the United States.² If the risk of parasites associated with a species of fish is found to be significant (reasonably likely to occur) based on the best available science, FDA requires that processors freeze the fish to kill parasite larvae prior to serving raw.² The main helminthic parasites of concern are *Anisakis simplex* (anisakid roundworm which causes anisakiasis) and *Pseudoterranova decipiens* (anisakid roundworm which causes pseudoterranoviasis) and *Diphyllobothrium latum* (the broadfish tapeworm which causes diphyllobothriasis). Of special importance to Hawai'i consumers is the question of whether there is parasite risk from consuming locally caught ocean fish. The most important fish species commonly eaten raw in Hawai'i include tuna (bigeye tuna *Thunnus obesus*; yellowfin tuna *Thunnus albacares*; albacore tuna *Thunnus alalunga*; skipjack tuna *Katsuwonus pelamis*), marlin (blue marlin *Makaira nigricans*; striped marlin *Tetrapturus audax*) and deepwater snappers (pink snapper *Pristipomoides filamentosis*; long-tail red snapper *Etelis coruscans*; blue green snapper *Aprion virescens*).

The American Gastroenterological Association (AGA) was commissioned by the FDA to survey its member gastroenterologists in coastal states³ to determine if cases of parasitism from raw fish consumption were occurring, but were under reported. The results of that survey indicate that cases of parasite infection from the consumption of raw fish are only a minute fraction of the AGA members' case-load. Only 1.7% (10) of the physicians who responded

(584) reported having diagnosed cases in the two year period prior to completing the survey. Fifteen cases were reported including 7 cases of anisakiasis, 1 case of diphyllobothriasis and 7 cases in which the parasite was unknown. Hawai'i-specific cases cannot be identified in this survey because coastal states were lumped into three regions. Nine of the 15 cases were reported from the Pacific region that included Alaska, Washington, Oregon, California and Hawai'i. The AGA survey does not contain specific information linking the consumption of any Hawai'i fish species of importance to the state's raw fish consumers to cases of fish-borne parasitic infections.

To address these information gaps, a group of Hawai'i physicians was surveyed for the total number of cases known to them of helminthic parasitic infection from raw fish consumption specific to Hawai'i. The survey contributes to the risk assessment of fish-borne parasites of public health significance by addressing the following questions.

1. Are Hawai'i physicians diagnosing fish-borne helminthic parasite infections (anisakiasis, pseudoterranoviasis and diphyllobothriasis)?
2. If yes, what types of worms have been identified?
3. If yes, what types of fish have been implicated?
4. Do Hawai'i physicians eat raw yellowfin tuna and bigeye tuna (*ahi*) and do they consider these fish a significant parasite risk to consumers?
5. Do Hawai'i physicians eat raw skipjack (*aku*) and do they consider this fish a significant parasite risk to consumers?

Methods

The State of Hawai'i, Department of Health, Epidemiology Branch was contacted in search of reported cases of fish-borne helminthic parasites in Hawai'i to complement information derived from the physician's survey. In contrast to the AGA survey, the Hawai'i survey was designed to capture specific information from Hawai'i physicians on total numbers of fish-borne parasitic infections diagnosed in the physician's experience (not previous two years only) and what species of parasites and fish hosts were identified. Background information on each physician was also collected, including the number of years in practice in Hawai'i, the approximate number of patients, whether the physicians had knowledge of cases in Hawai'i outside of their practice, and their personal raw fish consumption patterns.

Lists of Hawai'i-based AGA members and Hawai'i Medical Services Association physicians were obtained. Both were used to build a list of physicians eligible to participate in the survey. The objective was to target 100 physicians (gastroenterologists, internists, and general and family practitioners) practicing on the island of O'ahu, Hawai'i where the majority of the state population resides and the major portion of the local fresh fish landings in Hawai'i are made and consumed. Physicians (or their staff) were contacted by telephone to introduce the survey and solicit participation. Physi-

cians completed survey forms and returned them by facsimile or by mail. The identity of the physicians was kept confidential and their responses to survey questions were summarized.

Results

No cases of parasitism from eating raw skipjack, tuna or other local ocean fish have been reported in Hawai'i based on a review of epidemiological records from January 1991 to August 2008, according to Rebecca Kanenaka, Foodborne Disease Surveillance and Response Coordinator, Hawai'i Department of Health (personal communication, August 29, 2008). However, there is the possibility of cases being diagnosed but not reported by physicians because the Hawai'i Department of Health does not consider parasitic diseases reportable.

Of the 108 physicians that received the survey, a total of 48 completed surveys were returned achieving a 44.4% response rate. Forty-seven physicians were from the island of O'ahu and one was from the island of Moloka'i. The group of 48 physicians who responded to the survey represents about 21% of the approximately 226 physicians listed in the 2004 O'ahu telephone book that met the selection criteria for the survey. The 48 physicians reported a collective 673 years of practice in Hawai'i, with a mean of 14 years, a minimum of 1 year and maximum of 40 years. The group reported a mean number of patients of 2,760 and an estimated total of 132,500 patients.

Most of the physicians answering the survey (88%) did not know of cases of fish-borne helminthic parasitic infections outside of their practices. Only six physicians (12%) reported that they had knowledge of cases outside of their practices. Most of the physicians (85%) had never diagnosed cases. A total of 11 cases of fish-borne helminthic parasitic infections was reported by 6 physicians. Three of them had diagnosed multiple cases. Five of the physicians (1 gastroenterologist, 2 internists and 2 family practitioners) reported diagnosing a total of 6 cases of anisakiasis. Two physicians (1 gastroenterologist and 1 family practitioner) reported a total of 2 cases of pseudoterranoviasis and 3 family practitioners reported a total of 3 cases of diphyllbothriasis diagnosed in their practices.

The parasite and host fish species implicated in the 11 cases of fish-borne helminthic infections reported in the survey are presented in Table 1. *Anisakis simplex*, *Pseudoterranova decipiens* and *Diphyllbothrium latum* were the only 3 parasites identified. Pacific salmon and squid (not products of Hawai'i fisheries) were the only two seafoods (fish and shellfish) implicated in cases reported in Hawai'i.

The physicians were asked if they consume raw yellowfin and bigeye tuna to gain perspective on their personal dietary habits as an indicator of their level of concern about the potential risk of fish-borne parasites of public health significance. Most of the physicians responding to the survey (88%) reported that they eat raw yellowfin and bigeye tuna. Most of the physicians (90%) reported that they do not think the consumption of raw yellowfin or bigeye tuna poses a significant public health risk from parasites. Three physicians were undecided of the health risk, but 2 of them reported that they eat raw yellowfin and bigeye tuna, had never diagnosed cases and had no knowledge of cases outside of their practices. The other undecided physician reported that she/he did not eat raw tuna, had never diagnosed a case and had no knowledge of cases outside of

her/his practice. Only 2 physicians surveyed believed that eating raw yellowfin and bigeye tuna is a significant parasite risk.

All physicians were also asked if they consume raw skipjack. While fewer physicians reported that they eat raw skipjack than those that eat raw yellowfin or bigeye tuna, a majority of physicians (73%) reported that they eat raw skipjack. Most of the physicians (85%) reported that they do not think the consumption of raw skipjack poses a significant public health risk from parasites. Five physicians were undecided about the health risk. Four of these undecided physicians answered that they eat raw skipjack, had never diagnosed a case, and had no knowledge of cases outside of their practices. The fifth physician reported that she/he did not eat raw skipjack, had never diagnosed a case and had no knowledge of a case outside of her/his practice. Only 2 physicians surveyed thought that eating raw skipjack poses a significant parasite risk.

Follow up was conducted with the 2 Hawai'i physicians that considered raw yellowfin tuna, bigeye tuna and skipjack tuna to present a significant parasite hazard to better understand the scientific basis and rationale for their concerns. Neither physician provided an explanation or source of evidence. The physicians reported that they do not consume raw tuna or skipjack, only 1 had diagnosed a case of anisakiasis from an unknown source and neither had knowledge of cases outside of their practices. This indicates that they may have formulated their opinions on the safety of raw tuna and skipjack consumption on personal consumption patterns, culinary or cultural bias and not on scientific evidence or medical experience. The risk analysis of parasites in raw tuna, skipjack or other fish should be evidence-based.

Discussion

Hawai'i has a highly diverse population in terms of culture, ethnic backgrounds and culinary traditions. One commonality among many of the Pacific Island and Asian cultures is the long traditions of raw fish consumption. These include *sashimi* and *sushi* (Japanese), *poke* (Hawaiian), *oka* (Samoan) and *poisson cru* (Tahitian). For these reasons, it is important to be aware of traditional or local knowledge and the scientific evidence needed to distinguish fish species that are safe to eat raw from those that are not.

Table 1.— The eleven (11) cases of fish-borne helminthic parasitic infections reported in the Hawai'i physicians' survey, and the species of parasites and host fish implicated.

Diagnosis	Parasite identification	Host fish implicated
Anisakiasis	Anisakis simplex	Pacific salmon
Anisakiasis	Anisakis simplex	Squid
Anisakiasis	Unknown	Pacific salmon
Anisakiasis	Anisakis simplex	Unknown
Anisakiasis	Unknown	Unknown
Anisakiasis	Unknown	Unknown
Pseudoterranoviasis	Pseudoterranova decipiens	Unknown
Pseudoterranoviasis	Unknown	Unknown
Diphyllbothriasis	Unknown	Pacific salmon
Diphyllbothriasis	Diphyllbothrium latum	Unknown
Diphyllbothriasis	Unknown	Unknown

The FDA Fish and Fishery Products Hazards and Controls guide² presents the current assessments of seafood-related public health hazards made by the FDA, based on what the agency considers to be the best available scientific information. The FDA does not associate parasite hazards with the consumption of raw yellowfin tuna or bigeye tuna and considers these fish to be safe to eat raw. The majority of the Hawai'i physicians surveyed shares this view. No single case of fish-borne helminthic parasitic infection has been reported in the United States or in Japan that was associated with the consumption of raw yellowfin tuna or bigeye tuna.⁴

Of special importance to Hawai'i consumers is the safety of raw skipjack tuna also known as *aku*. Nowhere else in the United States is a significant volume of fresh (never frozen) skipjack landed and consumed raw as *sashimi* or *poke* (a traditional Hawaiian raw fish preparation). In the 20-year period between 1987 and 2006, about 18.6 million kg of fresh skipjack were landed in Hawai'i.⁵ Most of the skipjack catch was landed on the island of O'ahu (90%) and the majority was consumed raw by local residents. Using conservative estimates, if the yield of edible muscle from skipjack is 42%, the majority (75%) of the skipjack is eaten raw, and a consumer portion is 100g, then over 52.8 million consumer portions of raw skipjack have been eaten on O'ahu since 1987 with no cases of parasitic infection reported by Hawai'i physicians to the Hawai'i Department of Health or discovered through this survey. The 2000 AGA survey did not find direct links between cases of fish-borne helminth infections and the consumption of skipjack or any of the major species of fish consumed in Hawai'i. Results from both surveys provide no evidence to conclude that there is a significant public health risk associated with the consumption of raw tuna, skipjack and the other fish caught in Hawai'i that are commonly eaten raw. High exposure has not resulted in cases and therefore there is no basis for an assumption of risk. Based on the traditional practice of eating raw skipjack and tuna in Pacific Island and Asian cultures, and the results of this survey of Hawai'i physicians, there does not appear to be any evidence of under reporting of cases of parasitism from the consumption of raw tuna, skipjack or other Hawai'i ocean fish species.

Cases of anisakiasis and diphyllbothriasis in Hawai'i are known to have involved *lomi lomi* salmon prepared with salted wild Alaska salmon that had not been properly frozen as is standard practice.⁶ Hawai'i consumers are at the greatest risk of fish-borne parasitic infections from the consumption of fresh (never frozen) raw Pacific salmon and raw squid. Raw wild-caught Pacific salmon may harbor harmful parasite larvae including roundworms (*Anisakis simplex*), tapeworms (*Diphyllobothrium latum*) and flukes (*Nanophyetus salmonicola*) each known to cause human parasitic infections. Wild Pacific salmon and squid are only potentially hazardous if eaten raw or undercooked without prior freezing that kills parasite larvae making them harmless. Farm-raised Atlantic salmon do not harbor harmful parasites^{2,7} because they are not exposed to wild forage species (intermediate hosts of parasites) and are fed formulated feeds, breaking the parasite life-cycle and resulting in salmon that are free of harmful parasite larvae. A potential concern is that because the practice of eating fresh, never frozen raw farm-raised Atlantic salmon has become so commonplace, that during the summer months when fresh wild-caught Pacific salmon is available in the market, consumers may expose themselves to parasite hazards if the wild salmon is eaten raw without prior freezing, as in *lomi lomi* salmon or *sashimi* or in undercooked preparations. Consumers should be

made aware of the potential for parasitic infections from raw never frozen wild Pacific salmon.

Conclusion

The new and important aspects of this study are findings that no cases of helminthic parasitic infection are known from consuming raw Hawai'i fish species of tuna (bigeye, yellowfin, albacore, skipjack), marlin (blue, striped) or deepwater snappers (long-tail red, pink, blue green snappers) among the approximately 132,500 Hawai'i residents served by the 48 gastroenterologists, internists, and general and family practitioners that responded to the survey. Although the survey relied on the physicians' recollection of their medical experience with some spanning several decades (maximum 40 years), it is likely that the rare case of anisakiasis or diphyllbothriasis would have been easily recalled.

The survey results support the conclusion that the risk of fish-borne helminthic infections is negligible from local ocean fish that are landed in Hawai'i and commonly consumed raw by its residents. There is no evidence at this time that Hawai'i consumers of fresh, never frozen raw bigeye tuna, yellowfin tuna, albacore tuna, skipjack tuna, blue marlin, striped marlin, long-tail red snapper, pink snapper and blue green snapper are exposed to a significant public health risk from fish-borne parasites. In the absence of cases and other scientific evidence of a significant health risk of parasites, control measures such as freezing requirements to kill parasite larvae in these Hawai'i fish species are not warranted.

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The Role of Global Health in Medical Education at JABSOM

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“The idea that the health of every nation depends on the health of all others is not an empty piety but an epidemiological fact.”

– Y. Al-Mazrou et al. 1997¹

The Institute of Medicine (IOM) defines global health “...as the goal of improving health for all people by reducing avoidable disease, disabilities, and deaths”.² Global health is intellectually grounded in the Declaration of Alma-Ata of 1978, where World Health Organization (WHO) member countries agreed on Primary Health Care (PHC) as the means to achieve the goal of “Health for All”.^{3,4} Despite increasing health indicators, many areas of the world have made little progress toward “Health For All.” Indeed, health inequalities have widened over the past decades.⁵ Only 10% of the world’s resources for health research are applied in developing countries that bear 90% of the burden of disease.⁶ The human cost is great: while 98% of child deaths occur in developing countries, funding remains focused on the health concerns of the relatively privileged.⁷ To address these challenges requires a well-funded multisectoral and transdisciplinary response, in which academia must play an important role.

Despite international health’s long history, “global health” is a fledgling discipline at academic institutions. There has been an explosion of new global health programs in academic centers around the United States over the last decade.⁸⁻⁹ The Global Health Educational Consortium (GHEC) now lists over 70 institutions as members. The University of California system is in the process of creating the first School of Global Health, supported in part by a grant from the Gates Foundation.⁹ Although diverse, academic global health programs all include the central goal of reducing global health inequalities and recognize the importance of interdisciplinary partnerships. Many programs have had significant student involvement in their development. Although Universities are active in Asia, there are gaps in academic global health programming in the Asia-Pacific region. UHM currently offers 9 courses related to global health across 6 different departments. Three additional courses will be offered for the first time in 2009-2010.

Several prospective studies indicate that medical students who participate in international health activities are more likely to pursue careers with underserved populations and to have increased “cultural competency”.¹¹

Organization of Global Health at JABSOM

There are three clusters within JABSOM tasked with building capacity for global health:

1. The Office of Global Health and Medicine (OGHM), located in the Dean’s Office, includes the APACPH (Asia/Pacific Academic

Consortium on Public Health) Secretariat. The consortium was founded in Hawai’i 25 years ago and is now made up of 63 universities represented by their medical and public health schools in 21 countries in the Asia-Pacific Region. This network provides access to medical and public health students as well as faculty for their learning and research endeavors.

2. The Office of Public Health Studies (OPHS) includes the Division of Ecology and Health and the Global Health and Population Studies graduate certificate.

3. Interdisciplinary student movement for global health at the University of Hawai’i.

1. The Office of Global Health and Medicine (OGHM).

The OGHM’s focus is to recommend policies on global health to the Dean, and to develop and manage international programs for domestic and foreign medical students. The OGHM initiated a strategic planning process in Spring 2008, with the goal of developing a 5-year strategic plan and recommendations for Dean Jerris Hedges on how to engage on global health issues. Key informant interviews were conducted with stakeholders across the University in 2008, and students were surveyed to determine interest and awareness in global health programming.

Information gathered was used to catalog international research, service and training programs within the last five years. A white paper and strategic plan were completed in summer 2008. Recent activities include the creation of a global health webpage on JABSOM’s server, a student handbook for global health and purchase of an institutional membership in the Global Health Educational Consortium.

The Office of Global Health and Medicine has signed over 18 Memorandums of Agreement (MOA) with foreign institutions for student exchange, primarily in Japan. Medical students may study abroad in the summer between the first and second years or as an elective during the fourth year. Four clinical JABSOM programs for receiving international undergraduate and graduate medical students are available. Annually, more than 30 foreign medical students attend a 4-week clinical rotation at JABSOM affiliated hospitals.

JABSOM is involved in a 41-year partnership with Chubu Hospital in Okinawa to reduce severe physician shortages. The Department of Family Medicine and Community Health (DFMCH) has large scale research/service projects in the US Associated Pacific Islands (USAPI), including caring for people affected by nuclear testing in the Marshall Islands, delivering continuing medical education in the Pacific, development of a cancer registry for the USAPI, and targeted technical assistance and regional coordination of the comprehensive cancer prevention and control programs in the USAPI.

The Area Health Educational Consortium (AHEC) is a HRSA funded program dedicated to eliminating rural health disparities in Hawai'i and the Pacific Basin, with a regional office housed in the Dean's Office. AHEC has opened three offices in the Pacific since 2001 in Palau, the Commonwealth of the Northern Marianas (CNMI) Islands, and Yap.

The Asia-Pacific Institute of Tropical Medicine and Infectious Diseases (APITMID) was established in 2003 to address emerging and reemerging infections by partnering with developing countries on strengthening their public health surveillance and laboratory capacity. APITMID has established partnerships in Vietnam, Thailand, and Singapore. APITMID is an active partner of the recently created Emerging Infectious Disease research program at the Duke-NUS Graduate Medical School in Singapore). The HIV/AIDS Clinical Research Program, led by Dr. Cecelia Shikuma, is involved in large clinical research projects in Thailand and the development and training needs of HIV clinics in Vietnam.

The Office of Medical Education (OME) has developed consulting relationships with Asian universities interested in problem-based learning. OME's Program for Medical Education in East Asia has focused on medical student and faculty development with partner institutions in Korea and Japan. The program conducts 6-7 workshops annually, open to educators across the Asia-Pacific.

As an added note, JABSOM is the first medical school to create a department dedicated to the health of an indigenous people, The Department of Native Hawaiian Health. The Department of Native Hawaiian Health is collaborating with universities in New Zealand and Alaska to promote the exploration of issues related to indigenous health.

2. The Office of Public Health Studies Global Health Program

The lack of global health curricula and opportunities at the graduate level prompted the OPHS to create a Global Health Program by:

- 1.) Developing a graduate certificate program in Global Health and Population Studies
- 2.) Initiating new partnerships with Universities in the Asia-Pacific Region
- 3.) Moving the Division of Ecology and Health under the Office of Public Health Studies to better exploit existing international partnerships and coursework

The Global Health and Population Studies Program (GHAPS) offers an interdisciplinary graduate certificate at the University of Hawai'i in partnership with the East-West Center. The OPHS assumed administration of the Population Studies Program in 2008, and has modified the name and curriculum to include training in global health concepts and methodology. The program takes a systems approach toward analyzing the effects of globalization, environmental change, macroeconomics, and culture on global health and population demography, with an emphasis on policy-oriented study and research in the Asia-Pacific region. GHAPS prepares students for international health careers as researchers and policy-makers in

academic, governmental, non-governmental, inter-governmental, and private sector organizations. The program offers students opportunities to participate in community-based cross-cultural research projects in low-resource settings.

The curriculum includes a capstone project, three core courses, and elective courses in seven focus areas, including epidemiologic and demographic methods, global health and development, ecology and health, and population and economics. The program's curriculum draws on the strengths of its interdisciplinary faculty. The program is rapidly adding new faculty with expertise in different facets of global health, including food security, human rights law, and emerging infectious diseases. Currently, faculty engage in research on HIV/AIDS policy in Asia, maternal and child mortality in South Asia and the Indian subcontinent, the effects of intellectual property rights on access to essential medicines, and the impact of population aging in East Asia.

The Division of Ecology and Health in Public Health Sciences was founded in 2001. The program assisted in establishing the international journal *EcoHealth*, the International Association for Ecology and Health, and a biennial international conference. The Ecology and Health program has research and training field sites and collaborative relationships throughout the Asia Pacific region. The program is supported by a \$3 million grant from the National Science Foundation's Integrative Graduate Education and Research Traineeship Program.

Recognizing China's growing international importance and unique environmental and public health issues, The Office of Public Health Studies has signed MOAs with the Schools of Public Health at Wuhan and Fudan University. The MOAs provide for regular faculty and student exchange between the universities. Initial scholarship has examined the ecohealth impact of the Three Gorges Dam and sexual knowledge and behavior among Chinese female college students.

3. Student efforts

The Global Health Interest Group (GHIG) and Hui Ola Pono are student groups representing medical students and public health students at JABSOM. The Hui Ola Pono has brought in dozens of speakers and held interactive workshops, talks, and trainings in 2008 and 2009 that culminated in a four-day Health and Human Rights Symposium for National Public Health Week.

GHIG serves as a University-wide and community resource for global health, initiating a Global Health Listserv with over 100 members. Leadership of the organization includes graduate representatives from medicine, public health, and tropical medicine.

A student chapter of the NGO Engineers Without Borders (EWB-UH) was created in Fall 2007. EWB-UH has focused on developing and implementing global health projects with faculty and student leadership from OPHS. EWB-UH has an ongoing program in La Pita, Nicaragua. Data from a community health assessment conducted in December 2008 was used to design several interventions, including a "train the trainer" program in First Aid, CPR and health education with provision of AEDs and First Aid kits that will provide an emergency response capability to 20 communities.

Discussion

“Global health” activities strives to mobilizes interdisciplinary collaboration that can strengthen institutions, even in difficult times. Global health research, training and service have a good solid foundation at JABSOM but much work remains to be done in the coming years. A strong commitment to global health will be needed to realize our vision of the best medical school in the world with an Asia-Pacific focus.

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December 2009					
12/2-12/4	PD	Department of Pediatrics, Stanford University School of Medicine	Mauna Lani Bay Hotel & Bungalows, Kona, Hawai'i	Popular Pediatric Clinical Topics 2009	Tel: (650) 497-8554 Web: www.cme.lpch.org
January 2010					
1/9-1/14	Multi	Pan-Pacific Surgical Association	Sheraton Waikiki	29th Biennial Congress of the Pan-Pacific Surgical Association	Tel: (808) 941-1010 Email: www.panpacificsurgical.org
1/10-1/15	DR	University of California San Francisco School of Medicine	The Fairmont Orchid, Kohala Coast, Hawai'i	A Practical Approach to Breast Imaging	Tel: (415) 476-4251 Web: www.cme.ucsf.edu/cme
1/17-1/22	DR	University of California San Francisco School of Medicine	The Fairmont Orchid, Kohala Coast, Hawai'i	Imaging Update in Kona: Top Teachers in Radiology	Tel: (415) 476-4251 Web: www.cme.ucsf.edu/cme
1/18-1/22	AN	California Society of Anesthesiologists	Hyatt Regency Maui, Ka'anapali Beach, Maui	2010 CSA Winter Hawaiian Seminar	Web: www.csaqh.org
February 2010					
2/7-2/12	Multi	Mayo Clinic	Wailea Beach Marriott, Maui	Mayo Clinic Interactive Surgery Symposium	Tel: (480) 301-4580
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March 2010					
3/26-3/30	AN	International Anesthesia Research Society	Hawai'i Convention Center, Honolulu	84th Congress	Tel: (216) 642-1124 Web: www.iars.org



❖ THE MAN BROUGHT DOWN BOTH AN AIRPLANE AND AN AIRLINE.

President Obama denounced the decision of Kenny Mac Askill, the Scottish secretary for justice who released the Libyan national who helped in downing Pan American flight 103 on December 21, 1988, with the death of 260 innocent people. In most other venues the man would have been executed years ago, but now he will be allowed to go home and die in the arms of his family, a bit of peace and comfort he proudly eliminated as a possibility for the doomed 260. Moreover in the minds of many Libyans he is a hero and was welcomed with cheering, flowers and kisses, a demonstration the White House called outrageous and disgusting. Amen to that, except that my old USMC vocabulary would find more descriptive terms.

❖ PROGRESS WAS OKAY ONCE, BUT THEY'VE GONE WAY TOO FAR!

Harvard Professor David Blumenthal MD, conducted a survey of hospital use of electronic medical records. His findings, published in the New England Journal of Medicine (NEJM), found that a mere 9% of hospitals are currently into IT. President Obama named Professor Blumenthal National Coordinator for Health Information Technology. The president wants a system that will replace paper records, including doctors' notes, treatment orders, lab and other reports plus automatic safety alerts, which is the same plan carried over from the Bush administration. The primary deterrent is two-fold; money and doctors. Moving seriously into IT with a complex network linking hospitals and doctors' offices will cost an estimated \$7 million to \$10 million for a mid-size hospital. Stimulus incentives might cover a major portion for installation, but costs and maintenance will be ongoing. Other problems relate to recalcitrant doctors who have difficulties with IT and argue that the systems are a distraction that take away from patient care. Buckle your seat belts, there is more Wi-Fi turbulence ahead.

❖ THE FERES DOCTRINE IS SOMEWHAT UNFAIR.

A 20-year-old airman was supposed to have laparoscopic removal of his gall bladder at the Travis Air Base medical center. Things went wrong when the surgeon 'nicked' the aorta resulting in major blood loss and ultimately amputation of both lower extremities. The airman was transferred to University of California Hospital at Davis, and is gradually improving after being very near to death. The family wants to bring a lawsuit against the doctors and hospital for medical negligence, but cannot do so according to federal statute. A 1950 decision by the Supreme Court known as the "Feres doctrine" states, "The United States is not liable under the Federal Court Claims Act for injuries to members of the armed forces sustained while on active duty and not on furlough and resulting from the negligence of others in the armed forces." Congressman Maurice Hinchey of New York has authored a bill that would reverse the 60-year-old decision.

❖ JUST WHAT WE NEED ON OUR HANDS - A WIDE AWAKE DRUNK!

That indomitable American creative spirit continues to flourish in the alcohol industry. A recent trend by brew masters is combining caffeine with vodka, malt liquor or other alcohol compounds, and marketing them under names such as Sparks, Joose, Four Loko, and Liquid Charge. A Wake Forest University study found that 24% of college students admitted drinking caffeinated drinks with alcohol. Their data showed that these students were more likely to have negative consequences, such as getting in a car with a drunken driver or being taken advantage of sexually, than those who drank alcohol without caffeine. Critics of these products are consumer-advocacy groups and medical scientists who say the Food and Drug Administration and other federal agencies must have tougher oversight of these beverages. A dozen States' attorneys general have taken a strong stand against these drinks and have secured settlements from Anheuser-Busch and MillerCoors LLC. They have agreed to remove caffeine and all other stimulants, but several smaller companies have jumped in to grab their market share. Tim Baggs, founder of Charge Beverages Corp. says his product is most popular with 21-to-35-year-old men and is often imbibed as a pre-game beverage before sports events, or music concerts.

❖ AS YOU GET OLDER THE PICKINGS GET SLIMMER, BUT THE PEOPLE DON'T.

Yet another indictment of belly fat comes from a Kaiser Permanente research lab in Oakland, Calif. The study, published in the journal *Neurology*, found that people with more belly fat during middle age have higher

rates of dementia in later years. Using the medical records of 6,583 people monitored from 1964 to 1973, the data showed that being overweight or obese nearly doubled one's risk of dementia in old age, and also is associated with declining cognitive function. To date, the relationship is not well understood, but it could be due to elevated blood pressure, crowding of vital organs, and/or poor vascular function. Interestingly, while visceral fat is a known risk factor for cardiovascular disease and diabetes, subcutaneous fat appears to be less toxic. So, don't put your fat where you heart is. Move it to your glutes and thighs.

❖ THE CHURCH SAVES SINNERS, BUT SCIENCE SEEKS TO STOP THEIR MANUFACTURE.

Forgetting right or left political leanings, it is reassuring to see that President Obama has brought science and research back to the front burner. Steven Chu, former director of Lawrence Berkeley National Laboratory was easily approved as Secretary of Energy. He is the first Nobel laureate to ever join a presidential cabinet. John Holdren was director of Woods Hole Research Center and will head the White House Office of Science and Technology Policy. Marine ecologist Jane Lubchenco, Oregon State University marine scientist and former president of American Association for the Advancement of Science, joins Obama's inner circle on marine ecology, bio-diversity and global change.

❖ THE SEARCH FOR SOMEONE TO BLAME IS ALWAYS SUCCESSFUL.

In Massachusetts a 75-year-old man lost consciousness while operating his automobile and struck and killed an 8-year-old boy. The driver was seriously ill with chronic bronchitis, asbestosis, emphysema, high blood pressure and metastatic lung cancer. He was under the care of several physicians and was taking multiple drugs including oxycodone, zaxolyn, paxil, oxazepam, furosemide and prednisone. His primary care physician was coordinating his care, but failed to warn the patient about the potential side effects of the various drugs including drowsiness, dizziness, fainting, altered consciousness and sedation. The physician was sued for negligence although he had no direct relationship with the deceased child. The state supreme court was deeply divided, but the majority ruled in favor of the plaintiff stating that the physician owes a duty of reasonable care to everyone foreseeably put at risk by the doctor's failure to warn of the side effects of the medication.

❖ NON-BREAK-IN TURNS INTO BREWHAHA!

Possibly seeking redemption for his unnecessary judgement call, ("the police acted stupidly") President Obama decided to host a beer party (and I hope some pupus) with his friend, Harvard Professor Henry L. Gates, Jr., expert on race relations, and James Crowley, the police sergeant who arrested the professor when he was caught breaking into his own house. Apparently, all was rather convivial, but American brewers are upset. The Prez's spokesman stated that the locker was stocked with Red Stripe, Blue Moon and Bud light, but hey, all three are owned largely by foreign companies. What about Coors, Sam Adams, Henry Weinhard, to mention only a few? Teetotaler Joe Biden (cheap date!) had a soda.

❖ HERE'S YOUR ORDER, SIR. HAVE A NICE DAY.

The homeowner didn't need to go to the drive-thru for his weiner, because the hot dog with bun was delivered. The woman driver of the Oscar Mayer weinermobile made a wrong turn in Mount Pleasant, Wisconsin, and drove up a one-way street. In trying to maneuver back the opposite way, she hit the gas pedal rather than the brake and crashed into a two story home. No relish, no mustard, no onions, just one oversize weiner right into the garage and deck. The dog was leashed and towed home.

ADDENDA

- ❖ The dog with the best eyesight is the greyhound.
- ❖ The only state capital without a McDonald's is Montpelier, Vermont.
- ❖ Glen Burke of the Los Angeles Dodgers is credited with inventing the "high five" in 1977.
- ❖ If there is H2O inside a fire hydrant, what is on the outside? K9P.

ALOHA AND KEEP THE FAITH — rts■

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