

# HAWAI'I MEDICAL JOURNAL

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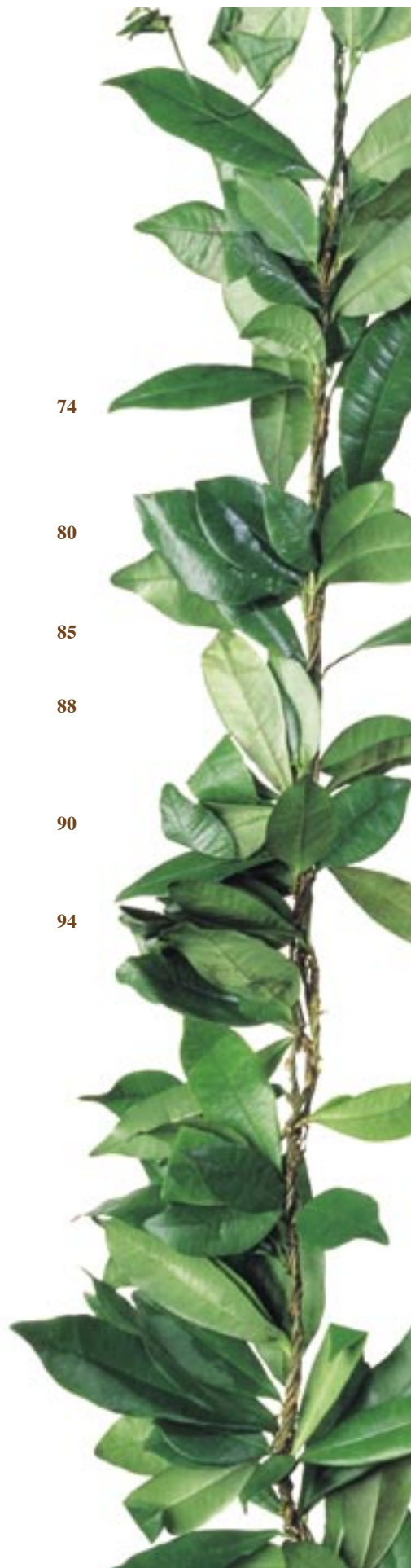
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## Assessing the Needs for HIV Medical Care in Hawai'i

Lisa R. Marten DrPH; Dominic C. Chow MD, MPH;  
Nicole A. Valcour ACRN, MA; and  
Cecilia M. Shikuma MD

### Abstract

*To assess HIV medical care needs in Hawai'i, data was collected through surveys of both providers and consumers, from insurance companies, from the Department of Health, and from key programs who serve the HIV-infected population. HIV care in Hawai'i is provided through a mix of private, public and charitable sources, with most ancillary services provided separately by AIDS Service Organizations. Private providers with a specialty in HIV care are not being replaced at the rate which they retire or depart. Heavy reliance on public assistance to pay for care and patient characteristics such as substance abuse, limit choice of providers for some patients. Institutions are playing a greater role in filling patient care needs. It was found that most patients in care are highly satisfied with their care providers. People living with HIV who are not in care are likely to have multiple challenges which affect access to care such as homelessness, poverty, low levels of education, being of Asian Pacific Islander ethnicity, and receiving public assistance. Those who adhere to their medication are most likely to be employed and to have received counseling by a pharmacist, while those who are from Hawai'i and who were infected through injection drug use are less likely to be adherent. Supporting more than one provider option and linking with ancillary services may help keep HIV patients in care.*

### Introduction

The State of Hawai'i faces unique challenges to providing quality medical care to over 2,700 people confirmed to be living with HIV due to the segmented island geography, combined with general physician shortages, and low volume of HIV-infected patients in rural areas. In areas with low volumes of HIV-infected patients, few physicians have the critical mass of patients that would encourage development and maintenance of expertise in HIV care. Fewer young community physicians are stepping up to replace the original cohort of HIV physicians as they retire or leave the islands. In response to these concerns, the Hawai'i AIDS Clinical Research Program (HACRP), supported by the Hawai'i State Department of Health (DOH), conducted a needs assessment on HIV medical care<sup>1</sup> to better understand who provides HIV care, who accesses HIV medical care, how they pay for their care, and their satisfaction with the care.

### Methods

Several sources of data used include: interviews with key providers of services to people living with HIV or AIDS (PLWHA) in all counties, a survey of consumers of HIV care, a survey of providers of HIV care, and third party data.

An anonymous consumer survey was conducted in 2003 and 2008, approved by the University of Hawai'i Institutional Review Board, yielded 359 qualified responses. Respondents were similar to the State population of PLWHA described by Department of Health data in terms of age, gender, ethnicity, source of infection, and island of residence. The convenience sample was accessed through organizations serving PLWHA; therefore the survey is biased towards those who access services. Both business reply mail and in-person collection of surveys were utilized.

Data were collected on 89 providers through a brief survey distributed by mail to providers known to have diagnosed or treated an HIV patient, by hand at AIDS-related continuing medical education events, and at Queens Hospital internal medicine general conferences. Known providers who did not respond were interviewed by telephone or data was collected from case managers who share clients with them. Respondents included almost all providers with significant caseloads as cross checked with other data sources. Limitations of these data include incomplete surveys, estimates (rather than exact counts) of patient loads, and multiple counting of patients seen by more than one provider.

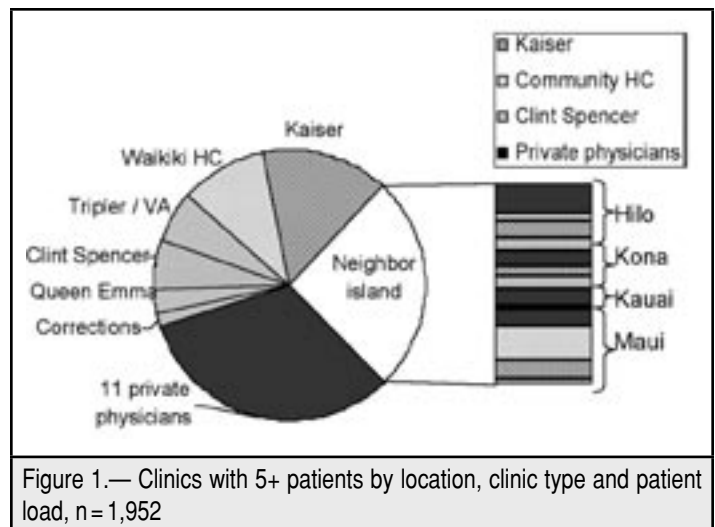
Non-identifying data on number and distribution of clients living with HIV/AIDS was provided by Medicaid, Tricare, Kaiser, University Health Alliance, AlohaCare, and Hawai'i Medical Service Association on their 1,477 clients with HIV/AIDS. The Hawai'i Seropositivity and Medical Management Program (HSPAMM), a state-funded program open to all PLWHA which pays for certain medical services, supplied provider and insurance information on their 773 clients. Non-identifying client data was pulled from a computer program storing data on 1,056 clients receiving Ryan White Title II benefits from AIDS Service Organizations (ASOs) and clinics. The Department of Health provided information on 2,767 people from their surveillance program known to be currently living in Hawai'i with AIDS or HIV, regardless of where they were diagnosed. The HIV portion of the data may not be complete as there are problems with the coded system now being replaced by named reporting for HIV.

## Results

Unlike care for other infectious disease, it is advocated (and reinforced by Health Resources and Services Administration funding) that HIV should be managed by a multidisciplinary team to address the multiple challenges of people living with HIV. Studies document improved use of care in clinics with ancillary services among PLWHA.<sup>2,4</sup> In rural areas and in areas with low HIV prevalence this model is impractical.

The model of HIV/AIDS medical care that has evolved in Hawai'i is one in which the ancillary services are centralized through a single ASO working independently on each island, but medical care is provided through a broad range of private and other physicians. Housing and nutrition programs coordinate with the ASO on O'ahu but are housed within the ASOs on Neighbor Islands. The military, the Veterans Affairs, and the corrections health care systems function independently of the other sectors and have their own qualified physicians. Kaiser is the single largest provider of HIV care in the state with most patients seen at the Honolulu clinic, but with a specialist visiting Hilo, Kona and Maui monthly to support Kaiser primary care providers. The Clint Spencer Clinic is another significant provider with its main site in Honolulu, but satellite clinics in Hilo, Kona, and Wailuku. Of the community health centers, only Waikiki Health Center (WHC) and Maui Community Clinic have large patient populations. WHC uses a multidisciplinary approach with nutritional, case management and social work services available to complement medical care.

Figure 1 provides an image of the relative sizes of patient populations under care with physicians seeing 5 or more patients on each of the islands by type of care provider. O'ahu has by far the most



patients and providers, but while providers are concentrated in Honolulu, patients are dispersed widely around the island. Private physicians who have developed HIV experience over the last 20 years see a large proportion of patients in all locations but Maui, where private physicians with an HIV specialty have retired or departed. On O'ahu, the two private physicians with the largest case load see more than 300 patients between them. The figure represents only the point in time when the data were collected and relies on imprecise estimates of case loads from some sources. Since that time, the private physicians with the largest number of HIV patients on both Maui and in Hilo have left. On Kaua'i, the community health center has a growing patient population due to a new physician there developing expertise in HIV.

There is generally close coordination between the ASOs and HIV physicians in the form of mutual referrals, sharing of pre-approved client data, trying to get patients back in care and, in two cases, having an ASO case manager on site during selected clinic hours. The ASOs have also played a key role in arranging for alternative sources of health care when a key provider left or retired in their service area, requesting Oahu-based providers to fill in, sometimes in their own offices. ASOs have also worked to develop local HIV medical expertise by connecting interested physicians with training and providing sponsorship.

State-run programs that do not provide direct medical services provide more than 1,000 PLWHA with access to existing medical care, laboratory tests and medication.<sup>5</sup> HSPAMM will pay every six months for a visit with the patient's own physician and a panel of laboratory tests. The Hawai'i AIDS Drug Assistance Program provides eligible clients with free HIV medication as prescribed by their own physician. These programs make it less costly for private physicians and non-profit clinics to provide care to the uninsured or underinsured.

While care providers in Hawai'i work in separate clinics, with only a few small clusters of specialists, many collaborate with each other to improve the quality of patient care through informal calls or referrals for consultation. Among respondents in the provider survey, 77% of physicians said they refer within the state, including very experienced physicians who stated that they "provide all care throughout course of disease." They tend to call infectious disease physicians with whom they share a location, or HACRP which has

developed ties with most community providers through shared patients who have participated in research. Community providers report that infectious disease specialists on all islands are willing to support them and discuss patient treatment options. Some physicians turn to mentors out of state or to the federally-funded UCSF HIV care “warm line,” a free telephone consult service.

The survey found that most providers caring for significant numbers of HIV patients in all types of clinics feel confident in their expertise. Twenty providers, who jointly care for over 80% of the patients enumerated in the survey claim they “provide all care throughout course of disease” and they are “comfortable” doing so. Three Neighbor Island respondents, who jointly care for about 50 patients, stated they provide all care even in complicated cases because “no adequate referral is available locally.” An additional three provide all care *except* in cases where there are complications such as antiretroviral failure, Hepatitis co-infection, etc. The rest, surveyed primarily at internal medicine general conferences rather than specifically targeted ones, responded they provide no care or only primary care unrelated to HIV.

Many of the primary care providers surveyed simply have full practices and are not taking new patients, regardless of their HIV status. According to case managers and providers, some physicians will not take public insurance, substance abusers, those dependent on pain relievers, or those with poor adherence. Unfortunately, these attributes describe many PLWHA in Hawai‘i. While most providers treat some patients on public insurance or no insurance, they do not want to be overwhelmed with these patients.

While community clinics accept all patients, they face varied resource constraints. Some community clinics have long-standing challenges recruiting and keeping physicians. This problem extends far beyond our state and affects other populations in addition to PLWHA.<sup>6</sup>

The demographics of PLWHA in Hawai‘i impact the types of medical care patients will need and barriers to providing medical care. Some characteristics that make health care problems more complex for the majority of PLWHA in Hawai‘i are advanced ages, long durations of HIV infection (increasing the likelihood of being treatment experienced), and a disease stage of having symptomatic HIV or AIDS. Some characteristics associated with poor retention in care (self-report of not receiving care at least every six months) and poor adherence to HIV medications<sup>7</sup> (self-report of skipping medication) common among PLWA in Hawai‘i are poverty, psychiatric illness, and substance abuse. In the survey, 44% of respondents are below the poverty line and an additional one-third has income of less than \$25,000 per year. About half of those who are Ryan White beneficiaries have current or historical psychiatric illness, and about half are current or historical substance abusers. Characteristics of most PLWHA in Hawai‘i found to improve accessing and remaining in care include being infected through male to male sexual contact (as opposed to injection drug use or other sources), being Caucasian, and being better educated than the general population.<sup>8</sup> The steady increase over time of the proportion of PLWHA who are Asian Pacific Islanders, in particular Hawaiians, is of concern as HIV patients of these ethnicities have been found to have poorer health outcomes.<sup>9</sup> A steady increase in female PLWHA will necessitate additional health services specific to women’s reproductive health and prevention of maternal to child transmission.

Medical care for HIV/AIDS is expensive and life-long. PLWHA use varied and multiple sources to pay for their medical care. While 60% of all people in Hawai‘i have employer-based health insurance, PLWHA often become unable to keep their jobs as their HIV disease progresses. Despite levels of education exceeding the general population, the majority of consumer survey respondents do not work. About 70% of both survey respondents and of all recipients of Ryan White services are on public assistance. Data from all major insurers in Hawai‘i (except Medicare) indicate that insurers, especially public ones, are not billed for HIV medical services as often as is recommended by the Department of Health and Human Services.<sup>10</sup> This may be in part because HSPAMM is billed for these visits, and in part because they have lapses in care. Figure 2 displays the proportion of patients with each insurance provider, though many of the HMSA and Kaiser patients shown are ultimately funded through Medicare or quest contracts. Those with Medicaid and AlohaCare have limitations on which providers can see them. These restrictions will intensify if Medicaid moves their disabled patients to a managed care model as currently proposed.

PLWHA report very high levels of satisfaction in the six aspects of quality of care or access to care included in the consumer survey. Over 95% responded that they felt confident their care provider knew enough about HIV, that their confidentiality was protected and that they were treated with respect. Around 90% responded that they had access to their provider and also to specialists when referred, and 84% responded that they received referrals to specialists when needed. In the space made available for comments at the end of the survey 31 respondents specifically praised their care providers while only six made negative comments. While they were happy with most care providers, several respondents did comment on the need for additional HIV specialists or for locally based HIV specialists.

Visiting an HIV physician and/or receiving laboratory tests at least every six months was used as an indicator of receiving a minimum standard of care, though this falls below the recommended frequency of care every three months. Logistic regression revealed that the 13% of respondents failing to receive this measure of a minimum standard of care are more likely to be socioeconomically disadvantaged, to be of API ethnicity, and to be dissatisfied with their care provider on a measure described above. Results are displayed in Table 1. Most of the socio-demographic variables included were also statistically significantly associated with each other, indicating that patients out of care are subject to multiple barriers. The socio-demographic variables (except for ethnicity) were also statistically significantly associated with four of the five variables measuring satisfaction with care. This indicates that those with socio-demographic barriers are more likely to have a bad experience with their providers. Due to the relationships between the variables predicting receipt of care at least every six months, when a logistic regression model adjusts for interactions with all other variables, only housing, API ethnicity, and lack of confidentiality remain significant.

Highly active antiretroviral therapy is responsible for delaying the onset of AIDS among HIV-infected people, and in reducing morbidity, and increasing life expectancy among those already progressed to AIDS. However, failure to take the medicine properly even 5% of the time may result in greater morbidity and mortality,<sup>11</sup> and resistance to the class of medication taken.<sup>12</sup> In the consumer survey 85% were currently on ART. Of these, 46% said they had

		Odds ratio	Confidence interval (95%) for odds ratio	P value
Education	< High school (reference)			
	High school	4.7	1.5 – 15.0	0.013
	College	6.9	2.2 – 21.9	0.002
Ethnicity	API (reference)			
	Caucasian	4.0	1.9 – 8.5	< 0.001
	Hawaiian	2.6	1.0 – 7.0	0.043
	Mixed	2.7	includes 1	ns
	African American	1.1	includes 1	ns
	Native American	1.4	includes 1	ns
Income	< Poverty line (reference)			
	Ryan White eligible (300%)	3.2	1.5 – 6.7	0.003
	Not Ryan White eligible	6.1	includes 1	ns
Housing	Homeless (reference)			
	Transitional program	24.7	3.8 – 160.0	< 0.001
	Temporary	7.1	1.6 – 31.7	0.010
	Stable	20.7	6.0 – 71.5	< 0.001
Insurance	Govt. assistance (reference)			
	Private insurance	2.8	1.2 – 6.9	0.022
	No insurance	1.3	includes 1	ns
MD knowledge*	Adequate	7.0	2.5 – 20.0	< 0.001
Access to referral*	Referral available	3.0	1.7 – 7.6	0.023
Access to MD*	MD available	5.1	2.2 – 12.0	< 0.001
Confidentiality*	Maintained	4.9	1.6 – 15.2	0.006
Respect*	Respect shown	8.6	2.9 – 25.3	< 0.001
Adherence*	Counseled by MD	2.3	1.2 – 4.4	0.010

\*For these variables, all cases without the listed attribute are used as a reference.

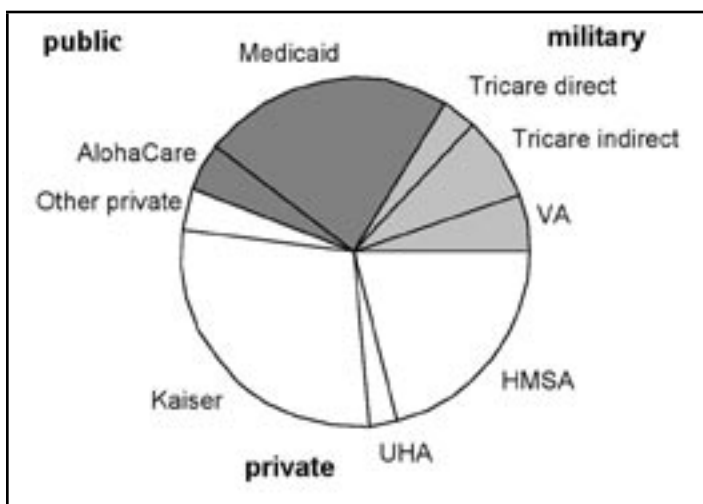


Figure 2.— Clients receiving HIV care by insurance provider, n = 1,539

skipped or stopped taking their medication most commonly because they forgot, had side effects, or needed a break. A logistic regression analysis (results displayed in Table 2) revealed that those most likely to skip are those who grew up in Hawai'i or are Hawaiian; those possibly infected through injection drug use; and those that

stated a barrier to care in the last year in the consumer survey. Those who were least likely to skip are those who work full time and those who were counseled by a pharmacist. The latter suggests the benefit of a program where a full-time HIV pharmacist serves 800 PLWHA. Results are displayed in Table 2.

## Discussion

Strategies to maintain an adequate HIV medical care delivery system despite the relatively small patient population and the geographical segmentation of that population, should focus on maintaining two key elements in the system: resilience and multiple patient care options. Resilience refers to a system that can resist being affected by a disturbance, such as the departure of a particular physician. In recent years, the retirement or relocation of a single physician who cared for a significant proportion of the HIV-infected population on an outer island or rural O'ahu has caused a crisis where patients were at risk of falling out of care. If a lapse in medical care, however brief, causes a lapse in adherence to antiretroviral medication, the result is likely to be drug resistance that limits lifelong medication options for future treatment.

Many physicians on O'ahu who see a large number of HIV patients are approaching retirement. For 70% of this group, the average time since graduating from medical school was 34 years.<sup>13</sup> Concern over this trend, and the lack of interest in HIV specialization among young physicians, has been expressed by HIV physicians, by respondents to the consumer survey, and by the DOH. This trend is not restricted to Hawai'i and may be attributed to the emergence of the AIDS epidemic at a certain point in the training of our current cohort of HIV physicians. At that time HIV was a new, compelling disease affecting groups with whom many young physicians felt connected. Now HIV has become a chronic disease associated increasingly with poverty, ethnic minorities, the mentally ill and substance abusers. The two young community physicians with an interest in HIV to set up practices recently were quickly overwhelmed with the high demand for primary care in Hilo and may not be able to fill the void of departing HIV physicians.

While the exact timing of the retirement or change in residence of a particular physician may be a surprise, it is a predictable that such disturbances will happen. Hawai'i needs to plan for these inevitable events. One solution is to support institutions that can provide HIV care alongside or in the absence of community physicians. Locally-based institutions with large HIV case loads are also more likely than community physicians to find replacements and continue care when staff leaves.

		Odds ratio	Confidence interval (95%) for odds ratio	P value
Ethnicity	Caucasian (reference)			
	API	1.0	includes 1	ns
	Hawaiian	2.9	1.5 – 2.0	< 0.001
	Mixed	1.5	includes 1	ns
	African American	1.1	includes 1	ns
	Native American	2.2	includes 1	ns
Immigrant status*	Grew up in Hawai'i	2.3	1.4 – 3.6	< 0.001
Infection source*	IDU or IDU/MSM	3.6	1.4 – 9.4	0.009
Barriers to care*	Barriers to care stated (any)	2.7	1.1 – 6.8	0.036
Work*	Full employment	0.4	0.2 – 0.8	0.012
Counseled*	By pharmacist	0.5	0.3 – 0.8	0.007

\*For these variables, all cases without the listed attribute are used as a reference.

The second element important to the HIV medical care delivery system that may not occur naturally in rural areas of Hawai'i is maintenance of multiple patient care options. Some HIV patients have a variety of mental health and social challenges and they may not feel they receive the help or sensitivity they need in these areas from their physician. Others may not feel their physician is competent in providing the medical care they need. The patient's judgment may or may not be accurate, but that becomes irrelevant when the patient's perception causes him or her to stop seeking care. Having at least one other geographically accessible option to go to when a patient is unhappy with their care provider is important to keeping patients in care. One study suggests that HIV patients make good choices in selecting providers - 15% of the HIV patients voluntarily switched physicians and these tended to switch to ones with higher levels of HIV knowledge, experience and patient trust.<sup>14</sup>

There is a role for both non-profit clinics and community physicians. The consumer survey demonstrated that the minority of PLWHA not receiving care at least every six months are likely to be disadvantaged in multiple ways. To get this group back in care and to keep them there will require outreach and ancillary services beyond the scope of community physicians. However, a national study found PLWHA who are high functioning and do not need ancillary services are likely to prefer a private clinic.<sup>15</sup> Therefore community physicians should be encouraged and supported through continuing medical education programs, and through outreach offering clinical support through telephone consults or other means.

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# The Hawai'i Community Resource Obesity Project: Results from the Lifestyle Enhancement Program

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## Abstract

**Objective:** The purpose of this study was to describe the effects of a community-based, multidisciplinary team-led, lifestyle modification program on short-term weight loss in a morbidly obese (mean BMI 40.8 kg/m<sup>2</sup>), predominantly Native Hawaiian population. **Methods:** Descriptive study comparing weight loss over time in intervention and control groups. Of 217 eligible participants in the intervention group, 58% were Native Hawaiian. **Results:** Participants in the intervention group experienced a modest yet significant weight loss, while the control group gained weight. The mean 12-month weight loss in the intervention group was 4.1 pounds (1.9 kg). High program attrition rates hindered program effectiveness and data collection. **Conclusion:** Although the weight loss in the study group was moderate, it was significant over the control group whose members actually had an increase in average weight over the study period. Further research into pre-treatment correlates of attrition in this population is needed in order to eliminate health disparities among Native Hawaiians.

Fueled by high calorie diets and sedentary lifestyles, obesity has become increasingly widespread.<sup>1</sup> Recent data estimate that 65.1% of the nation's adults are overweight (body mass index [BMI]  $\geq$  25 kg/m<sup>2</sup>) and 30.4% are obese (BMI  $\geq$  30 kg/m<sup>2</sup>).<sup>2</sup> The health risks of obesity have been well documented, and increase exponentially as BMI increases.<sup>3-7</sup> Severely obese individuals (BMI  $\geq$  35 kg/m<sup>2</sup>) have a mortality rate 12 times higher in men aged 25-34 years and 6 times higher in men aged 35-44 years than that of their age-matched, non-obese counterparts.<sup>8</sup>

Native Hawaiians, whose traditional diets and lifestyles have been eclipsed by rapid urbanization, have an especially high prevalence of obesity and obesity-related diseases.<sup>9</sup> According to a recent pooled study of 18 population-based epidemiological studies in Hawai'i conducted over a 25-year period, Native Hawaiians consistently had the highest BMI of the multiethnic population studied.<sup>10</sup> Data from a 2005 nationwide study indicated that Native Hawaiians aged 20 years or older are more than twice as likely to have diagnosed diabetes as Whites after adjusting for population age differences.<sup>11</sup>

Lifestyle modification programs, which essentially facilitate a return to the basics of healthy diet and increased physical activity traditionally practiced by native populations, have emerged as the cornerstone of treatment for both type 2 diabetes and obesity.<sup>12</sup> However, scant research has been conducted on the efficacy of such community-based programs in the population of Native Hawaiians with severe obesity. In an effort to reduce ethnic health disparities in its predominantly Native Hawaiian population, the Wai'anae Coast Comprehensive Health Center (WCCHC) developed and implemented the Hawai'i Community Resource Obesity Project (HCROP), a community-wide, agriculturally based healthy food initiative. A primary component of this project was the Lifestyle Enhancement Program (LEP), a multidisciplinary team-led, lifestyle modification initiative designed for WCCHC's high-risk (mean BMI 40.8 kg/m<sup>2</sup>) patients. The LEP project model, results, and challenges encountered are the focus of this paper.

## Research Methods and Procedures

**Setting.** As a community-owned and operated health center, WCCHC's mission is to assure access to quality health care for underserved individuals, families, and children who have few or no alternatives for affordable health care. The WCCHC is located within a federally designated medically underserved area and serves the most Native Hawaiians of any health center in the State of Hawai'i. The service community of WCCHC is characterized by unique demographic, socio-economic, cultural, and health status indicators that significantly affect health care needs. Studies have documented connections between lower-income groups and higher rates of obesity and obesity-related chronic disease, and the community of Wai'anae exemplifies this trend.<sup>13-15</sup>

The Wai'anae Coast, a community with a population of 42,259, ranks highest in the State of Hawai'i for adults with a BMI  $>$  30 kg/m<sup>2</sup> and households receiving financial aid and food stamps, and highest on the island of O'ahu for those at less than 100% and 200% of poverty level, unemployment, and adult population with diabetes.<sup>16</sup> Health and socioeconomic indicators of WCCHC's service population reflect that of the community. Sixty-two percent of patients are at  $<$  100% poverty level, and 59% are either uninsured or receive Medicaid and/or QUEST. Over 55% of patients have a BMI  $>$  30 kg/m<sup>2</sup> and 38% have a BMI  $>$  40 kg/m<sup>2</sup>. The average BMI of patients eighteen years and older is 31.4 kg/m<sup>2</sup>, with Samoans having the highest average BMI at 37.0 kg/m<sup>2</sup> and Native Hawaiians the next highest at 33.2 kg/m<sup>2</sup> among the adult population. Native Hawaiians account for 51% of patients, and also comprise the majority of obesity-related chronic disease cases at WCCHC.

Indicator (Primary Diagnosis)	Total WCCHC adult patients	% NHOPI*
Diabetes	1660 (11%)	1062 (64%)
Hypertension	2518 (16%)	1158 (46%)
Cardiovascular Disease	1928 (12%)	829 (43%)
Congestive Heart Failure	276 (1.5%)	152 (55%)
Hypertensive Heart Disease	233 (1.5%)	126 (54%)

\* Native Hawaiian or Pacific Islander (NHOPI)

**HCROP community agricultural initiative.** The HCROP endeavored to promote healthy lifestyles and reduce the rate of obesity in the community by: increasing awareness, production, and availability of locally produced agricultural products; increasing the number of Native Hawaiians actively involved in weight management activities; and maintaining weight loss among these program participants. To increase community awareness regarding locally produced agriculture, healthy food messages were developed and publicized via community presentations, fliers, newspaper articles, and word of mouth. A series of two-day, healthy diet programs was also conducted in the community. WCCHC's Dining Pavilion, which served affordable meals featuring locally grown fresh produce, and

weekly farmers' markets/monthly cooking demonstrations helped to make healthy foods more available.

In order to increase the production of locally grown products, a network of area farmers and fishermen was established, with network meetings focusing on sustainable methods and community-based strategies to expand locally grown products. Community partners in agricultural production included two organic farms and the local public high school's edible seaweed aquaculture project, who supplied the WCCHC Dining Pavilion and farmers' market with produce.

The Healthy Foods Hawai'i project, a study of dietary intake which included the community of Wai'anae, found that limited familiarity with healthy food preparation methods, limited time, and limited income were factors in the high consumption of unhealthy foods in the communities studied.<sup>17</sup> It has been observed that there is a connection between what types of food are readily available and foods that people choose to eat.<sup>18,19</sup> Since a community's resource environment is inextricably connected to health,<sup>20</sup> HCROP sought to connect food producers, consumers, and vendors in an effort to create a systems change which would improve both the health and socioeconomic viability of the community. This master plan constituted the backdrop for the remaining of HCROP's objectives: to increase the number of Native Hawaiians actively involved in weight management activities and achieve weight loss maintenance among these program participants. This objective was addressed through the creation of the Lifestyle Enhancement Program (LEP).

**Study population.** Eligibility criteria for the LEP were defined as: 18 years of age or older; willingness to consent to participate; and BMI >30 kg/m<sup>2</sup>. (Twenty-six individuals (12%) had a BMI < 30 kg/m<sup>2</sup>, but were allowed to participate in the program due to other health-related issues.) All participants were recruited to the LEP through referrals generated from their WCCHC Primary Care Providers (PCP). The WCCHC research ethics committee approved the study protocol. All participants gave written consent after being informed about the research project.

Two hundred seventeen people participated in the LEP program, 158 women and 59 men, with the majority (58%) being of Native Hawaiian descent (see Table 2). Participants in the LEP were tracked from January 2005 until July 2007. In order to provide comparative data, a demographically matched usual care cohort was tracked as well. The control population was comprised of 89 severely obese adults (BMI >35 kg/m<sup>2</sup>) that had two or more primary care visits between November 2005 and March 2007. These individuals received weight loss advice from their PCP, however, they did not receive additional diet or exercise advice or support from a registered dietitian, psychologist, or fitness trainer.

**Project design.** The LEP was housed in WCCHC's new wellness center which included a medical clinic, healthy dining pavilion, and large oceanfront fitness center with state-of-the-art fitness equipment and ample room for floor work. Outdoor fitness facilities included a sand volleyball court, three levels of landscaped walking paths, and a large amphitheater. The program utilized a multidisciplinary team approach- involving a physician, board certified in bariatric medicine, registered dietitians (RDs), a psychologist, clinical exercise specialists/fitness trainers, a cardiac rehabilitation specialist, and

health educators who created individualized chronic disease and weight management treatment plans.

As with most lifestyle modification programs, the LEP's key components were physical activity, nutrition education, and behavioral counseling. A complete medical work-up, including a physical exam, appropriate laboratory tests, and comprehensive personal/family medical history, was conducted at each participant's initial visit. Individualized evaluations by a registered dietitian, a fitness trainer, and a psychologist followed. The respective health professionals participated in on-going collaboration to develop tailor-made treatment plans based upon each participant's co-morbid conditions, desires, motivation, health status, and support structures.

Upon entry into the LEP, the psychologist performed a readiness to change assessment, and then assisted in moving patients to contemplative or action stages. The behavioral health component was based on the transtheoretical model, incorporating various cognitive behavioral components.<sup>21</sup> Through these sessions, participants were equipped with motivational principles and specific strategies to implement the healthy eating and exercise knowledge gained, as well as given a support group.

Exercise sessions were conducted under the supervision of fitness trainers/clinical exercise specialists/cardiac rehabilitation specialists, earmarking duration, intensity, flexibility and strength indicators for each patient. Participants could choose either supervised individual circuit training workouts in the gym or a variety of group exercise classes (including yoga, body toning with stability ball and dumbbells, kickboxing, salsa dancing, jazz, hip hop, low-impact step aerobics).

Medical nutrition therapy focused on disease specific interventions, along with practical methods for healthy eating: recognizing healthy serving sizes; increasing consumption of whole grains, fruits, and vegetables while decreasing fat intake; learning basic dietary principles of balance and moderation. Healthy recipes utilizing locally-available produce and healthy cooking methods to enhance favorite cultural dishes were also developed and shared.

A group component was included with group exercise, nutrition and behavioral therapy classes and support sessions, since group treatment has been shown to improve outcomes in similar programs,<sup>22,23</sup> and a group-based approach is favored by many Native Hawaiians.<sup>24</sup> Weekly group classes were available that utilized a culturally adapted curriculum based upon the "Diabetes Prevention Program: Lifestyle Balance: Healthy Eating—Being Active" program.<sup>25</sup> Discussion topics included: weight loss in disease prevention, portion control, benefits of aerobic exercise and strength/resistance training, smart snacking, and label reading.

**Measures.** This is a descriptive study comparing weight changes over time of participants with and without LEP intervention. In evaluating the project, mean outcomes and documented improvement of any degree were marks of success. Anthropometric measures, attendance, and encounter type were tracked and recorded. Data was entered and monitored in WCCHC's electronic medical records system (NextGen).

Anthropometric measures of weight and BMI were recorded for each participant upon enrollment in the LEP and again at 1, 3, 6, 12, and 18 months. Body weight was measured on a calibrated electronic floor scale, and height was measured to the nearest 0.5 cm using a stadiometer.

**Statistical analysis.** Data were analyzed using descriptive and multivariate statistics. Multivariate analyses consisted of Mixed Model Analysis of Variance (ANOVA), using the SAS version 9.1 statistical software package.<sup>26</sup> The Mixed Model methodology was chosen due to the repeated measures nature of the data. Time (in months) serves as a within-subjects factor since measurements on the same subjects were taken over time.

## Results

**Participant characteristics/Visit data.** Descriptive characteristics of the study population, including age, sex, and ethnicity, are summarized in Table 2. Two hundred seventeen people participated in the LEP program, 158 women and 59 men, with the majority (58%) being of Native Hawaiian descent. The participants were mainly middle aged with a mean age for women of  $43.8 \pm 13.5$  (SD) years and a mean age for men of  $50.7 \pm 14.0$  (SD) years. The control cohort was demographically matched to the intervention cohort.

Characteristics	LEP Participants (n=217)
Age (years)	
Women	43.8 ± 13.5
Men	50.7 ± 14.0
Gender (% men)	27
Ethnicity (%)	
Hawaiian	58
Caucasian	20
Samoan	9
Filipino	8
Japanese	2
Hispanic	2
Laotian	1
Baseline Weight (pounds)	
Women	233.9 ± 60.3
Men	281.5 ± 78.4
Baseline BMI (kg/m <sup>2</sup> )	
Women	40.2 ± 9.2
Men	41.4 ± 11.5

Due to the individualized nature of the program, visits with multidisciplinary team members varied per program participant. The average number of participant visits per health professional was recorded up to month 12 of program participation. For the first year of the LEP, each participant logged an average of 34.27 fitness encounters (range = 2-156), 7.07 physician encounters (range = 2-11), 4.73 behavioral health encounters (range 1-15), and 4.75 registered dietitian encounters (range 1-12). Based on these encounter averages, the average cost per participant per encounter was \$34.56, or \$1655 per participant per year.

**Baseline anthropometric measures.** The mean baseline BMI of LEP participants was 40.8 kg/m<sup>2</sup>, which is defined as morbid obesity by BMI criteria.<sup>27</sup> Half of the participants had initial BMI values between

33.9 and 44.1 kg/m<sup>2</sup>, and 25% of participants had initial BMI values greater than 44 kg/m<sup>2</sup>. The average initial weight was 247 pounds, with half of the participants weighing between 195 and 282 pounds, and 25% of participants weighing over 282 pounds. Men had higher initial weights than women (average weight of 281 vs 234 pounds, respectively); however, the difference was mainly attributable to men being taller and in general heavier biologically. The average baseline weight for the control cohort was 252 pounds.

**Changes in anthropometric measures.** In order to evaluate program effectiveness, anthropometric parameters were measured at baseline and again at 1, 3, 6, 12, and 18 months. The Mixed Model ANOVA examined the continuum of measurements over time. Results showed the initial weight and level of program participation (as measured by the number of weight measurements) did not have a significant effect on the change in weight over time. There was a statistically significant reduction in weight over time (P-value < 0.001). The mean weight loss at 6 and 9 months was 3.8 pounds, and the mean 12-month weight loss was 4.1 pounds (see Table 3). Attrition affected data collection as there was a significant drop in the number of participants with weight measurements at different months. Half of the participants had four or more measurements, while the other half had three or fewer follow-up weight measurements. When compared to the control cohort, who gained weight over time, the LEP intervention cohort had a modest, yet significant, decrease in weight over time.

## Discussion

The purpose of this study was to describe the effects of a community-based, multidisciplinary-team led, lifestyle modification program on short-term weight loss in a morbidly obese (mean BMI = 40.8 kg/m<sup>2</sup>), predominantly Native Hawaiian population. The LEP intervention group experienced a modest decline in weight, while the control group gained weight. The LEP was designed as a short-term intervention. Consequently, long-term weight loss data is unavailable.

For comparative purposes, a culturally-adapted lifestyle modification study conducted among Black participants with a mean baseline BMI of 38.0 kg/m<sup>2</sup> at an outpatient setting averaged a mean loss of 1.5 kg at 10 weeks.<sup>28</sup> The LEP intervention saw similar results with a mean weight loss of 4.1 pounds (1.9 kg) at the 12-month mark. A separate community-based weight management program with participants who had a mean baseline BMI of 37.5.0 kg/m<sup>2</sup> recently reported an average loss of 5.7% of baseline weight at the 6-month mark. However, participant demographics in this program were markedly different than the LEP, with 94% of participants who completed the program being White, 68% having > 16 years education, and 52% earning an annual salary of > \$60K.<sup>29</sup> The bulk of literature regarding lifestyle modification for obesity originates from studies such as this, involving highly motivated, non-morbidly obese, predominantly White participants involved in clinical trials at academic medical centers.

Few lifestyle modification studies focus on individuals with morbid obesity, and the literature is essentially bereft of such studies designed specifically for ethnic minority populations with morbid obesity in community settings. This is likely because surgery has been identified as the most effective therapy for weight loss for the individual with morbid obesity.<sup>30</sup> However, due to financial

	N	Mean	Standard Deviation	Range	Interquartile Range
Baseline weight *	215	246.9	68.9	134.6 to 486.7	195.0 to 282.0
Change in weight between the baseline weight and weight at:					
Month 1	129	-1.1	5.7	-38.7 to 11.2	-3.4 to 1.6
Month 3	164	-2.3	9.2	-38.2 to 30.2	-7.0 to 2.0
Month 6	162	-3.8	12.6	-67.8 to 27.0	-10.7 to 4.4
Month 9	76	-3.8	15.7	-76.0 to 39.1	-11.1 to 4.5
Month 12	152	-4.1	16.7	-99.4 to 37.6	-10.1 to 5.5
Month 18	28	-2.0	29.5	-120.6 to 37.6	-10.7 to 13.1

\* All weights measured in pounds

	N	Mean	Standard Deviation	Range	Interquartile Range
Baseline weight *	89	251.8	47.0	165 to 386	219 to 273
Change in weight between the baseline weight and weight at:					
Month 1	30	0.2	9.0	-23.8 to 22.0	-5.2 to 6.9
Month 3	45	4.4	10.0	-23.8 to 24.0	-1.0 to 9.6
Month 6	42	1.7	14.7	-55.0 to 33.0	-3.0 to 9.0
Month 12	38	8.0	19.4	-16.4 to 88.0	-2.8 to 11.1

\* All weights measured in pounds

constraints, existing co-morbidities, or cultural/religious beliefs, surgery does not represent a viable option for all individuals. Additionally, many insurance carriers have begun to exclude bariatric surgery from coverage.<sup>31</sup> Community-based lifestyle modification programs remain a valuable resource for the population with morbid obesity—both as a first-line intervention and as a recourse for those who are not candidates for surgery.<sup>26</sup>

An estimated 5.7% of total U.S. health expenditures are currently attributed to direct obesity costs.<sup>32</sup> In the case of severe obesity, the expected lifetime costs for cardiovascular disease and its risk factors increases by 200%.<sup>33</sup> In the LEP, the average cost per participant was \$1655 per year. This compares favorably with other lifestyle modification programs such as the Diabetes Prevention Program (DPP), which spent an estimated \$3200 per person in the lifestyle group over the course of three years. When compared with placebo in quality-adjusted life-years (QALY), lifestyle intervention in the DPP was less than \$3000 per QALY gained as compared to metformin at \$33,000 per QALY.<sup>34</sup> A separate study found that their RD-moderated lifestyle intervention program saved up to \$8046 per person per year.<sup>12</sup> Efficacy trials attest to the cost-effectiveness of such lifestyle intervention programs among high-risk populations, but there is less evidence if this holds true in clinical and community settings as well.<sup>35,36</sup> Results from the LEP support the real-world cost effectiveness of lifestyle programs.

Lifestyle modification programs have been shown to be both a cost-effective and capable means of promoting weight loss and reducing obesity-related disease risk. However, optimum benefits cannot be realized if program participants are not retained. The main limitation to the current study is program attrition. Even though the LEP demonstrated positive outcomes overall, high program attrition rates and uneven participation hindered program effectiveness

data collection. The attrition rate in group behavioral weight loss programs typically hovers around 20% at the 4-6 month mark,<sup>22,37</sup> while a recent review of attrition rates from nine lifestyle modification trials with a 31.4-week mean treatment duration reported a mean attrition rate of 21.2%.<sup>38</sup> In comparison, by month nine of the LEP, 65% (n = 141) of participants had exited the program. At the 18-month mark, only 13% of participants remained.

Previous research has identified several factors affecting successful completion of weight loss interventions.<sup>39-43</sup> However, evidence suggests that what works for White participants may not necessarily apply to ethnic minority populations.<sup>44,45</sup> As far as we are aware, no research has been done to date on factors influencing attrition from weight-loss programs specifically in a morbidly obese, Native Hawaiian population. Through a long history of conducting weight-loss programs in a predominantly Native Hawaiian community, we have observed that attempts at weight loss are often superseded by familial duties and life circumstances. In Hawaiian culture, the *ʻohana* (family unit) is multigenerational, encompasses extended family, and is inextricably connected to well-being.<sup>46</sup> Many of our program participants are grandparents caring for grandchildren. In their case, family gatherings and care-giving duties make it difficult to be consistent with program attendance. Medical, behavioral health, psychosocial, and/or transportation issues are common and further hinder program attendance. Perhaps there are additional demographic, cultural, and/or behavioral variables specific to this population that may contribute to attendance in a weight management program. Seeking to identify these pre-treatment correlates of attrition would be not only an interesting area for future research, but a critical step in the right direction of eliminating health disparities among the Native Hawaiian people.

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# A Case Report and Literature Review of Group C Streptococcal Pneumonia

Guliz Erdem MD; Shasta Brewer MD; John Harrington MD; and Marian Melish MD

## Abstract

*Group C streptococci rarely cause severe disease in humans. The authors report a 15-year-old girl with group C streptococcal pneumonia. No immune deficiencies were detected in our patient and investigation of virulence factors including emmL, sag A, spegg and smeZ genes failed to reveal insight into why the isolated group C streptococcal strain was so virulent. Fourteen other reports of primary group C streptococcal pneumonia were reviewed.*

Streptococci of Lancefield classification group C (GCS) are rare causes of infection in humans.<sup>1,4</sup> GCS can be isolated from the oral pharynx of 1.5% healthy individuals and between 0.25% and 7.2% of all streptococcal infections have been attributed to GCS, but serious infections due to these microorganisms are unusual.<sup>2,5,6</sup> Reports of serious human infection with GCS include septicemia, endocarditis, meningitis, pneumonia, pericarditis, epiglottitis, bone and joint infections, pyomyositis, necrotizing fasciitis, rhabdomyolysis and disseminated intravascular coagulation.<sup>2,3,7,8</sup>

In addition to these occasional infections, case reports referring to streptococcal toxic shock syndrome (STSS) or STSS-like picture caused by these heterogeneous group of microorganisms have recently accumulated.<sup>9,10</sup> GCS strains causing these infections may present virulence factors similar to those expressed by group A streptococci (GAS), including the M or M-like protein genes (*emmL*), streptolysin S gene (*sag A*) and some exotoxin genes such as *spegg* and streptococcal mitogenic exotoxin Z (*SMEZ*).<sup>9,12</sup> Virulence and exotoxin genes of group C streptococci associated with other severe diseases are not extensively studied.<sup>13</sup> We report the case of a 15-year-old girl with bacteremia and severe pneumonia secondary to GCS infection. This GCS isolate was further characterized by polymerase chain reaction (PCR) assays of *emm*-like (*emmL*), *sag A* genes and selected GAS exotoxin genes.

## Case Report

A 15-year-old previously healthy girl was admitted to the hospital with one-week history of cough, fever, sore throat, left-sided abdominal pain, and with new complaints of left-sided back and severe chest pain. There were no sick contacts, no recent travel, and no animal contacts. On admission, her temperature was 104.9°F, heart rate was 180 per minute, and her diastolic blood pressures were ranging between 30 to 40 mmHg with normal systolic blood pressure measurements. She was grimacing with left sided chest and abdominal pain. Her respiratory rate was 28 per minute with poor inspiratory effort and splinting, and her oxygen saturation was 89% on room air. Breath sounds were notably decreased at the lung bases. Her abdomen was diffusely tender and she also had bilateral costovertebral tenderness.

Laboratory studies revealed a white blood cell count of 17,000/ $\mu$ l (57% neutrophils, 25% band neutrophils, 9% lymphocytes, 5% monocytes, 1% metamyelocytes, 1 myelocyte and 2% atypical lymphocytes). The C-reactive protein was 34.5 mg/L (Normal:  $\leq$ 0.8 mg/L). A blood chemistry panel revealed sodium of 131 mmol/L,

potassium of 3.0 mmol/L and albumin of 3.1 g/dL. Her prothrombin time (PT) was 15 seconds (normal: 11.5-14.5 seconds) and a partial thromboplastin time (PTT) was 45 seconds (normal: 25-37 seconds). Rapid streptococcal and influenza screening tests were negative. Chest X-rays revealed bilateral basilar pulmonary infiltrates and pleural effusion and CT scan of the abdomen demonstrated bilateral pleural effusions and an enlarged spleen. Blood, urine, and sputum cultures were obtained. Sputum cultures revealed *Candida albicans*. Blood cultures from two separate samples later grew group C streptococci. The cultures were reported to be positive for group C streptococci within 48 hours of blood draws.

Shortly after admission, she was transferred to the pediatric intensive care unit due to worsening respiratory distress with increased pleural effusions. She was treated with parenteral vancomycin, clindamycin, and ceftriaxone. She was also given intravenous fluconazole for *Candida* infection. On the third day of her hospitalization, her vancomycin was changed to parenteral linezolid and rifampin. She remained febrile and required intubation and chest tube insertion on the fourth hospital day secondary to worsening respiratory status. Upon placement of chest tube, 480cc of yellow, blood-tinged fluid was obtained. The pleural fluid had a red blood cell count of 3524/ $\mu$ l, white blood cell count of 2579/ $\mu$ l (96% neutrophils), glucose of 73 mg/dL, protein of 3.3 mg/dL. No organisms were seen on Gram stain and there was no growth from culture. An echocardiogram was normal. Due to the persistent respiratory failure, bilateral pulmonary decortication, drainage of intraparenchymal pulmonary abscesses, and debridement of necrotic lung tissue were performed on hospital day 10.

Despite multiple infusions with fresh frozen plasma, she continued to have mild coagulopathy until her discharge. She also had prolonged lymphocytopenia with the first normal lymphocyte count occurring on hospital day 21. There was no further hyponatremia but intermittent hypokalemia gradually correcting by hospital day 6. On hospital day 13, blood cultures from her central line grew *Candida albicans* despite being on fluconazole therapy, and the antifungal therapy was changed to liposomal amphotericin. An immune work up was done showing normal levels of immunoglobulins A, M and G. Her HIV ELISA was negative and her T and B lymphocyte subsets were within normal limits.

After surgery, she continued to be intermittently febrile with slowly improving infiltrates on routine chest X-rays. She was extubated after 20 days of intubation and mechanical ventilation. Linezolid and rifampin were discontinued after 21 days and she was treated with penicillin G 1 million units every 6 hours for 10 days prior to discharge. She was discharged on penicillin VK 500 mg po TID for four additional weeks. The pulmonary infiltrates significantly improved six weeks after her discharge.

## Literature Review

The authors searched the Medline database with the keywords "group C streptococcus, *Streptococcus equisimilis*, *S. zooepidemicus*, *S.*

Table 1.— Review of published cases of pneumonia due to group C streptococci.

Reference	Publication year	Age	Presentation	Recovery
15	1946	Middle aged	Bacteremia with pleural effusion	Yes
16	1979	39	Bacteremic pneumonia with effusion	Yes
17	1980	81	Bacteremic pneumonia	Death three months after infection
		72	Esophageal ulcer and pneumonia	Yes
18	1980	22	Bacteremia with pleural effusion	Death
6	1980	23	Pneumonia with effusion	Yes
1	1983	14	Bacteremic pneumonia	Yes
19	1983	29	Bacteremic pneumonia	Death, Hodgkin's lymphoma
20	1985	36	Pneumonia with effusion	Yes
4	1987	38	Glomerulonephritis, sepsis and pneumonia	Death
21	1990	58	Pneumonia with effusion	Yes
2	1990	30	Pneumonia with effusion	Yes
22	1993	55	Pneumonia with effusion	Death
		65	Pneumonia with effusion	Death
23	1995	85	Bacteremic pneumonia	Death
Present case	2007	15	Bacteremia and severe bilateral lobar pneumonia with pleural effusion	Yes

*equi* and *S. dysgalactiae*” and “pneumonia,” to identify case reports published in English-language literature from 1950 to May 2007 (Table 1). Reports of cases with polymicrobial infection, nonsporadic infection and secondary pneumonias were excluded.

### Microbiology

The isolate was identified as GCS by standard methodology shortly after admission. The PCR analysis of *emmL*, *sag A*, *spegg* and *smeZ* genes were determined as previously described.<sup>9-12</sup> These genes were selected for PCR assays since an association between severe GCS disease presenting with a STSS-like picture were previously reported. Each PCR reaction was performed in duplicate. Four other GCS isolates isolated from pharyngitis patients were included for further comparison. None of the genes were detected in the patient isolate. All other isolates were positive for *emmL* and *sagA* genes. Two of the four comparison GCS strains were positive for *spegg* and all were negative for *smeZ*.

### Discussion

GCS are made up of a heterogeneous group of microorganisms that possess Lancefield's group C carbohydrate. The species of GCS are classified according to biochemical properties as *Streptococcus equisimilis*, *S. zooepidemicus*, *S. equi* and *S. dysgalactiae*.<sup>2,3</sup> These organisms are common epidemic pathogens of domestic animals such as cattle, horses, sheep, and pigs, causing respiratory symptoms known as “strangles”.<sup>2,14</sup> However, in recent years, GCS have been recognized as a cause of human infections with increasing frequency. Human infections are often associated with exposure to animals and this association is found in almost one-quarter of the cases of bacteremia.<sup>3</sup> In some cases, as in the case discussed here, no discrete exposure to an animal was documented.

Overall, GCS are infrequently isolated from blood cultures and account for <1% of all bacteremias.<sup>3</sup> Pediatric infections and pneumonia with GCS bacteremia appear to be extremely rare.<sup>2,3</sup> We reviewed the published cases of pneumonia due to GCS in English

language literature after 1950. An additional case published in 1946 was found after review of these reports.<sup>15</sup> Fifteen published cases of pneumonia due to GCS have been associated with pleural effusions, bacteremia and other complications, which have been observed in the authors' patient (Table 1).<sup>1,2,4,6,15-23</sup> A significant number of the recovering patients required prolonged periods of intubation and had a slow recovery. In reports of GCS-related pneumonias, all but one were adults, some with significant chronic underlying diseases (Table 1).<sup>1,2,4, 6,15-23</sup> The mortality rate was high and reported in seven of the 16 (44%) cases reviewed. The clinical findings of GCS pneumonia were similar to the children with group A streptococcal (GAS) pneumonia who also reported to have large pleural effusions and associated morbidity with prolonged fever and longer hospitalizations in comparison to the pneumococcal pneumonia.<sup>24</sup> The higher case fatality rates of GCS pneumonia may be due to the aggressive nature of this pathogen but may also be associated with increased age, and predisposing medical and surgical conditions.

The release of inflammatory cytokines may also have a role in prolonged fever in both GAS and GCS pneumonia. GCS produce toxins similar to GAS, but as in GAS their pathogenicity may not be solely related to the toxin production.<sup>21</sup> The role of *emm*-like genes and few GAS superantigen genes have been investigated and inconsistently detected in few STSS related GCS strains.<sup>9-13</sup> Although our patient did not have clinical findings of STSS, she had a severe streptococcal infection with prolonged fever. Since similar testing was not done among the rare GCS pneumonia patients, we have analyzed a selected number of superantigen genes previously identified in patients with GCS toxic shock syndrome.<sup>9-11</sup> None of these genes were detected in the GCS strain isolated from our patient. Other unknown and untested superantigen genes can obviously be associated with severe disease but the negative results may also suggest the presence of other factors in invasiveness of GCS isolates.

In general penicillin G is the treatment of choice for group C streptococcal infections. Although in vitro tolerance for penicillin

has been reported (minimal bactericidal concentration/minimal inhibitory concentration,  $\geq 32$ ), the impact on clinical outcome is not clear. The addition of gentamicin to a beta-lactam antibiotic or vancomycin was suggested against tolerant group C streptococci.<sup>25</sup> The authors' patient was treated with a combination of antibiotics and in the end with penicillin and survived with no significant complications.

The cases reported here illustrate the importance of GCS as a cause of serious infection in human beings. GCS infections are uncommon especially in children but they can cause serious infections and can be fatal.

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# Professionalism in the Teacher-Learner Relationship in Medical Schools: Mistreatment

Mary Ann Antonelli MD, FACP; Director, Office of Student Affairs, John A. Burns School of Medicine, University of Hawai'i

Faculty and medical schools are becoming more cognizant of the issues of student mistreatment during medical school. The "culture" of medicine has tolerated mistreatment of students as a 'right of passage'. Recognition of mistreatment is leading to more explicit attention to the issues.<sup>1</sup> Physicians as teachers become more introspective, addressing professionalism, addressing career choice, and personal enjoyment of medicine. Additionally, the identification of depression in significant numbers of medical students<sup>2</sup> intensifies the need to humanize medical school processes.

Nearly seventeen percent of all graduating medical students report mistreatment during medical school. (anonymous submission in the AAMC Medical Student Graduation Questionnaire, MSGQ). Types of mistreatment range from belittlement and humiliation (55% report more than one occurrence) to less common reports of offensive sexist remarks directed personally (13%), being required to perform personal 'favors' (13%), or being denied training or rewards due to gender (11.4%). It is unclear that students report all mistreatment nor how they may define instances of mistreatment. A study found that residents, faculty and students may disagree about what constitutes student mistreatment.<sup>3,4</sup>

Source of Student Mistreatment Reported for All Schools, 2008 AAMC MSGQ	% of reports
Preclinical Faculty	10.2%
Clinical Faculty (in classroom)	8.3%
Clinical Faculty (in hospital)	66.2%
Residents/Interns	67.1%
Nurses	42.7%
Administrators	12.1%
Other students	15.2%
Patients	29.8%

In the AAMC MSGQ, the clinical faculty and post-graduate trainees are as disproportionately identified by students as responsible for mistreatment. Perhaps the less than nurturing academic environments for faculty<sup>5</sup> can be in part related to the treatment of students.

Reasons for Not Reporting Student Mistreatment Reported for All Schools, 2008 AAMC MSGQ	% of students reporting this reason
Incident(s) did not seem important enough to report	50.3%
Did not know what to do	19.5%
Fear of reprisal	48.1%
Other	20.3%

Of students who report mistreatment in AAMC survey, 66% did not report the mistreatment while in medical school. This complicates the ability of medical schools to identify and effect change in the problematic environment.

Cohen has made the call to "convert our learning environment from crucibles of cynicism into cradles of professionalism".<sup>6</sup> Even the 'light hearted' put-down of certain specialties by other physicians may also add to the cynical environment, especially in the mind of the naive medical student.<sup>7,8</sup>

At JABSOM, varied documents which include the University of Hawai'i Board of Regents Policies, UPA contract, Academic Appeals Policy all address the expectations of mutual respect between teachers and learners. However, to express these expectations in a professional school takes a more explicit statement. To that end, the JABSOM Faculty Senate, the JABSOM Executive Committee and the Student Interclass Council have agreed to adopt an adapted "Compact Between Teachers and Learners in Medicine".<sup>6</sup> This step, to explicitly state our strongly held and practiced values in the teacher-learner relationship, will continue to help us identify and change the culture of medicine where necessary to model professionalism for all learners and faculty in medicine. The "Compact" follows.

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### Compact Between Teachers and Learners of Medicine\*

Preparation for a career in medicine demands the acquisition of a large fund of knowledge and a host of special skills. It also demands the strengthening of those virtues that undergird the doctor/patient relationship and that sustain the profession of medicine as a moral enterprise. This Compact serves both as a pledge and as a reminder to teachers and learners that their conduct in fulfilling their mutual obligations is the medium through which the profession inculcates its ethical values.

#### GUIDING PRINCIPLES

**DUTY:** Medical educators have a duty, not only to convey the knowledge and skills required for delivering the profession's contemporary standard of care, but also to inculcate the values and attitudes required for preserving the medical profession's social contract across generations.

**INTEGRITY:** The learning environments conducive to conveying professional values must be suffused with integrity. Students learn enduring lessons of professionalism by observing and emulating role models who epitomize authentic professional values and attitudes.

**RESPECT:** Fundamental to the ethics of medicine is respect for every individual. Mutual respect between learners, as novice members of the medical profession, and their teachers, as experienced and esteemed professionals, is essential for nurturing that ethic. Given the inherently hierarchical nature of the teacher/ learner relationship, teachers have a special obligation to ensure that learners are always treated respectfully.

#### COMMITMENTS OF FACULTY TEACHERS

- We pledge our utmost effort to ensure that all components of the educational program for learners in medicine are of high quality.
- As mentors for our student and resident colleagues, we maintain high professional standards in all of our interactions with patients, colleagues, and staff.
- We respect all learners in medicine as individuals, without regard to gender, race, national origin, religion, or sexual orientation; we will not tolerate attitudes of disrespect or bias towards any student or post-graduate medical trainees.
- We acknowledge that learners in medicine will need time to address personal and family obligations and to obtain adequate rest, in order to ensure their well being.

- In nurturing both the intellectual and the personal development of students and post-graduate medical trainees, we celebrate expressions of professional attitudes and behaviors, as well as achievement of academic excellence.
- We do not tolerate any abuse or exploitation of students or post-graduate medical trainees.
- We encourage any student or post-graduate medical trainee who experiences mistreatment or who witnesses unprofessional behavior to report the facts immediately to appropriate faculty or staff; we treat all such reports as confidential and do not tolerate reprisals or retaliations of any kind.

#### COMMITMENTS OF STUDENTS

- We pledge our utmost effort to acquire the knowledge, skills, attitudes, and behaviors required to fulfill all educational objectives established by the faculty.
- We cherish the professional virtues of honesty, compassion, integrity, fidelity, and dependability.
- We pledge to respect all faculty members, students and post-graduate medical trainees as individuals, without regard to gender, race, national origin, religion, or sexual orientation.
- As learners in biomedicine, we embrace the highest standards of the medical profession and pledge to conduct ourselves accordingly in all of our interactions with patients, colleagues, and staff.
- In fulfilling our own obligations as professionals, we pledge to assist our fellow students and post-graduate medical trainees in meeting their professional obligations, as well.

\*Adapted from the *AAMC Compact Between Teachers and Learners in Medicine*, published as an addendum in Cohen, JJ. *Our compact with tomorrow's doctors. Acad Med.* 2002 Jun;77(6):475-80.

Adopted by the JABSOM Faculty Senate as amended on 1/8/09. Accepted by the JABSOM Inter Class Council 1/9/09. Approved by the JABSOM Executive Committee 2/20/09

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## Adolescent and Young Adult Cancer Care: A National and Local Problem

**Kelley Woodruff MD**

Access to oncologic care and treatment of cancer in adolescents and young adults (AYA) is a significant and important problem nationally, as well as in Hawai'i (Fig 1). This age group has literally fallen through the cracks not only with regard to treatment, research and supportive services, but for awareness of their plight as well.

Currently, there are 70,000 AYA individuals (ages 15-39) diagnosed with cancer in the United States annually, and cancer is the leading disease related cause of death of this group. The problems this group faces have gone unrecognized in general, and have been only a peripheral concern among health care providers and researchers. The consequences are devastating: while the survival for cancer patients has continued to improve over the last two decades for every other age group, AYA individuals ages 18-39 have not experienced this improved survival rate, and overall AYA survival remains poor, compared to other age groups (Fig 2). These disparities stem from many factors including: lack of age-specific care guidelines that take into account the unique psychosocial and supportive care needs; differences in the biology and nature of their malignancies; delayed diagnosis; lack of available clinical trials for AYA oncology; poor participation in clinical trials (Figs. 3 and 4); poor understanding of the biology of AYA cancers and inconsistent treatment and follow up guidelines. Additionally, there are barriers particularly prominent to AYA individuals in accessing access care: limited health insurance (see Fig. 5); lack of clinics dedicated to AYA cancer care; and lack of a cohesive multidisciplinary medical team.

An AYA individual is more likely to present to a wide variety of physicians: pediatricians, internists, family practitioners, gynecologists, emergency room physicians and many types of subspecialists. Referrals for AYA oncology often fall into a 'no man's land' among pediatric, adult, gynecologic, radiation and surgical oncology. This is especially the case in Hawai'i, where the pediatric cancer center at the children's hospital is completely separate from all other oncology centers. In essence, there exists no infrastructure to bridge the gap between pediatric and adult oncology in Hawai'i.

The lack of improved survival in AYA oncology is strongly associated with a decline in participation in clinical trials of AYA individuals compared to younger teens (Fig 6 and 7). Nationally, >90% of children under age 15 years are treated at institutions which conduct NCI sponsored clinical trials, 2/3 of which are enrolled on clinical trials, whereas only 20-35% of 15-19 year olds are treated at such centers, 1/10 of which are enrolled in national clinical trials. Participation in national clinical trials falls off even further in the 20-29 year old age group, as only 1-2 % are enrolled on national clinical trials.

For the AYA with a cancer not commonly seen past the teen years, the disparities in terms of outcome are particularly striking: the treatment approach used by the pediatric oncologists affords a significant survival advantage to the treatment approach used by the medical oncologists, regardless of the age of the patient, for acute leukemias (Fig. 6), sarcomas (Fig. 7), and germ cell tumors. This

outcome gap is difficult to bridge because AYAs over the age of 18 have very poor access to pediatric treatment protocols and clinical trials. Access for AYAs to pediatric trials is most striking in Hawai'i, where COG (Children's Oncology Group) clinical trials are only available at the children's hospital, and not available in the many adult oncology centers.

AYA survivors of childhood cancer who have completed treatment also face unique issues. They face the possibility of relapse during their AYA years, and upon a relapse, may not be able to be treated in a setting capable of providing continuity of their medical issues from their initial treatment through the relapsed treatment plan. Adult survivors of childhood cancer can have unique medical and psychosocial long term effects including cardiac toxicities, fertility issues, and decreased cognitive functioning from the treatment or the cancer itself. These effects are not well understood in general, but in particular, not typically addressed or even recognized in adult clinic settings.

Zebrack et al., surveyed AYA cancer patients on their healthcare needs and found that AYA individuals ranked their number one treatment related need as the availability of a multidisciplinary team of doctors who are knowledgeable about specifics of AYA treatment. Thus to improve survival and quality of life of the AYA individual, a better healthcare infrastructure for AYA oncology must be built. There is a national movement directed from the NCI, which encourages its pediatric COG oncology members to develop AYA oncology program initiatives within their communities. The mission of these programs is to provide access to multidisciplinary, patient-centered, and age-specific clinical and research expertise in a unified setting. There have already been several successful programs at high profile institutions, including at the Dana Farber Cancer Institute at Harvard University.

Currently however, there are no AYA programs, clinics or initiatives in Hawai'i. This leaves AYA patients in Hawai'i and the Pacific Basin with no consistent healthcare resources that are specialized and appropriate for their oncology needs. Hawai'i needs to develop a specific AYA program so referrals can be streamlined to a multidisciplinary team, which will provide:

- *access to clinical trials, especially COG and other NCI sponsored clinical trials;*
- *for the overall medical, educational and psychosocial needs of AYA patient;*
- *connections between patients with appropriate supportive services;*
- *educational materials addressing topics such as fertility, insurance, work, school, parental involvement pertinent to AYA*
- *AYA support groups*
- *research on quality of life, cancer control, survivorship and fertility*
- *general advocacy for their needs.*

In Hawai'i, one of the obstacles to developing an AYA program is the lack of infrastructure to support a faculty-based team of dedicated oncologists. Currently, oncologists in Hawai'i practice in various business settings scattered among solo private practices, private group practices, hospital-employed groups and other situations. In order for Hawai'i to begin development of an AYA program, dedicated AYA oncologists need to be brought together as a faculty-based team under the Cancer Research Center of Hawai'i. After such a faculty-based practice is implemented, an AYA program in Hawai'i can be developed to serve the needs of our community.

For more information on the Cancer Research Center of Hawai'i, visit [www.crch.org](http://www.crch.org).

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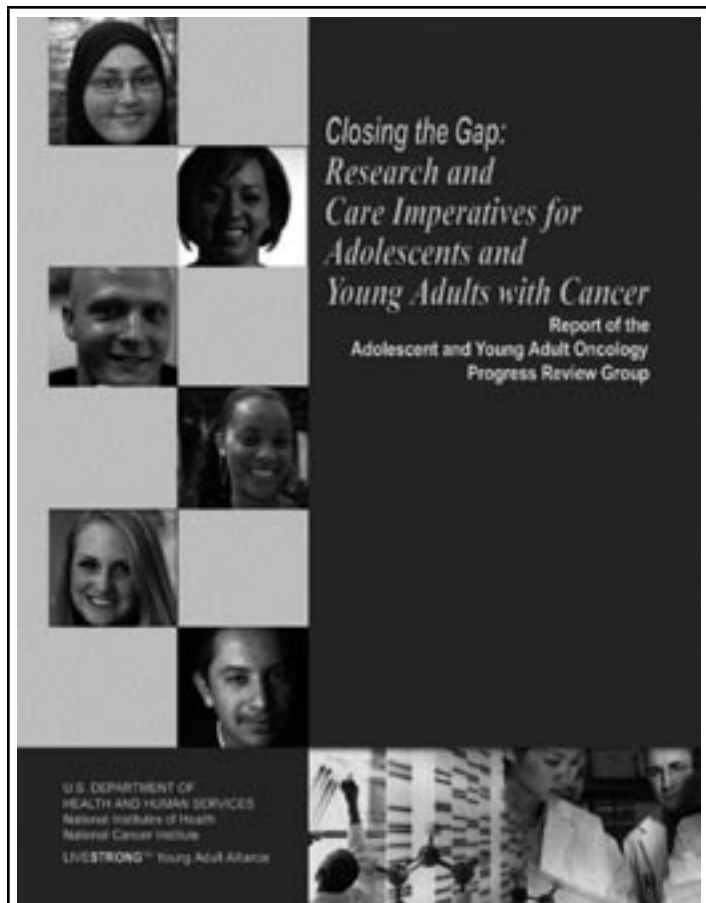


Figure 1.—A first of its kind progress report by the NCI and the LanceArmstrong Foundation, 'Closing the Gap' (1) summarizes the problems, and outlines recommendations and initiatives so that we can bring the unique issues of AYA oncology to the national limelight.

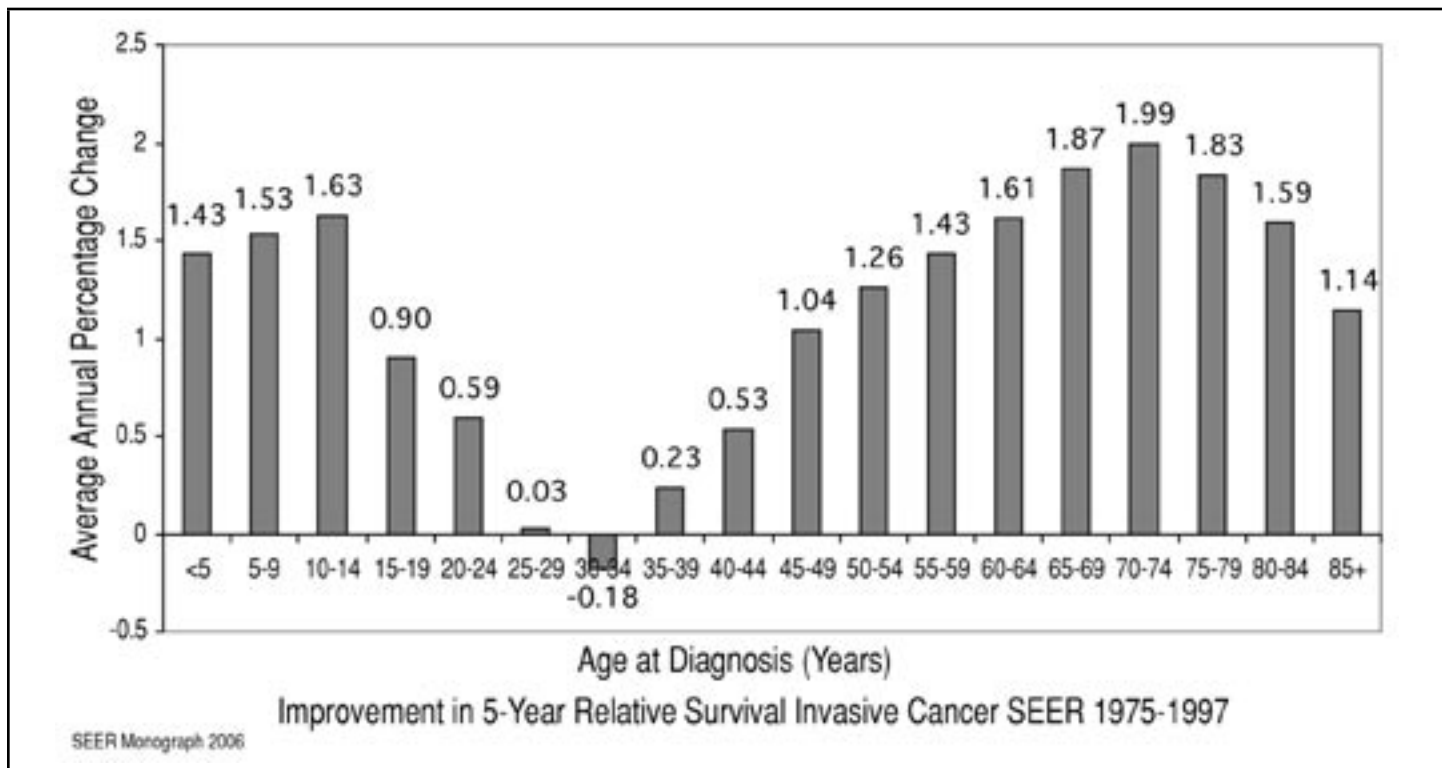


Figure 2.—AYAs have not made the gains in survival seen in younger and older cohorts over the last two decades.

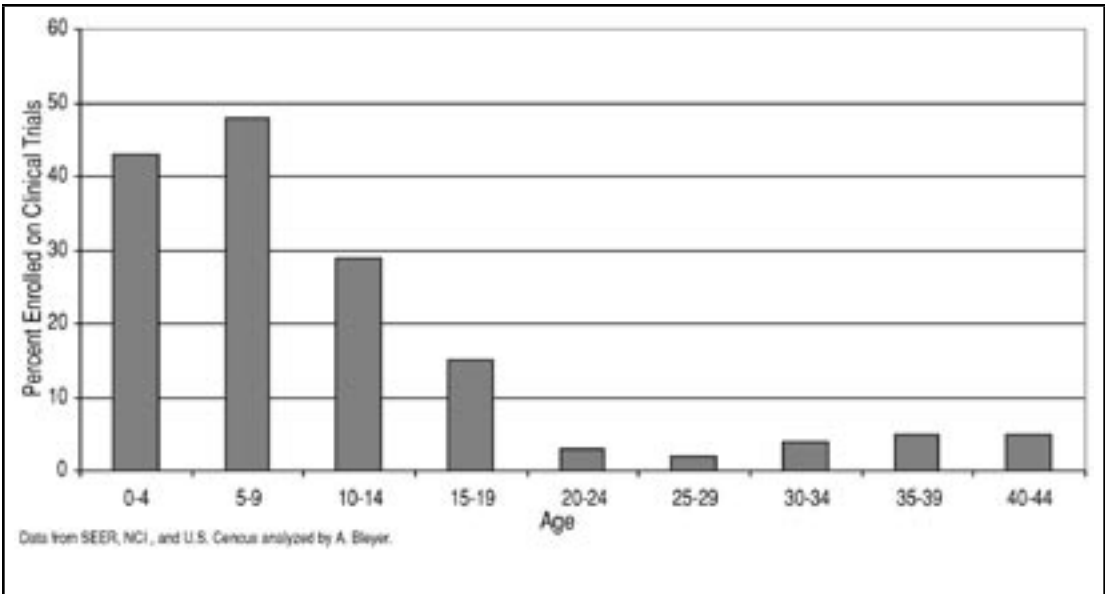


Figure 3.— Decline in clinical trials participation in AYA cohorts compared to younger, and older cohorts.

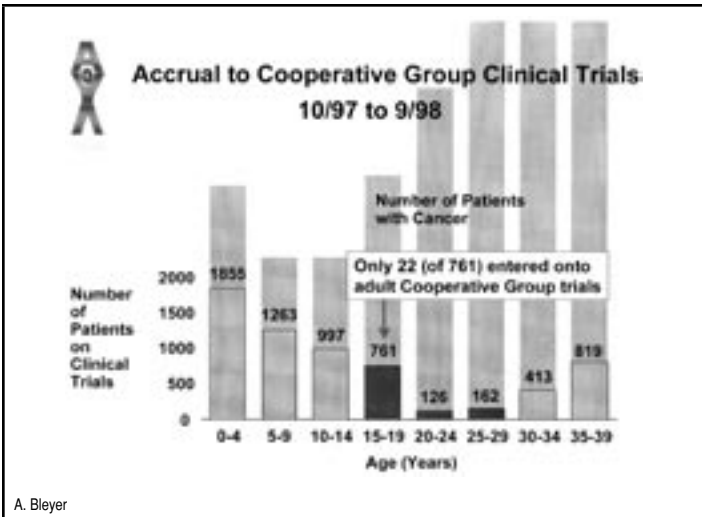


Figure 4.— AYAs have the lowest rate of accrual to Cooperative Group Clinical Trials, when compared to children and adults immediately older than them.

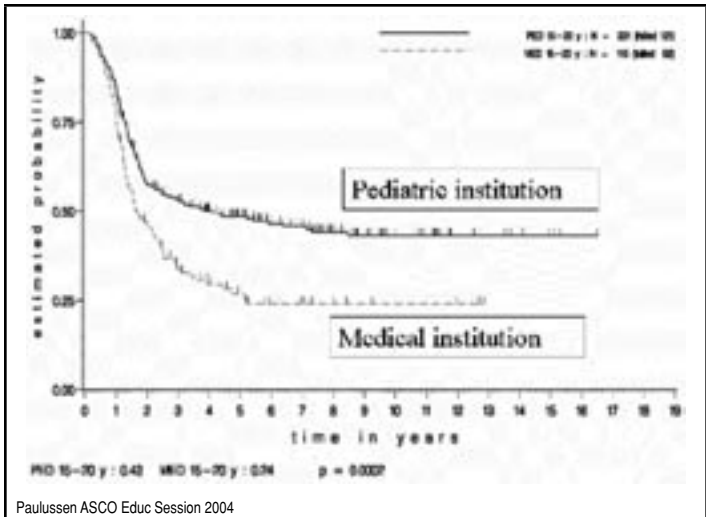


Figure 6.— Disparity in Outcomes in Ewing's Sarcoma among AYA patients ages 15-20 years old being treated at a pediatric versus medical institution.

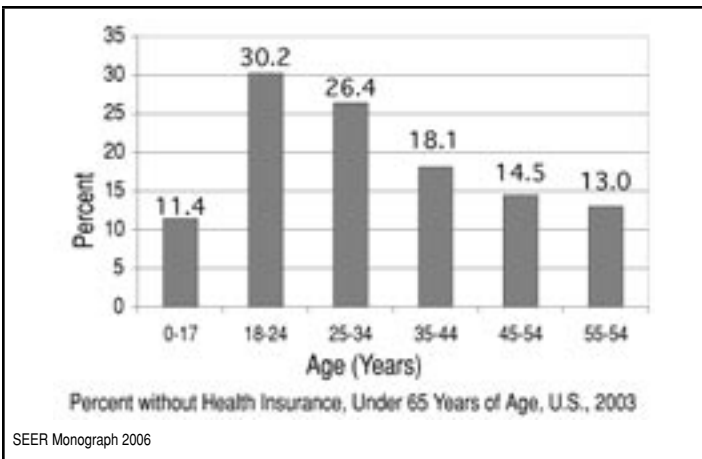


Figure 5.— AYAs have the highest rate of having no health insurance compared to all other age groups.

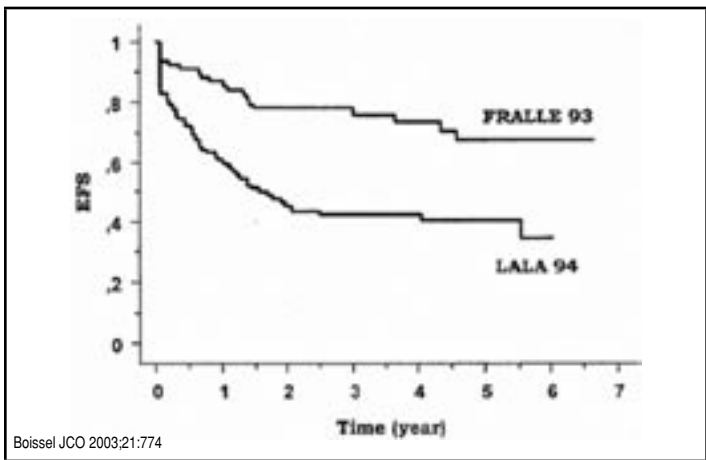


Figure 7.— AYA patients between 15-20 years old with Acute Lymphoblastic Leukemia have a better survival when treated according to pediatric clinical trials, compared to medical trials.

# UPCOMING CME EVENTS

Interested in having your upcoming CME Conference listed? Please contact Nathalie George at (808) 536-7702 x103 for information.

Date	Specialty	Sponsor	Location	Meeting Topic	Contact
<b>May 2009</b>					
5/11-5/12	ADM, ADP, P	Department of Psychiatry, John A. Burns School of Medicine	Ala Moana Hotel, Honolulu	2009 Hawaii Addictions Conference	Tel: (808) 586-2904
5/16-5/17	OBG	Department of Obstetrics, Gynecology and Women's Health, John A. Burns School of Medicine and Ian Donald Interuniversity School of Medical Ultrasound Hawai'i	Ala Moana Hotel, Honolulu	Contemporary OB/GYN Ultrasound: Recent Advances and Clinical Practice	Tel: (808) 203-6563 Email: treevesman@ucera.org
5/21-5/22	IMG	Department of Geriatric Medicine, John A. Burns School of Medicine	JABSOM, Honolulu	Health Literacy and the Older Adult: A Seminar Series	Tel: (808) 523-8461
5/23-5/24	Multi	Philippine Medical Association of Hawai'i	Ihilani Resort & Spa, Ko 'Olina	The Joy of Doctoring: Medicine from Bench to Bedside	TBA
<b>June 2009</b>					
6/19-6/20	OBG	The Queen's Medical Center	Halekulani, Honolulu	High Risk Obstetrics Conference	Tel: (808) 547-4406 Email: cme@queens.org Web: www.queensmedicalcenter.net
<b>July 2009</b>					
7/26-7/31	Multi	Kaiser Permanente	Grand Wailea Hotel Resort & Spa, Maui	17th Annual Update in Orthopaedics	Email: cmxtravel@cmxtravel.com Web: www.cmxtravel.com/kpor_2009/
7/31-8/1	Multi	The Queen's Medical Center	Hilton Hawaiian Village, Honolulu	Hawaiian Islands Trauma Symposium	Tel: (808) 537-7009 Email: cme@queens.org Web: www.queensmedicalcenter.net
<b>October 2009</b>					
10/20-10/24	Multi	American Society of Human Genetics	Hawai'i Convention Center, Honolulu	2009 Annual Meeting	Web: www.faseb.org/genetics/ashg
10/27-11/1	CHP	American Academy of Child and Adolescent Psychiatry	Hilton Hawaiian Village, Honolulu	56th Annual Meeting	Tel: (202) 966-2891
10/25-10/28	OBG	Central Association of Obstetricians & Gynecologists	Maui, Hawai'i	2009 Annual Meeting	Tel: (701) 838-8323
10/26-10/30	AN	California Society of Anesthesiologists	Grand Hyatt, Poipu Beach, Kaua'i	2009 CSA Fall Hawaiian Seminar	Web: www.csaahq.org
<b>November 2009</b>					
11/21	Multi	Hepatitis Support Network of Hawai'i	Queen's Conference Center	Viral Hepatitis in Hawai'i 2009	Tel: (808) 373-3488 Web: www.hepatitis.idlinks.com
<b>February 2010</b>					
2/11-2/12	Multi	Department of Surgery, John A. Burns School of Medicine	Hyatt Regency Waikiki	Cross-Cultural Health Care Conference: Collaborative and Multidisciplinary Interventions	Tel: (808) 586-2920



# THE WEATHERVANE

RUSSELL T. STODD MD, CONTRIBUTING EDITOR

## ❖ AGE IS A VERY HIGH PRICE TO PAY FOR MATURITY.

With much improved care for glaucoma and excellent surgical remedies for cataracts, the number one ophthalmology challenge for our baby-boomer population is age-related macular degeneration (AMD). A recent issue of Archives of Internal Medicine presented a study (funded by the National Eye Institute) of data collected over a seven year period at Brigham and Women's Hospital in Boston from 5,200 women. The author, William Christen, M.D. associate professor of internal medicine, concluded that a daily combination of folic acid, vitamins B6 and B12, reduced the possibility of developing AMD by 41% when compared with a placebo. The theory is that high levels of homocysteine, which has been related to AMD, are reduced with the vitamin combo. The study is seriously flawed in that there are no photos or carefully recorded retinal exams, and data were gathered from participants' questionnaires and medical records. Still, it does make excellent front page reading, and maybe that is what was sought.

## ❖ DON'T BE LED ASTRAY INTO THE PATHS OF VIRTUE DURING THE WINTER.

It was planned as a major rally of civil disobedience on March 2nd when some 2,000+ activists descended on Washington D.C. in an attempt to shutdown the coal-burning power plant that supplies many of the government buildings including the Supreme Court and the Capitol. Green Peace supported the action and House Speaker Nancy Pelosi planned to attend the protest after making a speech the previous week calling for a stop to coal burning to heat the Capitol. Oops! Poor timing. In the worst storm of the winter for Washington, D.C. 10 inches of snow were dumped on the city shutting down office buildings, schools and slowing or cancelling travel. Speaker Pelosi failed to appear because she couldn't get to Washington D.C. The global-warmers waved their banners, shivered in the frigid air then went inside the Capitol to warm up. Wintry conditions prevailed on the eastern seaboard and on into the southeast with snowstorms extending into Alabama and Georgia.

## ❖ SHE WAS SKY DIVING – HORIZONTALLY.

In Wisconsin a law prevents participants in contact sports from suing each other for unintentional injuries, but the law does not spell out which sports are contact sports. A former cheerleader brought a lawsuit alleging that a teammate failed to stop her fall while she was practicing a stunt. She suffered a severe head injury when she fell off the shoulders of another cheerleader. The District 4 Court of Appeals ruled last year that cheerleading does not qualify because there's no contact between opposing teams. On further appeal to the Wisconsin Supreme Court all seven members agreed to overturn that decision. Cheerleading involves "a significant amount of physical contact between the cheerleaders."

## ❖ PREPARE FOR A SHOCKING EPISODE.

In 2004 a study published in the New England Journal of Medicine found that public access to an automated external defibrillator (AED) doubled the chances of patient survival in cardiac arrest events. The heart jump-starter is about the size of a laptop and has saved lives at airports, casinos, health clubs and many public buildings. Stuart Cohen, a crusader for AEDs in San Diego, Calif. donated several units to public buildings and pushed for a city ordinance requiring AEDs in all new commercial construction, including hotels. Cohen collapsed and died while dancing at his daughter's wedding at the Hilton La Jolla Hotel. Physicians in attendance shouted for an AED, but the hotel didn't have one. Expedia Inc. says that of the 53,000 hotels that spell out amenities only 7,000 (13%) list "medical assistance available" (AED), so what is the problem with the other 46,000? As usual, the specter of a lawsuit if the hotel fails to have enough units, or puts them in the wrong location or fails to replace batteries or properly train hotel workers. They worry that Good Samaritan laws aren't adequate and know that courts have typically not required an AED on premises even in a hotel workout room. Fear of the American trial lawyer keeps many hotels from doing the right thing!

## ❖ THERE IS ONE THING IN FAVOR OF SUICIDE: IT NEVER BECOMES A HABIT.

According to court documents, a 72 year-old woman ingested 200 prescription pills in a suicide attempt. Her ex-husband found her unconscious at home and stated that she did not want to be kept alive. She was taken to a hospital where the emergency department physician administered only palliative care. The patient expired three hours later. The Nevada statute, Uniform Act on the Rights of the Terminally Ill, states that in the absence of a written directive from the patient or a designated family, the attending doctor can make the decision to withhold or withdraw life support from a terminally ill patient with consent from a relative. Three years later, the

patient's sons have filed a suit for wrongful death against the ER doc, and for the first time the Nevada Supreme Court sent the case to trial court to decide the scope of the law. The doctor has denied any wrongdoing and his attorney stated that the Court's ruling defies the purpose of the statute. It appears the Supreme Court opened the door for more litigation over end of life care.

## ❖ WARNING! THE VIRUS YOU GOT IN LAS VEGAS WILL NOT STAY IN LAS VEGAS.

In 2006 Merck developed and marketed the vaccine Gardasil as a preventative against certain viruses. By immunizing the female population between the ages of nine to 26 for infection with genital warts and pre-cancerous lesions, many women can be protected from developing cervical cancer later in life. However, the vaccine is necessary before sexual activity so the hard sell is directed at pediatricians and direct-to-consumer TV ads. At a vaccine cost of \$360+ which may not be covered by health insurance, patients are not lining up quite like Merck wants. What to do? Obviously expand the population base! Merck has applied for U.S. regulatory approval for use in boys and young men and also hopes to reach the sub-populations of gay and bisexual men who may be at risk for virus-related rectal cancers. Merck marketing people must convince males that they should be immunized against a disease that may never be evident even if infected, but could cause cancer in someone else, but even if it did it would be impossible to know where it came from. Okay, Merck, can we go over this again please?

## ❖ ANY MAN WHO CAN TEXT WHILE KISSING A GIRL IS NOT WATCHING THE ROAD.

Mayor Hannemann of Honolulu with his keen (?) foresight vetoed the City Council ban on text messaging while operating a vehicle. His explanation was that the law would be impossible to enforce. Perhaps so, but that is a lame perspective, and the same might be said for drunk driving laws. This is an issue which deserves a strong social statement and not a shrug. The American Medical Association House of Delegates disagrees with Mayor Mufi (rhymes with goofy not fluffy). AMA delegates called upon states to prohibit the use of handheld devices to send text messages while driving. "We have a generation of 'text-aholics' in our teenagers. It is worse than driving drunk," said AMA Trustee Peter Carmel, MD, a pediatric neurosurgeon from New Jersey. Seven states – Alaska, California, Connecticut, Louisiana, Minnesota, New Jersey, Washington, and District of Columbia, have laws banning texting while driving.

## ❖ CASUAL SEX IS THE BEST KIND. YOU DON'T HAVE TO WEAR A TIE.

In the realm of "inquiring minds want to know" the Durex condom company conducted a survey of 26,000 people in 26 countries to determine their weekly sexual patterns. According to their data, Greeks have more sex than anyone else in the world and get it on a remarkable 164 times a year or three or four times each week. Sadly, in the good old USA respondents were ranked third-lowest of the 26 nations. Moreover, less than half of Americans describe their sex life as fully satisfying. Additionally, the study found that Brazilians are more into experimentation and in Sweden sex-ed is a serious subject. In Swedish high schools, students are offered classes in kissing, and colleges have elective courses on desire and the ethics of contraception and abortion.

## ❖ THEY ONCE WERE COMPATIBLE.

Eight years ago a doctor in New York gave one of his kidneys to his wife for transplant because she was in kidney failure. Apparently she was so invigorated with his great gift that she has had an affair with her physical therapist. Now they are getting a divorce and as part of the settlement, the ex-husband is demanding \$1.5 million as proper remuneration for his lost kidney since it cannot be returned. "I saved her life. She put a hole in my heart that still exists." Kidney shmdney! It sounds like the doctor needs a cardiac transplant.

## ❖ LET NOTHING GO TO WAIST!

In Beverly Hills, California a former lipo-suction doctor admitted that he used liposuction fat from his patients to create a bio-diesel fuel for his Ford Explorer and his neighbor's Lincoln Navigator. This is a man who should receive an award from the Sierra Club or Green Peace people for imagination and citizenship. He reduced the carbon footprint for both his patient and two automobiles. How green can you get?!?

## ADDENDA

- ❖ Twelve percent of Australian green house gas comes from livestock flatulence.
- ❖ Punxatawney Phil, the groundhog weather predictor, has been right 39% of the time.
- ❖ I always start writing with a clean piece of paper and a dirty mind.

## ALOHA AND KEEP THE FAITH — rts■

*Editorial comment is strictly that of the writer.*

# Ola Pono Ike

## Medical Gala 2009

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 Hyatt Regency Waikiki  
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Join us as we honor the Physician of the Year, HMA and county society president-elects, and exemplary community leaders. A portion of the proceeds goes to the HMA Auxiliary Endowment for JABSOM.



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Table name: \_\_\_\_\_  
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*Sponsorships also available - contact HMA for details.* Mail completed form and payment to HMA by October 5th: 1360 S. Beretania St. #200, Honolulu, HI 96814 or fax to 808-528-2376. Seats also available at [hmaonline.net](http://hmaonline.net) (click "online store"). Tickets will not be mailed; reservations are held at the door. Purchases are non-refundable. One-half of ticket price is deductible as a business expense. Call 536-7702, toll-free 888-536-2792 for more information and to request special dietary needs.