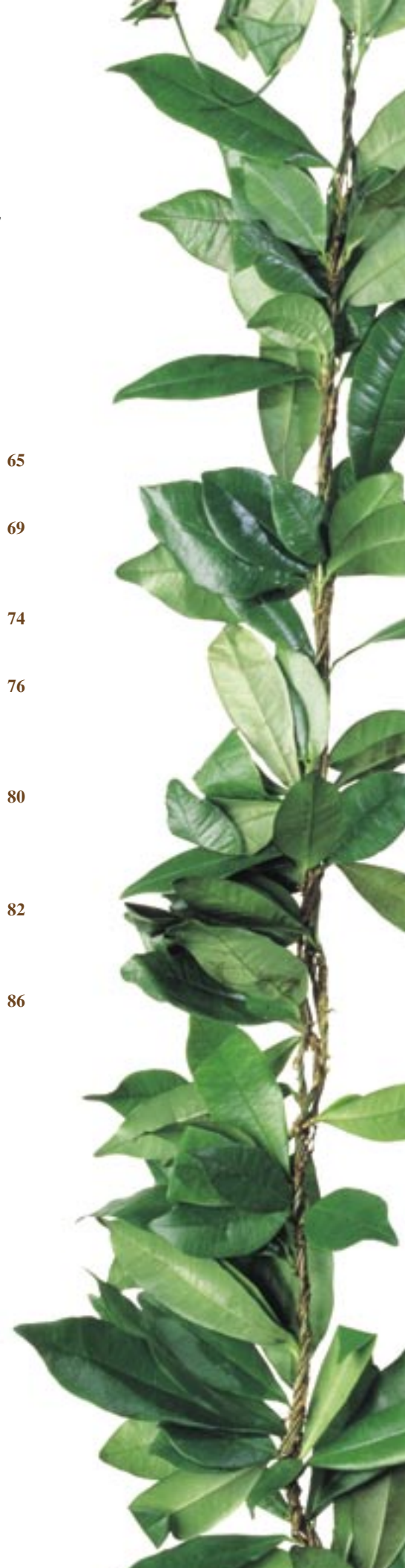




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Cost Benefit Considerations of Preventing Elderly Falls through Environmental Modifications to Homes in Hana, Maui

Christian Ling; Stephen Henderson; Ray Henderson; Malia Henderson; Tina Pedro MS; and Lorrin Pang MD, MPH

Abstract

The community of Hana, Hawai'i began a program of home modifications to help their elderly prevent falls. We estimated the cost benefit of these modifications from construction costs and published reports of effectiveness and cost of treating falls. We interviewed clients to determine risk of falling. The average cost of home modifications was \$800. The average annual averted medical cost of falling was \$1728.

Introduction

For the population older than 65 years of age, on the average falls account for 6% of their medical expenses (\$12,000 annual total, excluding nursing home placements),^{1,2} with the risk of falling about 50% per year.^{3,4} In Hawai'i's senior citizen population, 36% of fatal injuries are due to falls and for every fatality due to a fall there are another 100 seniors requiring hospitalization or emergency room treatment for falling.⁵ Furthermore, research has shown that 20 to 30% percent of those who fall suffer injuries that reduce mobility and independence, as well as increase the risk of premature death.⁶ The decline in the health of elderly following non-fatal falls is such that a significant portion may opt for long-term admissions to nursing homes.⁷ Hospital charges for fall related injury (excluding physicians' fees) average nearly \$60 million a year in Hawai'i.⁵ For those who move to nursing homes after falling there will be an additional average annual cost of \$84,700.⁸ With Maui's elderly population increasing faster than the general population⁹ and medical costs rising faster than inflation, the costs of treating falls is of great importance.

Proven intervention methods capable of preventing falls include risk assessment and follow-up by healthcare practitioners; exercise, strength and flexibility training aimed specifically at fall prevention; and environmental modifications.¹⁰ A comprehensive review of existing studies shows that combining these interventions improves effectiveness.¹¹ The purpose of this study is to estimate the cost benefit of an environmental home modifications program for the elderly living in Hana, Maui. In order to do this the authors reviewed the published medical literature to estimate the effectiveness of

these modifications in preventing falls. Next, the costs that would have been incurred for treatment and nursing home placement of these averted falls were calculated. Finally, these averted costs (savings) were compared to the program costs for the home modifications.

Methods

Overview of the Hana Program

Hana is an isolated, rural community on the island of Maui with a population of approx. 2000. It has a medical clinic with a 3 hour drive to the nearest towns and hospital. The intervention program in Hana, which began about 4 years ago, includes the installation of access ramps (to standard incline specifications), minor floor repairs, and grab-bars for the elderly. The overall goal of the project was to promote independent living and allow the elderly to remain in their homes as long as possible. Although there were no formal medical criteria for prioritizing who would first receive the intervention, the program targeted elderly with a prior history of falls or other factors thought to be associated with falling. The intervention regimen also included some counseling regarding falls and follow-up by community volunteers. The program modified about 20 homes during the first 3 1/2 years. The Institution Review Board of Hawai'i's Department of Health gave ethical approval for the cost benefit analysis portion of this study.

Determining the Effectiveness of Modifications

An estimate of the effectiveness of the intervention program in Hana was based on the report of a randomized study of home environmental modifications by Close et al, showing a 60% reduction in the annual average number of falls per person.¹² The Close program included medical assessment and referrals to address risk factors and home assessment/modification. Of their 184 patients in the intervention group, 73, or approximately 40% of the patients, were found to have environmental hazards as a primary attributable cause for falling. The authors adopted 60% effectiveness for reduction in falls based on the similarity to Close's intervention though there were some minor differences between the two programs. More importantly both programs provided

This investigation is part of evaluation efforts of the Maui Long Term Care Partnership, which is implementing a strategic plan to improve long term care services on Maui. Maui Long Term Care Partnership is an integral part of Community Partnerships for Older Adults (CPFOA)—a national program of the Robert Wood Johnson Foundation.

Author's Affiliations:

- Undergraduate Boston University (C.L.)
- Undergraduate Stanford University (S.H.)
- Hana community agencies (R.H., M.H.)
- Volunteers (T.P.)
- Health Officer, Maui Department of Health (L.P.)

Correspondence to:

Lorrin Pang MD, MPH
166 River Road
Wailuku, HI 96793
Ph: (808) 984-8200
Fax: (808) 984-8222
Email: panghi@hawaii.rr.com

home assessments, education, installment of modifications (including ramps), and follow-up.

Calculating the Inherent Cost of Falling in Hana's Study Group

Studies show that each year the average person over 65 years of age has about a 50% chance of falling;^{3,4} and will spend 6% of their total medical costs for the treatment of falls.^{1,2} Because programs for preventing falls often prioritize high risk groups, each program's target population should be assessed for its own specific risk factors. Studies have been done that examine the increased risk of falling for a variety of factors such as leg weakness, arthritis, visual deficits, prior history of falls, etc.^{10,13,14} Furthermore, these risk factors interact multiplicatively, rather than additively.^{15,16,17} For example, with no risk factors there is a 10% chance of falling. If being >80 years of age has a 20% chance of falls and having an impaired gait has a 30% risk, then having both these factors would result in a 6 fold increase in risk (60%) compared to the baseline of 10%, with a corresponding 6 fold increase in medical costs for treating falls. The authors conducted interviews for risk factors among all of the Hana elderly (primary client and relatives) living in homes which had been modified by the Hana (Maka Hana Ke Ike) program. Results of these interviews were used to calculate the increased risk of falls in Hana subjects.

The formula for averted costs is as follows:

(Average cost of falls in elderly) x (average increase risk of falling in Hana clients) x (effectiveness of intervention) = Average Averted Fall Related Costs of Hana client

Averted costs will vary greatly depending on how prone one's target group is to falling. To get an idea of the variation (sensitivity analysis) of averted costs this study examines the change in averted costs for hypothetical populations with different risk factors.

Nursing Home Costs Related to Falls

Elderly who fall are more likely to have long-term admissions to nursing homes.⁷ Tinetti found that 12% of a community identified cohort of elderly over 72 years of age had long term (more than 2 weeks) nursing home placement during the 3 year follow-up period. Of this group, 26% was attributable to falls. The population had a median stay of about 0.7 year (half stayed 135 days and a third stayed at least 1.5 years [censored results after this]). What makes extrapolation of Tinetti's results difficult is that the willingness to be admitted to nursing homes (availability, costs and location) for her community of New Haven during the early 1990's may be very different than that of Hana's populations today. The authors' formula for estimating elderly nursing home costs that are averted due to fall prevention intervention is as follows:

(relative risk of falling)_H x (effectiveness of intervention) x (annual % of nursing home placements from falls)_{NH} x (relative willingness to go to nursing home between Hana and New Haven)_{H/NH} x (average duration of stay)_{NH} x (average cost of nursing home stay per year) = Average averted fall related cost of nursing home

** Subscript H denotes Hana, NH denotes New Haven

In the above formula, ideally, all factors should be determined for each program but those marked with the subscript "H" are very program specific and were evaluated for Hana. Anecdotal reports indicate that the remote and highly independent nature of the Hana community made it unlikely that any would be willing to stay long term in nursing homes (none of which are in Hana). Furthermore, long term nursing home placements are typically for very advanced illness/incapacitation and often the total costs (and hence averted costs) are minimal due to rapid decline and death.

Investment and Return

Typical of health economic models the "return" (at some point in time) is the sum of what remains of the initial investment plus the averted health costs. Sometimes the investments are "consumed" and other times, as in the case of home modifications in Hana, they are still intact. The **difference** between the return and the investment is the "savings" or "profit" and this will be calculated for the average client per year. The **ratio** of the investment to return, the I:R ratio, is another common term used to compare and prioritize one's potential investments among different programs. Both the difference and the ratio of the average investment and return are calculated here.

Results

When the cost benefit evaluation was started the program for home modifications had affected 18 elderly (> 65 years of age), 2 of which were spouses of the primary client. Of these 18 subjects at the time of the interview, 2 had passed away and 1 refused to be interviewed. Mean (SD) age was 72 (7.4) years. Sixty percent were female. The mean number of years clients had lived in Hana was 61 (21) years. The percentages of clients that would be willing to be placed in a nursing home (only available outside of Hana) if needed were: 80% never, 13% maybe, and 7% undecided. The type of health insurer (not mutually exclusive) was: 47% Medicare, 20% HMSA, 13% Medicaid, 6% Kaiser, and 20% unknown. The types of modifications (not mutually exclusive) completed were: 67% ramps, 53% grab bars, 36% other changes (floor leveling, step adjusting, etc.). Published reports of risk factors for falls in the elderly are relative to a baseline rate of about 10% chance of falling per year with no risk factors.¹⁰ Along with this, the profile of Hana clients is listed in the Table.

When calculating the multiplicative effect of an individual's risk factors, for those with both leg weakness and gait abnormalities (60%), only the relative risk of leg weakness was tallied, since these two factors seemed redundant. The average relative risk was 212%, about 2 falls per year (480% if one tallied leg weakness and abnormal gait as independent). According to the formula for averted costs of the methods and references in the introduction (1-4) the average elderly (general population) spends \$720 per year for falls, corresponding to an annual risk of falling of 50%. From the interviews for risk factors of falls, the study population has an average risk of falling of 212% (2 falls per year), about a 4-fold risk. This 4-fold risk corresponds to a 4-fold cost of falls for the study group. This corresponds to 4 X \$720 = \$2880. With the published efficacy of the intervention at 60%, the corresponding averted cost in our study population would be 60% X \$2880 = \$1728.

In an attempt to independently verify the published efficacy of the intervention subjects were also asked to recall the number of times they fell before and after the intervention. Although these interviews were done at the time of the risk factor interviews, the interviewers did not know the increased risk associated with each factor and in this sense were “blinded” to the calculated results. The median number of falls was 2 before and none after. Six reported reductions in falls, 5 reported no falls before or after, and 4 reported falling but no change in number after modifications.

Modifications are considered to be permanent; having an effect until clients leave their homes (pass away or move). Labor and material costs (includes 3 homes modified after cost benefit survey was initiated) are listed as follows:

- Total Cost of Materials: \$11,400
- Total Cost of Labor: \$3,800
- Total Cost: \$15,200
- Number Of Houses Served: 19
- Average Cost: \$800

With an average investment of \$800 and an averted cost of \$1728, the savings (profit) per year is \$1728 and the I:R ratio is $\$800/(\$800+\$1728) = 1:3.2$. It must be noted that this “investment” returns savings immediately after modifications are completed. Furthermore, the intrinsic value of such a program (allowing for annual **reinvestment** into the program) would grow exponentially on a yearly basis – so that after, for example, 5 years the return for every dollar invested is about $3^5 = 243$.

The I:R ratio varies depending on how prone the target group is to falls per the following “sensitivity” analysis. If the target group reflected extremely healthy elderly with no risk factors their chance of falling (and costs) are only 10%, a fifth of the average, with an I:R ratio of 1:1.1. If the study had targeted an average elderly population with a 50% chance of falling then the I:R ratio would be 1:1.5. On the other extreme, if each of the high-risk Hana clients had one additional risk factor (doubling their risk of falling) then the I:R ratio would be 1:5.

Nursing Home Averted Costs

Based on the formula in the Methods section the averted cost of nursing homes is:

$$(218\%/50\%) \times (60\%) \times (12\%/3 * 26\%) \times (\text{relative willingness for nursing home placement between Hana and New Haven})_{\text{H/NH}} \times (.7 \text{ year}) \times (\$84,700/\text{yr}) = \$1400 \times (\text{relative willingness for nursing home placement between Hana and New Haven}).$$

Table		
Risk Factor	Relative Risk	Hana Clients (%)
None	1 (10% chance per year)	6%
Psychoactive Medications	1.5	47%
Depression, Cognitive Impairment & >80 yrs. old	2	0%, 13%, and 20%
Functional Impairment, Visual Deficit, Arthritis & Prior History of Falls	2.5	47%, 20%, 33% and 60%
Impaired Gait or Balance	3	67%
Identifiable Leg Weakness	4	73%

One can assume Hana clients are not as likely as those in New Haven to be placed in nursing homes so the maximum value of the average averted nursing home cost is \$1400 per year (per client). If it is likely that fewer (compared to New Haven) are placed, or that once placed they leave/pass away quickly, then the averted costs are that much smaller.

Discussion

As the population ages and health care costs rise falls become a more costly part of aging. More studies are being conducted to examine interventions to prevent falls in the elderly. Home modifications are popular because they are easily understood by all and often seen as a key step to enabling a person to age in an environment of their choice (i.e., home). In spite of this, the authors found no published reports of randomized trials comparing costs of intervention to costs of averted falls, the “bang for the buck”. Smith and Widiatmoko constructed a mathematical model for examining the cost and effect (falls prevented) of environmental modification for preventing falls in the elderly.⁴ Compared to the Hana study, they described (for Australia in 1998) lower costs and lower effectiveness of intervention. Moreover, there was enough background data enabling the Hana study to calculate their I:R of 1:1.1 for their average elderly with a risk of falling of about 50% per year. This was a lower return than what was found for Hana’s costlier but more effective intervention, adjusting for a group with an average risk of falling (1:1.5). The higher return can be attributed to the fact that over the last decade health care costs have risen higher than the costs of material and labor for home modification programs.

Based on our estimates of a program conducted in the rural community of Hana, Hawai’i, the cost:benefit ratio is favorable. Specifically, there was an average of \$1728 in averted annual fall-related medical costs per senior. When compared to the average cost of \$800 per household for environmental modifications, the cost:benefit ratio is about 1:3 per year. The returns begin the **first** year after completion of the modifications and grow exponentially thereafter if reinvestment is considered. Not only can this program be self-sustaining but it should be self-expanding. The attractive components of this program are: 1) the high and rapid rate of return; 2) that environmental modifications can be quickly completed (within a week); 3) the relatively low capital investment; and 4) the fact that there is wide community acceptance for such measures to help them age in place. A model for estimating averted nursing home costs was also prepared because there are other communities in Hawai’i with easy access to nursing homes. Many claimed that averted nursing home costs would far outweigh treatment costs. This was not found to be the case, especially in Hana.

In addition to the dollars saved in medical costs there are very important, non-quantifiable benefits associated with fall prevention that this study does not attempt to account for. Often, these types of concerns are the community’s primary reason for initiating projects. These benefits include increased independent

living (aging in place, not being a “burden” on family and friends); confidence to be more active; reduced pain/suffering associated with falls; and reduced anxiety associated with fear of future falls. All these benefits can improve a senior’s “quality of life”. Future studies which try to incorporate these types of quality/ethical issues into cost:benefit terms might consider using a “willingness to pay” model.

There were some shortcomings in this study. The model does not account for an estimate of the “dropout” rate from the program as subjects move out of their homes or pass away. In this respect one overestimates the value of the program. But if the reasons for dropouts are for deteriorating health (or death), then the risk of falls will rise significantly during the final months/years at home. For most cohorts of clients (except for improvement post stroke) the risk of falling rises over time. This will increase the averted costs and value of the program, somewhat compensating for the overestimate due to not accounting for dropouts. The study was based partly on reports of others (risk factors, effectiveness of interventions, costs of falls, etc.) and partly on gathered data (risk factors for falls, willingness to go to nursing home, costs of intervention). Ideally one should study a large program, involving hundreds of clients randomized to treatment and control groups and rely **only** on observations to generate cost:benefit data. Such programs are expensive and time consuming and there is reluctance to begin such a wide scale effort without at least a preliminary indication of a favorable cost:benefit ratio. That is the intent of this publication, along with suggestions how to maximize the benefits.

Public health practitioners approach a cost:benefit model by first considering the net saving to ALL sectors of society. If there are savings to be realized one can then allocate (or reallocate) the investments and saving to different entities. Obviously, if the ones investing do not get a return to cover, and hopefully expand, a successful program the project will not be “sustainable”. When pilot projects are done, as in the case of Hana, it is probable that the ones investing are not the ones saving (benefiting from averted medical costs). The next challenge is to convince those who are saving to subsidize or reinvest, if not for ethical reasons then for economic self interest. These types of negotiations must occur at a high enough level to either 1) realize that investments and savings are ultimately coming from the same source or 2) convince those benefiting from savings to help fund the investors. The incentive behind these arguments will be the sustainability of a program which could be profitable to everyone. Valid arguments against such programs include funding alternate programs with more attractive cost:benefit ratios.

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Suicidal Behavior Trends in a Pediatric Population in Hawai'i

Ronald C. Magat MD and Anthony P.S. Guerrero MD



Ronald C. Magat MD



Anthony P.S. Guerrero MD

Abstract

In this retrospective 2-year study, the clinical and demographic characteristics of pediatric patients in Hawai'i evaluated for suicide attempts (or possible suicide attempts) at a local children's hospital were examined. Our intentions were to uncover any trends in this unique, culturally diverse population that has not been studied extensively. Sixty-five patients were identified, of which 86% were girls with the highest age demographic at 15-16 years of age (34%) and medication overdose the most common mechanism. Ethnicity trends could not reliably be ascertained. The circumstances surrounding the suicidal behavior; adjustment disorder being a common diagnosis; and approximately half of the population not intending to complete suicide suggests possible impulsivity. Thus, the results have the potential to direct interventions for community suicide prevention programs in Hawai'i, with a focus on coping strategies and medication overdose education.

Introduction

Suicide and suicidal behavior is a significant and growing problem in children and adolescents. Much media attention has recently been focused on this concern, in part due to the "black box warning" related to possible increased suicide risk with the use of selective serotonin reuptake inhibitors in the pediatric population. In the United States, suicide is the fourth leading cause of death among all children and the third leading cause of death among children 10-19 years of age.¹ In addition, suicidal ideation and suicide attempts outnumber completed suicides. Thus, the overwhelming proportion of youths who attempt suicide do not die from their attempts but may require general medical hospitalization and subsequent consultation with a mental health professional and/or admission to an inpatient psychiatric facility.

In Hawai'i, suicide is the second leading cause of death among adolescents.² The population in Hawai'i is unique in terms of its cultural diversity: there is no ethnic majority, over 60% are Asian or Pacific Islander, and a high proportion are a mix of two or more races. According to the U.S. Census,³ Native Hawaiians and part-Native Hawaiians (the term "Native Hawaiians" refers to the indigenous peoples of the Hawaiian Islands) comprise the second largest ethnic group (23%) in the state, followed by Japanese (17%), and Filipinos (14%). Seventy percent of the population for the state of Hawai'i resides in the City and County of Honolulu, which is the focal location of this study.⁴

There is evidence that adolescents in Hawai'i may present with special mental health concerns. Native Hawaiian adolescents have a higher risk for suicidal behavior than adolescents from other ethnic groups.^{5,6} Furthermore, Native Hawaiian adolescents, especially girls, have significant levels of depression, anxiety, conduct disorder and substance abuse when compared with non-Hawaiians.^{6,7,8} In a meta-analysis, Andrade et al showed that Native Hawaiians "follow similar trends of psychopathology as Native American and other high-risk youth in America."⁷ Yuen et al proposed that acculturative stress may be an important risk factor for suicide among Native Hawaiian adolescents.⁶

As limited research has been done on the suicidal trends among adolescents in this population, this study seeks to describe clinical and demographic characteristics of patients in Hawai'i needing general medical care at the tertiary women and children's hospital, serving the majority of pediatric patients in the state. The goal of this study was to uncover any trends in this population (e.g. most frequently used mechanism, over-/underrepresented ethnic or gender groups) that may have implications for preventive interventions. The authors hypothesized that the clinical characteristics of Hawai'i youth hospitalized for self-injurious behavior would be similar to those of youth hospitalized elsewhere. Specifically, studies done in Bahrain,⁹ Fiji,¹⁰ Israel,¹¹ Poland,¹² Saudi Arabia,¹³ and the United Kingdom demonstrated overall female over-representation and significant use of acetaminophen as a drug of overdose.¹⁴ It was also hypothesized that there may be trends in over-representation of certain ethnicities that may be at risk for suicide (e.g. Native Hawaiian youth).

Methods

Charts of patients admitted or evaluated for suicidal behavior at Kapi'olani Medical Center for Women and Children (KMCWC), which is the state's only tertiary children's hospital, located in Honolulu County, were retrospectively reviewed. This hospital provides general medical inpatient and emergency services for children and adolescents in Hawai'i. While it does not have an inpatient psychiatric unit, it provides general medical care for children and adolescents with psychiatric concerns but needing hospitalization for acute general medical concerns. A 24-hour, 7-day per week

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Authors' Affiliation:

- Child and Adolescent Psychiatry Fellow, Emory University School of Medicine, Atlanta, GA 30322 (R.C.M.)
- Department of Psychiatry, University of Hawai'i John A. Burns School of Medicine, Honolulu, HI 96813 (A.P.S.G.)

Correspondence to:

Anthony Guerrero MD
Department of Psychiatry,
University of Hawai'i
John A. Burns School of
Medicine,
Queen's University Tower,
4th Fl, 1356 Lusitana St.,
Honolulu, HI 96813;
Ph: (808) 586-2900
Fax: (808) 586-2940
E-mail: guerreroa@dop.
hawaii.edu

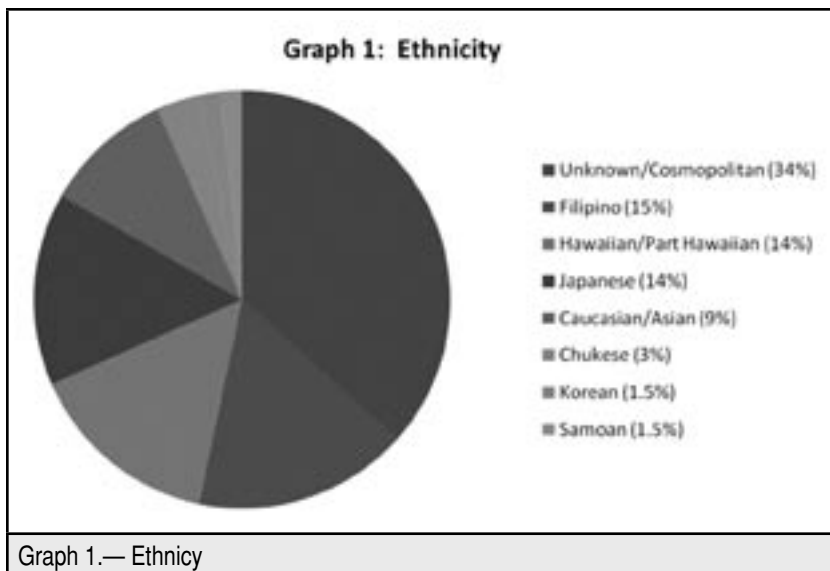


Table 1.— Demographic Characteristics of Sample

	Number	Percentage
Gender		
Boys	9	14%
Girls	56	86%
Total	65	100%
Age (mean = 14.9 years)		
5-6 years	1	1.5%
7-8 years	1	1.5%
9-10 years	0	0%
11-12 years	3	5%
13-14 years	20	31%
15-16 years	24	37%
17-18 years	16	24%
Total	65	100

Table 2.— Means of Suicidal Behavior (Intended vs. Non-intended/ambivalent)

Mechanism of self-injurious behavior (N=65)	Number and percentage among those with suicidal intent (n=27)		Number and percentage among those without suicidal intent or who were unclear or ambivalent about their intentions (n=38)	
	Number	Percentage	Number	Percentage
Medication overdose (all medications)	24	37%	28	74%
Acetaminophen overdose	14	22%	12	32%
Other medication overdose	10	15%	16	42%
Cutting on self	2	3%	7	10%
Jumping or threatening to jump	1	2%	2	3%
Other			1	2%
Total	27	42%	38	58%

consultation service provides behavioral health care to such patients.

Over a 24-month period (July 2003-July 2005), the medical records of all suicidal and potentially suicidal (e.g., presenting with self-injurious behavior) pediatric patients (age 18 years and under) as initially evaluated by the Kapi'olani Behavioral Health Service (KBHS) Consultation and Liaison team were examined. All consultations within this period were manually reviewed, and any consultation request for suicide attempts, ideation, or behavior was included in this study. Copies of all consultations encompassing this time frame had been archived in a file cabinet at the KBHS clinic. Gathered data obtained from each of the charts were as follows: age, gender, ethnicity (as described in either the demographic face sheet or the consultant's report), mechanism of self-injurious behavior, presence of suicidal intent, circumstances surrounding event, psychiatric diagnosis given by the initial consultant, past psychiatric and other relevant history (including past suicide attempts, diagnoses, treatments), location of patient at the time of consultation (e.g., intensive care unit, general wards, emergency department), substance use history, and history of abuse (physical, sexual). The Hawai'i Pacific Health Institutional Review Board approved the procedures of this study.

Data collected and organized into the following descriptive categories and calculations: percentage boys and percentage girls; mean age; percentages (of the total sample) in each age group (5-6, 7-8, 9-10, 11-12, 13-14, 15-16, and 17-18 years old); percentages of each ethnicity; percentages endorsing versus denying suicidal intent; types and percentages of self-injurious behavior (e.g., overdose); specific self-injurious behaviors for the male population (felt to be at higher risk for completed suicide); types and percentages of mental health services received; types and percentages of mental health diagnoses; percentages endorsing a history of alcohol or illicit substance abuse; percentages endorsing a history of physical or sexual abuse or neglect; and types and percentages of precipitants of self-injurious behavior.

Results

Sixty-five patients with self-injurious behavior needing behavioral health consultation were identified over a 24-month period. Fifty (76%) were admitted to the inpatient wards (including the ICU) and 15 (23%) were seen in the emergency department and subsequently discharged.

As shown in Table 1, the majority of patients (86%) were female and adolescents (mean age = 14.9 years) as opposed to children. The highest percentage represented among the age categories was the 15-16 year age group. Ethnicity was difficult to determine from the information available, but the percentages based on available data are shown in Graph 1. Twenty-seven (42%) endorsed

intent to kill themselves, 32 (49%) denied suicidal intent, and 6 (9%) did not clarify their intent.

The overwhelming majority of self-injurious behavior was medication ingestion, with 52 patients (80%) taking medication or a combination of agents. Two of the whole sample (3%) engaged in other forms of self-injury *in addition to* medication ingestion (cutting arms, and carbon monoxide poisoning and drowning self). Other means of self-injury or potential self-injury included: cutting on self (n=7, 11%), jumping or threatening to jump (n=3, 5%), binge drinking (n=3, 5%), or stating they wanted to kill themselves (n=2, 3%) (Table 2).

Of note, in the subpopulation of the 52 patients that took medication, 27 (51% of the 52, or 41% of the whole sample) took acetaminophen. The mechanisms of self-injury present in the subpopulation of pre-adolescent age (≤ 11 years) sample were jumping, threatening to jump, and cutting one's face with the eraser end of a pencil. Regarding gender trends: among the girls, 84% (n=46) overdosed, while among the boys, 44% overdosed (n=4). Other mechanisms of self-injury (or threatened self-injury) among the boys included jumping or threatening to jump from a height (n=3), cutting a wrist (n=1), and stating intent but no specific plan (n=1).

Forty-two (65%) had a history of having received mental health services, ranging from therapy from a school counselor to multiple psychiatric hospitalizations, psychiatric medications, and intensive outpatient therapy. Twenty-three (35%) did not have a prior history of mental health treatment. Seventeen (26%) had a previous history of suicide attempts or suicidal behavior, primarily medication ingestion and/or cutting (one had a history of attempted hanging).

Twenty-two (34%) patients had 2 or more Axis I and/or Axis II diagnoses according to the Diagnostic and Statistical Manual of Mental Disorders 4th Edition (DSM-IV). The most common diagnoses on preliminary evaluation were depressive disorders, present in 29 (45%) of the patients. Among the depressive disorder diagnoses, Depressive Disorder Not Otherwise Specified (NOS) (n=15, 52%) was the most common, followed by Major Depressive Disorder (n=10, 34%), Dysthymic Disorder (n=2, 7%), Alcohol-induced Mood Disorder (with depression) (n=1, 3%), and "double depression" (Major Depressive Disorder plus Dysthymic Disorder (n=1, 3%). Adjustment disorder (n=19, 29%) was common as well, but specific features were not documented. Six patients (9%) had an anxiety disorder. Five patients (8%) had a substance use disorder diagnosis or possible substance use disorder diagnosis (four involved alcohol, one involved alcohol and marijuana, and the other was unspecified substance abuse). Two patients were diagnosed with alcohol abuse and intoxication, and, of interest, neither expressed any intent to kill themselves. Further details are listed in Table 3. Separate from a formally diagnosed substance use disorder, 17 patients

Diagnosis	n
Adjustment Disorder	19
Depressive Disorder NOS	12
Major Depressive Disorder	7
Anxiety Disorder NOS	2
Mood Disorder NOS	3
MDD and Alcohol Abuse	1
MDD and Anxiety Disorder NOS	1
MDD and Dysthymic Disorder	1
Mood Disorder NOS; r/o Alcohol and Cannabis Abuse	1
Oppositional Defiant Disorder and Dysthymic Disorder	1
Depressive Disorder NOS and Attention Deficit Hyperactivity Disorder and Acute Stress Disorder	1
Delirium	1
Adjustment Disorder and Anxiety Disorder NOS	1
Attention Deficit Hyperactivity Disorder and Oppositional Defiant Disorder	1
Attention Deficit Hyperactivity Disorder and Pervasive Developmental Disorder NOS	1
Conduct Disorder and Dysthymic Disorder	1
Depressive Disorder NOS and Eating Disorder NOS	1
Mood Disorder NOS and Alcohol Abuse	1
Adjustment Disorder and Attention Deficit Hyperactivity Disorder	1
Depressive Disorder NOS and Anorexia Nervosa	1
Adjustment Disorder, Substance Abuse, unspecified, and Depressive Disorder NOS	1
Alcohol Induced Mood Disorder with depression, Alcohol Intoxication, and Alcohol Abuse	1
MDD/Obsessive Compulsive Disorder/Bulimia	1
Bipolar Disorder NOS, Oppositional Defiant Disorder, Post-Traumatic Stress Disorder	1
MDD/Attention Deficit Disorder	1
Asperger's Disorder/Depressive Disorder NOS	1
Alcohol Abuse/Alcohol Intoxication/Disruptive Behavior Disorder	1
Total	65

Context of self-injurious behavior	Present in number and percentage among total sample (N=65)		Present in number and percentage among those with suicidal intent (n=27)	
	Number	Percentage	Number	Percentage
Argument with family members	29	45%	6	22%
Breakup or argument with significant other	15	23%	3	11%
Peer conflicts	5	8%		
Academic difficulties	4	6%	2	7%
Other contexts	20	30%	4	15%
Combination (family issues, academics, peers, significant others)			8	30%
Unspecified			4	15%

(26%) admitted to alcohol or illicit drug use. Twenty patients (31%) denied any alcohol or illicit drug use, and data regarding alcohol or illicit drug use was not available for 28 patients (43%).

The available data indicated that 15 (23%) patients had a history of physical/sexual abuse or neglect. One (1.5%) was a witness to domestic violence. Twenty-one patients (32%) denied any history of physical/sexual abuse or neglect, and data regarding this issue was not available for twenty-eight patients (43%). Precipitants that led to self-injurious behavior among the entire sample versus those who expressed intent to kill themselves are summarized in Table 4. Twenty-nine patients (45%) had an argument with family members, mostly with parents. Fifteen patients (23%) had just broken up or had arguments with a boyfriend or girlfriend. Five (8%) reported problems with peers. Four (6%) reported failing grades as a stressor. Twenty (30%) provided other reasons that did not involve family, school, or peers such as "boredom," "wanting to sleep," and "wanting to get high." Of those patients who reported intent to kill themselves (n=27, 42%), 4 (15%) reported stressors that were unrelated to family, school, or peer problems. One reported deep shame for drinking alcohol. Another reported shame from shoplifting and anger after not being allowed to take a trip with peers. The third described visions of a deceased relative as the precipitant leading to her suicidal intent and behavior, and the fourth was unhappy with her living situation, a residential treatment program. The precipitants of another four patients intending suicide were not specified.

Discussion

The data obtained from this retrospective chart review is consistent with the findings of past research on suicidal and self-injurious behavior. Similar to previously cited research, in this sample, the most frequently used method of self-injury was medication ingestion, which may reflect the preponderance of girls, who tend to attempt suicide more often than boys but who tend to choose relatively less lethal means of self-injury, including medication overdose and cutting. Indeed, although the male sample size was small, it did appear that the overdose rate in boys was much lower than in girls (44% versus 84%).

It is significant that, among the 26 patients who ingested acetaminophen, only 54% clearly endorsed suicidal intent, even though these patients had overdosed to the point of needing medical treatment. These findings are consistent with Harris and Myers' findings that adolescents – who have ready access to acetaminophen – underestimate its potential for toxicity.¹⁵ It is interesting to speculate on whether these patients who ingested acetaminophen but who did not wish to die or were ambivalent about dying, would still have taken the acetaminophen if they had known about the potential for toxicity and even death. Given the high number of medication overdoses involving acetaminophen, perhaps efforts should be made to educate children and adolescents in Hawai'i on acetaminophen's effects on the liver as part of suicide prevention programs. Primary care physicians may provide this anticipatory guidance at well child visits, particularly to youth at risk for suicide. Finally, the findings support acetaminophen accessibility restrictions, which have been found in the United Kingdom and other places in the world to reduce the rate of medically serious poisoning.^{16,17}

The majority of patients reported a recent fight with family and/or significant other, and/or school problems. While 45% were diagnosed

with a depressive disorder (which included several specific diagnoses), "adjustment disorder" was the number one diagnosis as a sole diagnostic consideration (29%) (Table 4). This figure increases to 34% when adjustment disorder is considered as a comorbid condition. These results may suggest the presence of poor coping mechanisms and the presence of other predisposing risk factors. In a community-based high school sample in Hawai'i, Yuen also identified depression and substance abuse among other independent risk factors as predictors of suicide attempts in Native Hawaiians and non-Hawaiians.⁶ It is plausible that the aforementioned precipitating stressors may be particularly overwhelming for at-risk populations in Hawai'i, who have been found to have higher levels of depression, anxiety, substance abuse and disruptive behavior, and likely high levels of acculturative stress.^{6,7,8} Suicide prevention efforts may therefore help adolescents (in schools and primary care settings) to identify and address symptoms of depression and to develop appropriate coping strategies to deal with common stressors. Aseltine and DeMartino described a school-based suicide prevention program that included education on recognizing and addressing symptoms of depression and that successfully reduced self-reported suicide attempts.¹⁸ The state of Hawai'i has implemented a program called the Hawai'i Injury Prevention Plan 2005-2010, recognizing suicide as one of 8 injury areas.¹⁹ The objective is to reduce the suicide rate by the year 2010. Strategies in this plan include suicide prevention training of individuals (particularly those who interact with at-risk populations) in suicide prevention, launching public awareness campaigns, promoting and supporting suicide research, and broadening access to screening and services. These are areas where further program development and implementation are necessary, both in Hawai'i and nationwide.

Ethnicity data was difficult to ascertain due to the heterogeneous population and incomplete data. As such, 35% of this population was classified as either "unknown" or "cosmopolitan." To obtain clearer ethnic demographic data, future studies may include more specific, prospectively administered questionnaires about ethnic background (including the ethnic background of parents and grandparents). Although it is possibly significant that, in this study sample, there were more Filipinos and Native Hawaiians (who are the fourth and third most populous ethnic groups in the state, respectively) than either Japanese or Caucasians (who are the second and first most populous ethnic groups in the state), and an apparent over-representation of possibly mixed race individuals (classified as either "Cosmopolitan" or "Caucasian/Asian"), it is not possible to make any clear conclusions regarding racial trends because of the small sample size and incomplete data on ethnicity.

In addition to unavailable ethnicity data, other limitations of this study were identified. A small sample size prevented further analyses of differences between the various categories – for instance, boys versus girls. No formal tools were used (e.g., structured interviews or questionnaires) to solidify diagnoses or further characterize suicidal intent. Also, the study did not include patients from other facilities throughout the state (including those with inpatient psychiatric facilities, where youth with suicidal behavior but not needing general medical inpatient care would be treated) and patients who had completed suicide. Longitudinal studies that span over years will help with sample size and perhaps more clearly define suicidal behavior trends in the child and adolescent population in Hawai'i.

Conclusion

Notwithstanding its important limitations, the authors believe that this study represents an important pilot effort to describe the demographics of medically serious suicidal and self-injurious behavior among an under-researched yet potentially at-risk population. Based on these findings, it is recommended that suicide and self-injury prevention efforts that have been successful in other populations may likewise be appropriate for children and adolescents in Hawai'i, and that further studies should be done to clarify suicidal trends in this culturally unique population.

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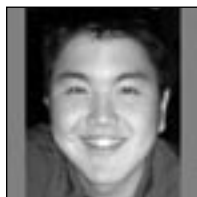
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Prime-Time Television Exposure to High Priority School-Aged Social-Developmental Issues

Sherrie Suzuki; Davin Itano; and Loren G. Yamamoto MD, MPH, MBA



Sherrie Suzuki



Davin Itano



Loren G. Yamamoto
MD, MPH, MBA

Authors' Affiliations:
- Department of Pediatrics,
University of Hawai'i John A.
Burns School of Medicine,
Kapi'olani Medical Center for
Women and Children
Honolulu, HI 96826

Correspondence to:
Loren G. Yamamoto MD,
MPH, MBA
Professor of Pediatrics
University of Hawai'i John A.
Burns School of Medicine,
1319 Punahou Street, 7th Fl,
Honolulu, HI 96826
Ph: (808) 983-8387
Fax: (808) 945-1570
E-mail: Loreny@hawaii.edu

Abstract

Background: The purpose of this study is to quantify the material children and adolescents are exposed to while watching prime-time television so that school educators, health professionals, and parents can focus on issues of maximum exposure that must be addressed.

Methods: Prime-time programming was recorded from 7 p.m. to 10 p.m. Hawaiian Standard Time daily for 2 weeks in July 2005. Recordings were then viewed to identify social behaviors of interest.

Results: Each hour, on average, sex was referenced 1.8 times, drugs 0.6 times, tobacco 0.3 times, alcohol 2.4 times, and violence/crime 6.0 times per network. Messages advocating exercise, anti-drug advocacy, and anti-smoking advocacy were each shown 0.2 times per hour, while anti-alcohol advocacy was shown 0.1 times per hour.

Conclusion: School educators, health professionals, and parents must recognize that prime-time television frequently exposes viewers to issues that are of critical importance to the health and social development of school-aged children and adolescents.

Introduction

Ubiquitous and multifaceted, television has enormous potential to affect the behavior of school-aged children and adolescents. Each American child spends nearly 1,250 hours a year watching television,¹ and the average American teenager devotes 3-4 hours per day to it.² Television use has been reported to have several adverse effects on childhood development. Some studies indicate that exposure to media violence increases the risk of aggressive behavior.³ Media messaging and images have been accused of normalizing and glamorizing the use of tobacco, alcohol, and illicit drugs.³ Increased television use may also be a significant contributing factor to childhood obesity.³ Prime-time television draws the highest number of viewers. The purpose of this study is to quantify the material to which children and adolescents are exposed while watching prime-time television so that school educators, health professionals, and parents can focus on issues of maximum exposure that must be addressed.

Methods

Prime-time programming was recorded from 7 p.m. to 10 p.m. Hawaiian Standard Time daily for 2 weeks

in July 2005. Four video recorders were programmed to record 3 continuous hours of prime-time television on the FOX, ABC, CBS, and NBC networks simultaneously. Videotapes were subsequently viewed by researchers who tallied visual or verbal references of material falling in any of the following categories using the following criteria:

- Sex: Any reference to sexual intercourse, sleeping together implying sexual intercourse, rape, pornography, or sexual molestation.
- Illicit drugs: Any reference to adult or minor using illicit drugs (excluding messages promoting prevention or cessation of drug abuse).
- Tobacco/Smoking: Any reference to tobacco products, tobacco brand name, or adult or minor smoking (excluding anti-smoking messages and commercials for anti-smoking aids).
- Alcohol/Drinking: Any reference to alcohol products, alcohol brand name, adult or minor consuming alcohol, or demonstration of alcohol intoxication (excluding messages promoting cessation of alcohol abuse and prevention of underage alcohol use).
- Violence/Crime: Any reference to act of crime or violence, war, gang activity, and use or images of weapons.
- Messages promoting health and exercise: Any direct recommendations to viewers to maintain good health, messages promoting prevention or cessation of drug abuse, anti-smoking messages, and messages promoting cessation of alcohol abuse or prevention of underage alcohol use.

Results

Each hour, on average, sex was referenced 1.8 times, alcohol 2.4 times, tobacco 0.3 times, drugs 0.6 times, and violence/crime 6.0 times per network. Figure 1 graphs these frequencies by network. The large majority of references occurred during the programming rather than the commercials.

Messages advocating exercise, anti-drug advocacy, and anti-smoking advocacy were each shown 0.2 times per hour, while anti-alcohol advocacy was shown 0.1

times per hour. See figure 2. These messages were most frequently broadcast during the commercials.

The type and quantity of social-developmental references did not vary to a large degree between the 7-8 p.m., 8-9 p.m., and 9-10 p.m. intervals.

Discussion

Prime-time television viewers are exposed to a significant number of images and references to important and potentially dangerous issues that may shape impressionable young minds. Violence and crime are most prominently depicted, occurring about once every 10 minutes. Sex and alcohol are also regularly featured, approximately once every half hour. Tobacco and illicit drugs are shown less frequently, fewer than once per hour. Messages discouraging substance abuse are present, though they occur far less often than passages and messages depicting alcohol, illicit drugs, and tobacco use. Messages directly advocating exercise are infrequently broadcast. All of these references are made consistently throughout the block of prime-time scheduling, with little change noted between the 7-8 p.m., 8-9 p.m., and 9-10 p.m. intervals. Programming appears to be responsible for the majority of adverse behavior references, though commercials also contribute a considerable amount.

Several limitations of this study must be recognized. First, this study was conducted using television broadcasts in Honolulu, Hawai'i, in July 2005. Some advertising and programming may vary regionally and programming changes with time. The scope of the study was limited to 4 major networks, while there are hundreds of television networks available for children and adolescents to watch. This study tracked limited, specific categories of material, which represent only a fraction of the information to which viewers are exposed.

This study confirms the findings by other studies that television exposes viewers to events, passages, and behaviors that most parents and child development professionals would consider to be inconsistent with optimal child development. Television programming is created to be entertaining, which is often contrary to normal everyday or ideal behavior. A safe and healthy day in which everyone is healthy without encountering any risky behaviors or situations would constitute a boring television program that no one would watch. Something risky or unusual must occur for the program to have entertainment value. Unfortunately, children will often assume that behavior seen on television is normal and acceptable. Television adds to their limited life experiences. But if children model their own behavior by mimicking television programming, they will believe that violence is exciting, weapons are cool, being a virgin is uncool, multiple sex partners is the norm, drinking and driving is OK, beer and college go together, drug money results in a luxurious lifestyle, racing down the

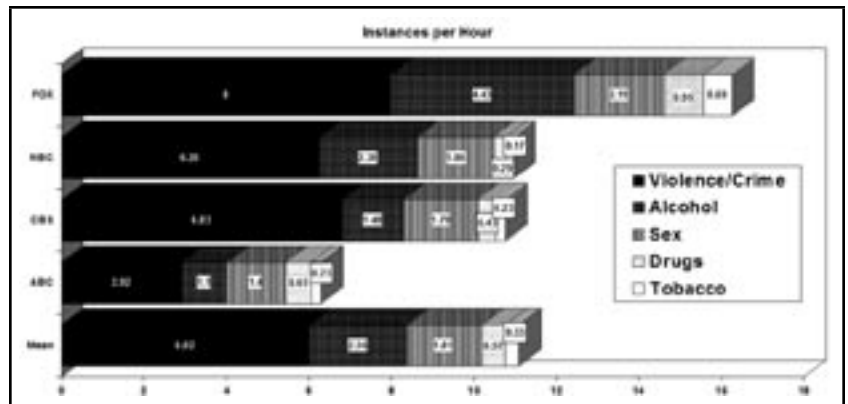


Figure 1.— Frequency of social behavior instances by network.

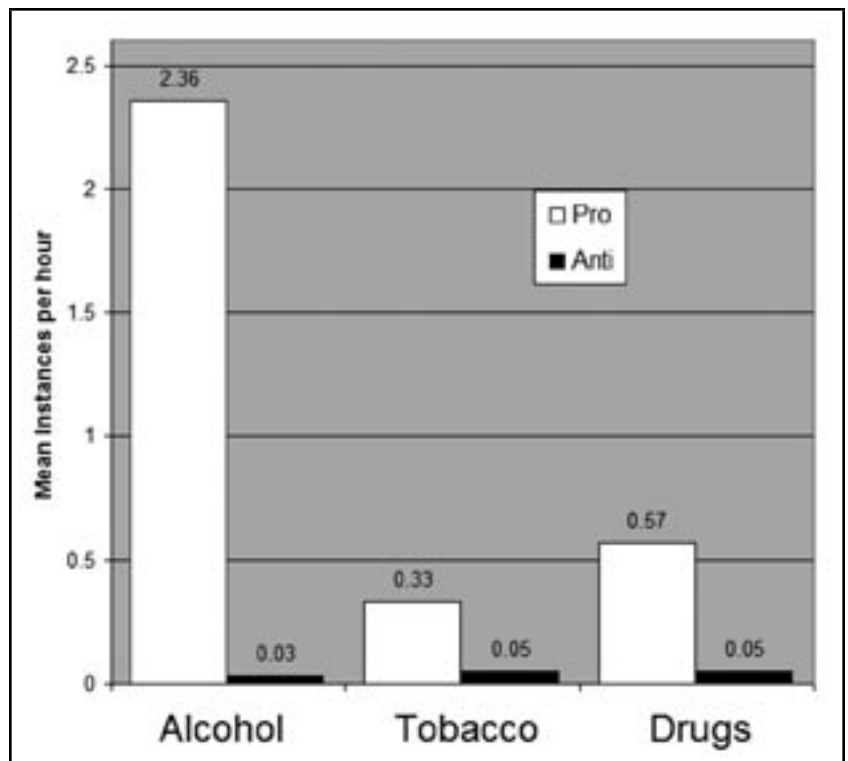


Figure 2.— Instances depicting alcohol, tobacco, and drugs far outnumber instances of anti-alcohol, anti-tobacco, and anti-drug messages.

highway is exciting, cigarette smoking is glamorous and macho, etc.

The American Academy of Pediatrics recommends that parents should watch television with their children to provide them with proper guidance while watching television⁴. However, this most often does not happen since parents are busy, and that is probably why their children are watching television.

A parenting book has recommended that children should be taught to believe that life in reality is more likely to be the opposite of what is seen on television.⁵ In television programs such as Star Trek and Superman, it is quite easy for children to understand that this is not real. However, with other programs that involve contemporary living situations, it is not easy for children and teens to understand that the program does not represent typical reality. Even the television news typically reports on a concentration of abnormal events that have occurred, most of which are violent or relate to sports championships. Since

See "Prime-Time Television" p. 83



Assessment of Disaster Training Needs for Physicians and Other Health Professionals Serving Vulnerable Populations in Hawai'i

(May Rose Dela Cruz; Brandon Mitsuda; Amalie Monlux; Khris Agnos; Angel Ahedo; Lila Au; Ngozi Erundu; Arline Harmon; Pedro Haro-Arvizu; Barbara Kualii; Clare Loprinzi; Krista Olson; Lorilyn Salamanca; Mili Samifua; David Suzuki-Ung; Jo-Hsi Wang; Trisha Wilson) Public Health Students, University of Hawai'i, Office of Public Health Studies; (Nancy Partika and Kathryn Braun) Faculty, University of Hawai'i, Office of Public Health Studies

Problem Statement

The state of Hawai'i, 2300 miles from the nearest continental land mass, is geographically isolated. This raises serious concerns for its residents. In the past, the state's residents have encountered hardships due to earthquakes (October 16, 2006) and destructive hurricanes (Hurricanes Iwa [1982], Iniki [1992], and Flossie [August 2007]) that paralyzed communities.

Sub-populations with the greatest vulnerability in the event of a disaster include new immigrants, residents with limited-English proficiency, those who are elderly and/or disabled, pregnant and lactating women, infants, and children. These populations often lack adequate access to care, and they have special health needs that would be exacerbated during a disaster.¹⁻²

- **The immigrant population.** Between the years 2000 and 2006, approximately 22,000 legally entered Hawai'i. In 2006, the state's foreign-born population was 234,685, or about 18% of the total population. Approximately 27% of Hawai'i's residents speak a language other than English in the home.³ Among children in immigrant families in Hawai'i, 17% have limited-English proficiency and 50% have a parent with limited-English proficiency.

- **Populations with disabilities.** There are about 228,000 in Hawai'i and the rate increases with age. While only 8% of people age 5 to 20 have a disability, 42% of people age 65 and older and 72% of people age 80 and older have a disability.⁴ Since 1959, Hawai'i's proportion of elderly to total population has increased nearly 3-fold, from roughly 5% in 1960 to nearly 14% in 2006. About 179,000 Hawai'i residents are age 65 or older.⁵ Among the elderly, those 85 years and over showed the highest percentage of growth.⁶ The elderly and disabled populations use most of state and federal government's healthcare resources; nevertheless their projected needs have not been adequately addressed in natural disaster planning.

- **The maternal-child population.** There are several sub-groupings that require special attention in disaster preparedness. With about 18,000 births a year and approximately 87,000 children under age 5 in Hawai'i, this susceptible group includes more than 100,000 individuals. Pregnant women exhibit various needs at different stages of gestation and experience particular vulnerability around the time of birth. Infants have their own set of serious vulnerabilities in the event of a disaster, which are almost always exacerbated should they be separated from their mothers. Sick and premature infants are especially at risk in a disaster due to a heightened physiological state and, in some cases, are dependent on life-supporting devices such as ventilators and incubators. Stable infants are at greater risk of morbidity and mortality than the general population because of their small size, limited reserves, and exclusive reliance on either breast milk or formula to meet their nutritional needs.

The above groups are the focus of the needs assessment conducted for the Pacific Emergency Management, Preparedness and Response Information Network and Training Services (Pacific EMPRINTS).⁷ The mission of Pacific EMPRINTS is to train health professionals in how to recognize public health or other emergencies, and to respond to these disasters using the tools and techniques taught to them. To date, Pacific EMPRINTS has trained more than 7,000 health professionals in Hawai'i, including physicians, nurses, emergency medical technicians, dentists, veterinarians, and mental and public health professionals. The number is expected to grow as the need to be prepared for natural and other disasters continues to increase in Hawai'i.

Methods

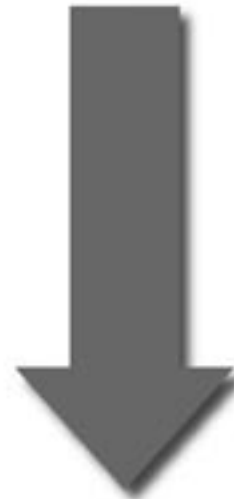
To conduct the needs assessment for Pacific EMPRINTS, 17 students worked in 3 groups. Each group focused on a specific vulnerable cohort and developed inquiries into the needs of: (1) immigrants and persons with limited-English proficiency, (2) the elderly and disabled, and (3) mothers and children.

Four methods were used to gather data: (1) literature review, (2) key informant interviews, (3) a focus group, and (4) an online survey. For each group of data collected, relevant sources were identified:

1. **Literature Review:** Students identified relevant journal articles and government publications related to disaster preparedness apropos of the selected vulnerable populations. A summary was completed for each article and shared with the class.
2. **Key Informant Interviews:** Based on information culled from the literature, each of the 3 groups developed questions to ask key community-based health and human services informants identified by instructors and students. A total of 57 key informants were interviewed. One-page summaries were prepared and shared within the groups.
3. **Focus Group:** Focus group questions were developed and administered to a focus group with 8 professionals who had expertise in disaster preparedness and/or experience in working with one of the identified vulnerable populations.
4. **On-line Survey:** Based on key informant and focus group findings, the class developed questions for a 22-item online survey using "SurveyMonkey" approved by Pacific EMPRINTS and the University of Hawai'i Institutional Review Board (IRB).

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Internal Medicine	\$1,373
Pediatrics	\$1,662

The above illustration is an example of HAPI's 2008 fully mature costs. These costs apply to physicians who need three years or more of retroactive coverage upon joining HAPI. Physicians who need less than three years of retroactive coverage or physicians who join HAPI out of a residency or fellowship will pay significantly less than shown above. The above specialties were selected for illustrative purposes only. Call HAPI for your specialties costs.



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Contact information for 335 health and human service workers were inputted into SurveyMonkey. Data collection was open for 7 calendar days. Of the 305 potential survey participants, 45 were excluded because of an error or vacation notice for the email address. Of the final sample of 290, 183 responses were received, for a 63% response rate.

There were several limitations of the study: The data collected were confined only to health and human service professionals, representatives of the vulnerable populations of interest were not interviewed, and data were collected from a convenience sample. Therefore, findings are not representative.

Findings

Of the 183 respondents, 57% were Caucasian, 74% were female, and 77% were age 40 or older. About 70% were working on O`ahu, and almost all (99.5%) were employed or affiliated with an organization that offered services to one of the specified vulnerable populations. The organizations that the respondents most commonly represented were non-profit/non-government agencies (35%), community health centers (26%), and government agencies (24%). About 40% identified themselves as administrators and another 27% were direct service providers, including nurses (15.8%), public health workers (15.1%), and case workers (8.7%).

Among respondents, 78% reported that they would render their services during a disaster, 51% responded that they felt prepared to assist their agency during a natural disaster, and 46% indicated that they knew what to do for their clients during a natural disaster. About 45% felt that the state was adequately prepared to provide services in the event of a natural disaster.

Although 91% of respondents reported working with one or more of the identified vulnerable cohorts, few felt "confident" or "very confident" to provide adequate disaster services to these vulnerable populations. For example, only 27% felt confident to assist children, only 17% felt confident to assist the disabled, and only 14% felt confident to assist people with limited-English proficiency.

To help the disabled and/or older adults in the event of a disaster, respondents wanted to know how to notify older adults in the event of a disaster; about transportation options and shelter locations; and how to help clients develop medical assistance plans. To help immigrants and others with limited English in a disaster, respondents wanted to know Community Health Center contacts and community leaders in the event of a disaster, how to alert members of this group about a disaster, and how to find language interpreters. To assist the maternal-child population, respondents wanted to know how to get assistance for a woman in labor and how to help families create disaster emergency plans.

Ninety-six percent agreed or strongly agreed that being trained in natural disaster preparedness was important. Approximately 63% reported having had training in the basic principles of natural disaster response. Few respondents received training in the special needs of vulnerable populations, with only 26% having been trained in the special needs of the elderly, 17% in the needs of the disabled, 15% in the needs of pregnant and lactating women, and 11% in the needs of people with limited English.

Approximately half of the survey respondents reported that their agencies had emergency plans, with another 36% offering informational sessions on disaster, and 37% offering training drills. However 27% did not know if their agency had disaster-related policies or not. Less than half (47%) said they understood the role of their agency in a disaster, and only 37% said they knew their own role.

Most respondents (89%) indicated a willingness to attend natural disaster preparedness training. About a third of respondents would commit a full workday to disaster preparedness training each year, and another 23% said they would commit 2-3 full workdays. The top 3 preferences for specific training formats were in-house training (73%), face-to-face training (69%), and problem-based discussion (59%). Most (84%) wanted training in how to best help vulnerable clients during a natural disaster, and 69% wanted to learn how to help clients develop their own natural disaster plans.

Twenty percent of respondents indicated a willingness to pay to attend disaster-related training, and only 20% indicated that their employers had funds to send workers to training. However, almost half would be willing to be trained if they received continuing education credits. Respondents also believed that disaster training should be targeted to the military, school teachers, community leaders, and the general public, as well as to health professionals.

Recommendations

Based on the findings, the following are recommendations.

1. Disaster preparedness and management training should include information about vulnerable populations, such as pregnant and lactating women, infants and children, older adults, disabled adults, new immigrants, and individuals with limited-English proficiency. Physician and other health professionals should be trained about resources useful in assisting vulnerable patients/clients, e.g., updated shelter information.
2. Representatives from the vulnerable communities should be involved in developing curricula related to disaster planning and management needs of their specific groups. Whenever possible, training should include representatives of vulnerable populations, key community leaders, and language interpreters as instructors as well as trainees to increase engagement and buy-in of vulnerable populations.
3. Disaster preparedness and response training should be offered at no or low cost and should carry continuing education credits.
4. Training should be conducted at the clinic, office, or worksite, and worksite-based training should be offered statewide. Training should be provided to staff in facilities that will care for and/or shelter people in a disaster, e.g., nursing homes, community health centers, and emergency shelters.
5. Training should include instruction of physicians and health professionals in how to help their patients/clients develop their own disaster plans.

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Providing Psychosocial Support to Men with Prostate Cancer and their Wives

**Jeanne Foster RN, BSN, OCN, Kuakini Medical Center
and Francisco Conde RN, PhD, AOCN, University of Hawai'i School of Nursing and Dental Hygiene**

Prostate cancer is the most commonly diagnosed cancer in men. According to the statistics from the American Cancer Society,¹ over 218,890 men nationwide were newly diagnosed with the disease in 2007. About 27,050 men died from prostate cancer last year, making it the second-leading cause of cancer death in men.

Today, with the increase in prostate cancer screening using the prostate-specific antigen (PSA) blood test and the digital rectal examination (DRE), over 90% of men with prostate cancer are diagnosed in local and regional stages. While the 5-year survival is nearly 100% when diagnosed at these stages, the diagnosis of cancer produces high levels of fear, anxiety, and stress among these men and their families. Men are also faced with the difficult decision regarding what type of treatment to have, which include surgery, external beam radiation, radioactive seed implants (brachytherapy), and watchful waiting (careful observation). In addition, they are very concerned about the potential side effects of treatment, especially incontinence and erectile dysfunction, which some fear more than the diagnosis of cancer itself because of the negative impact the side effects may have on social and family life. Even after receiving treatment, studies²⁻⁴ have shown that some men suffer from fears, worries, sleep disturbances, feelings of isolation, and post-traumatic stress disorder. Depression is also seen among men receiving androgen deprivation therapy for metastatic prostate cancer.⁵ They are overwhelmed and unsure where to turn for help and information.

The Us Too Prostate Cancer Support Group originated in the Chicago area in 1990. Today, Us Too has grown into an international organization. Its mission is to "communicate timely, personalized and reliable information enabling informed choices regarding detection and treatment of prostate cancer." George Kerr and Chris Hong started several Us Too groups in Hawai'i, in 1995. Three groups continue to this day; 2 on O'ahu and one on the Big Island.

"Welcome! Please tell us a little about yourself and your diagnosis. Give us your Gleason scores and PSA, if you know them." These are the words a new member hears right after he is introduced at his first Us Too meeting. The men are encouraged to know their Gleason and PSA scores in order to understand the severity of their disease. Other members share their experiences and ask questions of the new member. The new member is then introduced to others who have had the treatment he is considering so he can talk to them in more depth. Richard Mizuta, a founding member of the group meeting at Kuakini Medical Center, facilitates these meetings. The group's goal is to get newly diagnosed men to a meeting before they have decided on a treatment plan. Physicians can be instrumental by informing men about the group. Us Too has a resource kit with up-to-date information on prostate cancer and treatments that is offered to every new member to borrow for as long as he needs to.

When asked if being a member of Us Too made a difference on how he thought of his diagnosis and treatment, David A. Espinda, III replied, "Most assuredly! I went from [thinking] death sentence to thinking cure!" David was diagnosed and treated in 1995 and now facilitates the Us Too group that meets at Pali Momi. He lists the benefits he has received from being a part of this group as, "Lots of information from people in the same boat. Everyone's experience is a little different. Doctors approach things differently. And you realize that you're not alone."

Red Proctor agrees. Red was diagnosed several years ago and took a watchful waiting approach while he waited for technology to catch up to him. He flew to the City of Hope for robotic laparoscopic surgery with the Da Vinci device. "The first benefit was gaining information. The second was realizing others were in the same boat. The third was, after surgery, having an opportunity to help others." Henry Kuhns, III had a similar experience. "I learned not to panic. I got to learn about all the options and then decided what I wanted to do. I told my doctor I wanted the robotic and he referred me to UC Irvine. I had good results and I brought my neighbor to meetings when he was diagnosed."

Wives, families, and friends are an important part of the Us Too group. For all 3 men, it was their wives who learned about the Us Too support group and encouraged their husbands to attend meetings. It is usually the wives who have their note pads ready with their husband's Gleason and PSA scores written down. Carol Espinda, David's wife, feels that it is good that the wives are included. "It's beneficial for the wives. At first they tend to listen, but then they are asking questions, too."

Men with prostate cancer, spouses, families, and friends are encouraged to join Us Too or other prostate cancer support group. Membership is free. For more information about Us Too, visit their website at www.ustoo.org or call 1-800-808-7866.

For more information about the Cancer Research Center of Hawai'i, visit www.crch.org.

The Us Too Prostate Cancer Support Groups on O'ahu meet the second Wednesday of the month at 7:00 pm at Kuakini Medical Center and the third Tuesday of the month at 7:00 pm at Pali Momi. Contact Carol Espinda at 487-3295 to obtain flyers for your office.

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Issues in Medical Malpractice XXI

S.Y. Tan MD, JD, Professor of Medicine, John A. Burns School of Medicine, University of Hawai'i

Question:

Giant-size fibroids were discovered during a routine D&C and diagnostic laparoscopy. The gynecologist proceeded with a total hysterectomy because two other colleagues agreed that this was the definitive treatment and the patient was already under general anesthesia. Which of the following is (are) correct?

- A. Gynecologist did right as she was thinking of her patient's best interest.
- B. Gynecologist did right as there was an implied consent for the hysterectomy.
- C. Gynecologist was merely applying the principle of therapeutic privilege.
- D. Gynecologist was merely applying the principle of necessity.
- E. Even if this were an emergency, Gynecologist cannot proceed without additional specific patient consent as a matter of law.

Answer: All are incorrect

None of the principles cited are relevant here. The older medical or paternalistic model (doctor knows best) has given way to the autonomy or self-determination model (patient has last word). Answer A is attractive, but is no longer an acceptable choice. Choice B is a poor choice, as implied consent must be construed narrowly, especially for an invasive procedure. However, if the consent form covers this eventuality, then the doctor can proceed with hysterectomy, but this is explicit, not implied, consent. Choice C is inapplicable here: therapeutic privilege refers to the situation where full disclosure of risks may prove detrimental to a patient's overall well being, so the doctor has the privilege to withhold such information when obtaining informed consent. D refers to an emergency where there is no opportunity to obtain consent. This is not the case here. The corollary is that in an emergency situation where consent cannot be obtained and intervention is necessary, gynecologist can proceed with whatever needs to be done. Choice E is therefore incorrect as stated, as it does not make allowance for an emergency exception to informed consent.

Exceptions to Informed Consent

Under rare circumstances, informed consent may be neither possible nor necessary. For example, statutory provisions that protect public health and safety may, without requiring consent, mandate quarantine, forced examination and treatment of a patient, or referral of a death to a coroner. The following are additional legitimate exceptions to the informed consent requirement:

Emergencies: The guiding principle is whether delay in treatment in order to obtain consent would result in harm to the patient. The procedure need not be life saving, so long as the potential harm to

the patient is significant. This exception is typically provided for in state statutes on informed consent, e.g., *"Nothing in this section shall require informed consent from a patient or a patient's guardian when emergency treatment or emergency surgical procedure is rendered by a health care provider and the obtaining of consent is not reasonably feasible under the circumstances without adversely affecting the condition of the patient's health."*¹

Unanticipated Conditions during Surgery: This is a narrow exception and comes into play when a surgeon encounters an unanticipated abnormality in the field of surgery. It is called the 'extension doctrine,' and assumes that the surgeon is using reasonable judgment. Thus, in one case, the surgeon incurred no liability for draining some ovarian cysts during the course of an appendectomy.² But where the surgeon operated on the left ear despite consent only for the right ear, the court held his conduct actionable as the situation was not a true emergency.³ The condition must be one that was unforeseen, and the patient had not expressly refused such intervention. Most informed consent forms now incorporate an 'unanticipated condition' clause.

Therapeutic Privilege: If a doctor believes that the patient's emotional and physical condition could be adversely affected by full disclosure of the treatment risks, then disclosure may be legally withheld. This doctrine is called 'therapeutic privilege,' and is invoked as a legitimate defense argument. The doctrine was clearly enunciated in *Nishi v. Hartwell*, Hawai'i's first case on informed consent. The plaintiff-dentist, Dr. Nishi, sought damages for below-waist paralysis following thoracic aortography. This procedure-related risk was never discussed with him, purportedly because of his serious underlying cardiac status and extreme apprehension over his condition.

The case reached the Hawai'i Supreme Court in 1970. The Court first defined informed consent as imposing upon a physician *"a duty to disclose to his patient all relevant information concerning a proposed treatment, including the collateral hazards attendant thereto, so that the patient's consent to the treatment would be an intelligent one based on complete information."* The court ruled that cases involving an alleged lack of informed consent *"are deemed to sound in negligence (rather than battery), as raising the question of a neglect of duty required to be observed by a physician in his relationship with his patient."*

The Court then addressed the therapeutic privilege defense that was raised by the defendant. Speaking in approving terms that betray a clear deference to the medical profession, the Hawai'i Supreme Court held that: *"the doctrine recognizes that the primary duty of a physician is to do what is best for his patient, and that a physician may withhold disclosure of information regarding any untoward consequences of a treatment where full disclosure will be detrimental to the patient's total care and best interest."* Finally, the Court

also held that “the duty of a physician to make full disclosure is one that arises from the physician-patient relationship. It is owed to the patient himself, and not to his spouse or any other member of his family.”⁴

In the well-known case of *Canterbury v. Spence*, the US Court of Appeals in the District of Columbia also acknowledged the therapeutic privilege exception to informed consent, in order to enable the doctor to withhold risk information if such disclosure would pose a serious threat of psychological detriment to the patient. However, the physician is still required to disclose that information which will not prove harmful to the patient.⁵

Waiver or Risks Known to the Patient: Some patients expressly indicate that they do not wish to be informed of the treatment procedure and associated risks. This constitutes a waiver and is recognized as a legitimate exception. Waivers should be documented in writing to protect the doctor. The healthcare provider is also not obligated to disclose risks that are commonly understood, obvious, or already known to the patient.

Informed Consent not Feasible: The United States government was alleged to have used investigational drugs on military personnel during the Gulf War without their consent. In *Doe v. Sullivan*, a federal court refused to enforce the informed consent requirement because of the impracticality of obtaining consent under the circumstances.⁶ This exception to the informed consent is obviously a very narrow one.

This article is meant to be educational and does not constitute medical, ethical, or legal advice. It is excerpted from the author’s book, “*Medical Malpractice: Understanding the Law, Managing the Risk*” published in 2006 by World Scientific Publishing Co., and available at Amazon.com. You may contact the author, S.Y. Tan MD, JD, at email: siang@hawaii.edu or call (808) 728-9784 for more information.

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Prime-Time Television

parents are not able to be present at all times when their children watch television, teaching children to believe the opposite of television is closer than reality is a useful strategy to help them place behaviors seen on television into their proper perspective. If they are told this repeatedly, then they are more likely to ask parents if a particular behavior is good, bad, common, typical, unusual, etc.

School educators, health professionals, and parents must recognize that prime-time television frequently exposes viewers to issues that are of critical importance to the health and social development of school-aged children and adolescents. With this information, school health education programs could specifically be developed to counter any adverse effects of television exposure.

Acknowledgements

Dr. Jeffrey Okamoto, Cynthia Suzuki, Stacie Suzuki, and Dr. Shasta Brewer.

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Medical School Hotline

6. Patient educational materials should be developed that are picture based and/or available in immigrant languages.
7. Annual forums should be facilitated to encourage sharing of organization-specific disaster plans, with a focus on avoiding/preventing duplication and gaps.

Acknowledgement

Ann Sakaguchi, Director of Pacific EMPRINTS.

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6/15-6/18	PP	Department of Pathology, John A. Burns School of Medicine, University of Hawai'i	Sheraton Maui Resort	Current Concepts in Pediatric Pathology	Tel: (808) 692-1130
6/21-6/27	PD	American Academy of Pediatrics, California Chapter & University Children's Medical Group	Hyatt Regency Maui Resort & Spa, Ka'anapali Beach, Maui	Pediatrics in the Islands... Clinical Pearls 2008	Tel: (808) 354-3263 Web: www.ucmg.org
6/22-6/26	Multi	University of California - Davis	Hapuna Beach Prince Hotel, Kohala Coast	Update on the Management of Thromboembolic Disorders	Tel: (916) 734-5390 Web: cme.ucdavis.edu
6/25-6/28	TS	Society for Clinical Vascular Surgery	Sheraton Keauhou Bay, Kona, Hawai'i	Western Thoracic Surgical Association 34th Annual Meeting	Tel: (978) 927-8330 Web: www.scvs.org
6/28-7/5	Multi	University of California San Francisco School of Medicine	Hapuna Beach Prince Hotel, Kohala Coast	Essentials of Women's Health: An Integrated Approach to Primary Care and Office Gynecology	Tel: (415) 476-4251 Web: www.cme.ucsf.edu/cme
July 2008					
7/13-7/18	IM, FM	Kaiser Permanente	Hapuna Beach Prince Hotel	17th Kaiser Permanente National Internal & Family Medicine Symposium	Tel: (510) 527-9500 Web: www.meetingsbydesign.com
7/18-7/19	Multi	Queen's Medical Center	Hilton Hawaiian Village, Honolulu	Hawaiian Islands Trauma Symposium	Tel: (808) 537-7009 Web: www.queens.org/cme.html
7/23-7/26	Multi	University of California - Davis	Waikoloa Beach Marriott	UC Davis Update on Emerging Infectious Diseases	Tel: (916) 734-5390 Web: cme.ucdavis.edu
7/28-8/01	ORS	Kaiser Permanente	Hyatt Regency Kaua'i	Kaiser Permanente Orthopaedic Surgery Conference 2008	Web: www.cmctravel.com

August 2008					
8/3-8/4	GS	Hawai'i Chapter, American College of Surgeons	JW Marriott Ihilani Resort & Spa, Honolulu	Oncology: State of the Art, 2007 and Beyond	Tel: (800) 328-2308 Web: www.hawaiiifacs.org
8/4-8/7	R	Stanford University School of Medicine	Grand Hyatt, Kaua'i	LAVA: Latest Advances in Interventional Techniques	Tel: (888) 556-2230 Web: med.stanford.edu
8/6-8/9	EM	University of California - Davis	Mauna Lani Resort and Spa	UC Davis Emergency Medicine 2008: Hot Topics	Tel: (916) 734-5390 Web: cme.ucdavis.edu
8/14-8/17	D, FM, IM, ON	Kaua'i Foundation; Hawai'i Dermatology Association	Hyatt Regency Resort & Spa, Koloa, Kaua'i	22nd Annual Hot Spots in Dermatology	Tel: (413) 458-2800 Web: www.hotspotshawaii.blogspot.com
8/19-8/21	Multi	Stanford University School of Medicine	O'ahu	3rd Annual Complex Cardiovascular Patient Management	Tel: (650) 724-9549 Web: www.cme.stanfordhospital.com
October 2008					
10/5-10/9	PMM	Kaiser Permanente	Royal Kona Resort, Kailua-Kona	Ironman Sports Medicine Conference	Web: www.cmtravel.com
10/11-10/15	OPH	American Society of Retina Specialists	Grand Wailea Resort, Wailea, Maui	26th Annual Meeting	Web: www.asrs.org
10/12-10/17	Multi	Scripps Conference Services	Kaua'i Marriott Resort	Destination Health: Renewing Mind, Body & Soul	Tel: (858) 587-4404 Web: www.scripps.org/conferenceservices
10/14-10/17	ON	American Association for Cancer Research	JW Marriott Ihilani Resort & Spa at Ko'Olina	Chemical and Biological Aspects of Inflammation and Cancer	Tel: (215) 440-9300 Web: www.aacr.org
10/20-10/22	PD	Stanford University School of Medicine	Mauna Lani Resort and Spa	Popular Pediatric Clinical Topics 2008	Web: www.cme.lpch.org
10/25-10/29	PS	American Society of Plastic Surgeons	Hawai'i Convention Center, Honolulu	Plastic Surgery 2008	Tel: (847) 228-9900 Web: www.plasticsurgery.org
10/25-10/31	PD	American Academy of Pediatrics, California Chapter & University Children's Medical Group	Grand Hyatt Kaua'i	Aloha Update: Pediatrics 2008	Tel: (808) 354-3263 Web: www.ucmg.org
10/26-10/30	CD	University of California - Davis	Hyatt Regency, Maui	UC Davis 28th Annual Current Concepts in Primary Care Cardiology	Tel: (916) 734-5390 Web: cme.ucdavis.edu
10/27-10/31	AN	California Society of Anesthesiologists	The Mauna Lani Bay Hotel, Kohala Coast, Hawai'i	CSA Hawaiian Seminar	Web: www.csaqh.org
November 2008					
11/3-11/6	Multi	Methodist Healthcare	Fairmont Orchid, Kona	Advances in Medicine	Tel: (901) 516-8933 Web: www.methodistmd.org
11/4-11/7	R	Duke University Medical School, Department of Radiology	Hyatt Regency, Maui	Muskuloskeletal MRI in Maui	Tel: (800) 222-9984 Web: www.dukeradiologycme.org

Classified Notices For more information call (808) 536-7702, Ext. 101, or go online: www.hmaonline.net.

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Russell T. Stodd MD

❖ STANDARDS OF BEAUTY CHANGE. TODAY MONA LISA WOULD NEED LOTS OF WORK.

Some of us recall when Allergan Inc. was a small Irvine, California company making topical eye medications. Today the company is a huge enterprise with one-third of its revenue coming from Botox, the paralytic injectable which is the only compound of its kind approved by the Food and Drug Administration (FDA). In 2006 sales topped one billion dollars in total world revenue. Now the Botox parties are soon to be in competition with a similar compound made by Medicis Pharmaceutical called *Reloxin*, which is awaiting FDA approval. The compounds are not identical, but the differences are

small, so the competition will be in pricing. Money always seems to attract a crowd, and now dentists, family practitioners, dermatologists, cosmeticians, as well as plastic surgeons are hosting parties to fill face lines, puff up lips, and paralyze frowns. How long can you fool mother nature?

❖ DELAY IS THE DEADLIEST FORM OF DENIAL. HERE THERE IS ROOM FOR PANIC.

In 1994 the Murrah Federal Building in Oklahoma City was destroyed with an explosive force equal to 5000 lbs of trinitrotoluene (TNT). One hundred sixty-two people died at the scene; eighty-three survived and were rushed to the Oklahoma University Hospital Medical Center, a level one trauma center. All but six survived. Now without a major cash infusion that trauma center will close in June 2008 and critical trauma patients will need to be evacuated to Texas or Kansas. For unexplained reasons state and federal governments have largely ignored the mounting difficulties of providing trauma care. Trauma one centers across the country bleed red ink at an incredible rate. Many negative factors contribute: shortage of trauma surgeons; increasing number of uninsured patients; demise of community ED call panels, malpractice turmoil; increasing physician sub-specialties; low managed care reimbursement, Medicare and Medicaid failure to cover costs, and coding numbers that penalize trauma surgeons. Military authorities boast that a badly injured soldier or Marine in Iraq can be on an OR table in Germany in four hours, and that is great. At the same time a similarly injured person back in the USA can bleed out while waiting for evacuation to a trauma center.

❖ THERE IS NO SUCH THING AS A LITTLE GARLIC.

Allicin, a sulfur-based compound which gives garlic its unique smell, has been tested to treat or prevent a variety of medical problems from cancer, heart disease, and the common cold down to toenail fungus. The problem is that most of the trials come from companies that make garlic supplements and the numbers are small, subjective, and not too compelling. A 146 patient study in *Advances in Natural Therapy* claimed that a garlic pill taken daily reduced the frequency of colds and shortened the recovery period for those who did get the virus when compared with a placebo. But the author was a scientist at Allicin International, a British company that sells the garlic supplement. His work has yet to be replicated. Filipino babies wear a garlic clove around the neck for the first year of life as protection against disease, but detailed studies have yet to be released.

❖ A GENUINE HIGH NOTE; UNIVERSITY OF HAWAI'I CANCER RESEARCH CENTER!

CEO Richard Rotondo announced that Mediscovery Inc., and its sister company Medisyn Inc., are moving operations to Kahului, Hawai'i. Mediscovery specializes in the use of nano-technology to speed up drug research and development primarily for cancer. Cancure, the company anti-cancer drug, targets malignant cells with no toxicity and reduces the side effects associated with other cancer-fighting drugs. As Cancure progresses with FDA approved animal trials, Rotondo said the company wants to conduct the first phase of clinical human trials in Hawai'i. The primary driver behind the company's decision is the University of Hawai'i's Cancer Research Center which is building a new state-of-the-art comprehensive cancer facility in Kakaako.

❖ THERE IS NO BURDEN HEAVIER THAN THAT OF CONSCIOUS LIFE.

Reporting in *Nature*, research teams at University of Texas, Austin, and Harvard University studied nineteen pregnant women to determine how

they could maintain balance and avoid falling forward when they were carrying the equivalence of two bowling balls (thirty lbs.) in their protuberant abdomens. They discovered that women have a number of reinforcements that men lack, including a lumbar curve that spans three rather than two vertebrae, and spinal joints that are 14% larger and positioned differently. These enhancements allow the women to offset the frontal mal-distribution, and lean back as much as 28 degrees beyond normal without doing damage.

❖ WHEN THERE IS A LACK OF HONOR IN GOVERNMENT, THE MORALS OF THE WHOLE PEOPLE ARE POISONED. (HERBERT HOOVER)

Congressional investigators found that Verizon didn't bother to ask for warrants or court orders when federal authorities requested telephone records. From January 2005 to 2007, without any legal foundation, Verizon turned over records 720 times. The Federal Bureau of Investigation (FBI) did not merely want data on specific persons, but also on all the people those people called, and in turn all the people they called! So, if I know someone, who knows someone else, who was contacted by a questionable person, perhaps the FBI is snooping through my laundry. The ordinary law-abiding citizen appears to be in more jeopardy from Dubya's anti-terrorism vanguard than any external malevolence.

❖ GIVE A WOMAN AN INCH AND SHE WANTS TO BECOME A RULER.

Anytime you wish to kick off a lively discussion in a mixed group, do as former Harvard Professor Lawrence Summers did in 2005, and suggest that the relatively low number of high-achieving women in math and science reflects a lack of inherent aptitude for such endeavors. Summers lost his job in the campus-wide flapdoodle that ensued. But the disparity remains, and the American Enterprise Institute (AEI) in Washington D.C. scientific meeting in October 2007 wanted to hash out why females lag behind males in math and science achievement. Ultimately, an 18-member committee came out with a consensus statement "early experience, biological factors, educational policy and cultural context affect the number of women and men who pursue advanced study in science and math. These effects add and interact in complex ways." What a relief! Now the subject is much clearer, or is it?

❖ CARS DID AWAY WITH HORSES. NOW THEY DO AWAY WITH PEOPLE.

A car crashed into a bank building in Tarzana, California. EMTs were able to remove the driver who said he was alone in the vehicle. Two days later family members called the police station inquiring about his mother. Officials called the towing company and asked them to see if anything was unusual about the car. They reported finding an elderly woman under the air bag. She was dead. The county coroner stated that the 72-year-old mother died within minutes after the crash and not in the towing company's parking lot. Another caveat for paramedics - look under the exploded bag.

❖ SHE'S SELLING WHAT SHE USED TO GIVE AWAY.

Philadelphia Municipal Judge Teresa Deni dismissed rape charges against four men who had sex with a prostitute at gun point. Because the woman had initially agreed to a business proposition, said the Judge, the men should properly be charged with "armed robbery for theft of services." The local bar association and women's activists were enraged with the decision.

❖ THEY SHOULD HAVE ORDERED TAKE OUT.

In London, a couple was preparing breakfast and frying bread when suddenly it caught fire. As the flames leaped higher the man reached into a nearby laundry basket, pulled up his auntie's size XL bloomers, soaked them under the faucet and threw them over the grease fire which immediately subsided. Good thing auntie wasn't wearing a thong or string bikini panties.

❖ INVASION OF THE BODY SNATCHERS.

In Wellington, Florida, a woman stole a baby Jesus from a nativity scene. Police were able to track down and arrest the thief with the aid of a GPS which was attached to the Babe. Possibly the modern day Magi were using OnStar.

ADDENDA

- ❖ Eighty percent of migraine sufferers are women.
- ❖ Forty percent of nurses say they do not want any member of their family treated in the hospital where they work.
- ❖ In schools dice have been replaced by "number cubes."
- ❖ Indonesia has 167 active volcanoes.

ALOHA AND KEEP THE FAITH — rts■

Contents of this column do not necessarily reflect the opinion or position of the Hawai'i Ophthalmological Society and the Hawai'i Medical Association. Editorial comment is strictly that of the writer.

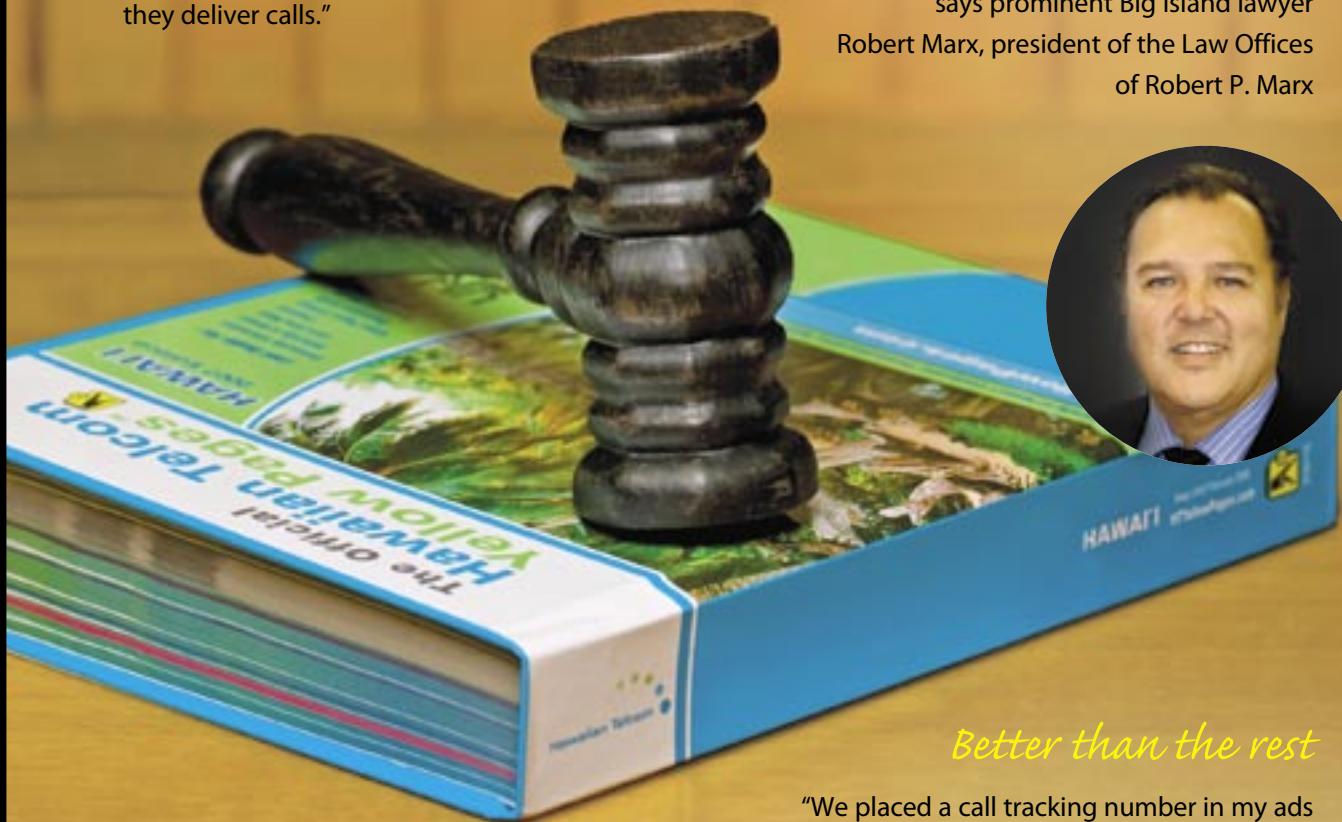
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*BASED ON PROPRIETARY, NON-SYNDICATED RESEARCH. Marketing research telephone survey conducted in January 2007 by FAQ Hawaii, Inc., in cooperation with Dr. Dana L. Alden, Professor of Marketing, University of Hawaii, Honolulu, HI. 200 completed questionnaires were obtained from the October 2006 Hawaiian Telcom Oahu directory distribution area. Statistical reliability of the sample is at the 95 percent confidence level with a maximum range for error of plus or minus 6.9 percentage points. 76% of the consumers are using Hawaiian Telcom book in the Oahu market. The usage share is broken down as follows: 2007 Oahu Hawaiian Telcom Yellow Pages received 58%; Oahu Hawaiian Telcom Yellow Pages Companion 6%; 2006 Oahu Hawaiian Telcom Yellow Pages 6%; East Honolulu Hawaiian Telcom Yellow Pages 1%; Windward Hawaiian Telcom Yellow Pages 3%; Leeward Hawaiian Telcom Yellow Pages 2%.



Which insurance carrier has distributed dividends* 14 of the last 18 years?

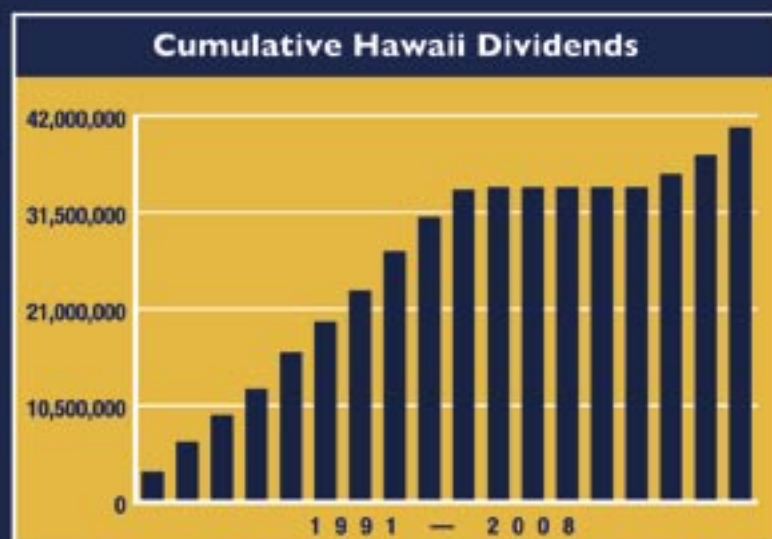


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