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Patient Perceptions of Inter-Provider Coordination of Care

Deborah Taira Juárez ScD and William Osheroff MD



Deborah Taira Juárez
ScD



William Osheroff MD

Abstract

As the United States population ages, a majority of patients are seeing multiple providers to treat their conditions, including alternative care providers. The purpose of this study was to compare patient ratings of inter-provider coordination of care. The study examined patient ratings of care between their doctor and (1) other doctors (n=36,230), (2) pharmacists (n=37,604), and (3) alternative care providers (n=8,698). It also attempted to identify member and provider characteristics with low ratings of coordination. Average rating scores were 8.4 (out of 10) for coordination with other doctors, 8.1 for coordination with pharmacists, and 6.4 for coordination with alternative care providers. Among alternative care providers, coordination was highest for Hawaiian healing and lowest for acupuncture and chiropractic services. Efforts to improve coordination of care are essential to ensure high quality care.

Introduction

As the US population ages, more people are developing multiple chronic conditions and are seeking services from multiple physicians of different specialties, including behavioral health.¹ Moreover, as new models of care being promoted under the Medicare Modernization Act of 2003 require drug plans to provide medication therapy management programs (MTMPs) to high use patients, pharmacists are functioning as part of the care team, assisting members in the management of their chronic conditions.² Another trend is increased usage of complementary and alternative medicine.^{3,4} Patients with chronic conditions are increasingly seeking alternative care in the form of naturopathy, chiropractic services, acupuncture, massage therapy, and Hawaiian healing, to alleviate symptoms and treat their conditions.

Because many different providers may be involved in treating a patient, care may be fragmented and communication between providers may be poor. Lack of coordination of care across providers can lead to non-compliance with recommended treatment guidelines, provision of duplicate services, poor health outcomes, and excess cost.⁵

The goals of this study were to examine patient ratings of coordination of care between their doctor and (1) other doctors, (2) alternative care providers, and (3) pharmacists, and to determine which patient characteristics were associated with ratings of coordination of care.

Methods

Study population

Each year, a large health plan in Hawai'i sends out a Member Satisfaction Survey to a sample of members who have seen a physician in the last 12 months. They are asked to rate a specific physician. In 2007, several questions on coordination of care were added to the survey.

The study population consisted of adult members who responded to questions on coordination of care included in a 2007 Member Satisfaction Survey. Of the 47,715 adult members who responded to the survey, 42,803 responded to one of more questions concerning coordination of care.

Coordination of care

Data from survey respondents were used to create three variables: 1) coordination between doctors and other doctors; 2) coordination between doctors and alternative care providers; 3) coordination between doctors and pharmacists. Table 1 contains the content of these questions. Responses to each of these questions were examined both as continuous variables (ranging from 1 to 10) and as categorical variables as high (9 or 10), medium (6 to 8) or low (1 to 5).

Patient characteristics

Information on age, gender, line of business, and physician specialty was linked from enrollment and other administrative files. Line of business included the Health Maintenance Organization (HMO), Preferred Provider Organization (PPO), or Medicare cost contract. Under the HMO, members are required to choose a principal physician, who needs to give referrals to see specialists. Under the PPO or Medicare plans, members can see any participating provider without prior approval. Education, health status, and ethnicity were self-reported on the survey.

For ethnicity, members were asked to check all that apply from a list of 19 ethnic groups. These categories were chosen to be consistent with the Hawai'i Department of Health's Hawai'i Health Surveillance Program. In most cases, members who marked more than one race or ethnicity were categorized as 'mixed'. The exception was that any member who marked Hawaiian was classified as Hawaiian. Hence, the 'mixed' category is actually 'mixed, non-Hawaiian'. Data were displayed

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Number	Question	Response set
Q26	Are there other doctors or nurses who play an important role in your care?	Yes/no
Q26a	If so, how would you rate the coordination between them and your regular doctor?	0 to 10, with 10 being excellent
Q27	Are you currently receiving any of the following treatments? Select all that apply	
- naturopathy		
- chiropractic services		
- acupuncture		
- massage therapy		
- Hawaiian traditional healing		
Q27a	If so, how would you rate the coordination between these providers and your regular doctor?	0 to 10, with 10 being excellent
Q28	How would you rate the coordination between your pharmacist and your regular doctor?	0 to 10, with 10 being excellent

	All Survey Respondents (n=47,715)	Respondents to Q26 (coordination with other doctors) (n=36,230)	Respondents to Q28 (coordination with pharmacists) (n=37,604)
Mean age (SD)	59.9 (17)	60.3 (16)	59.5 (17)
Women (%)	64%	64%	63%
Education (%)			
Less than college graduate	62%	62%	62%
College graduate	21%	21%	21%
Post-college education	16%	17%	16%
Health status (%)			
Poor to good	59%	61%	60%
Very good or excellent	41%	39%	40%
Health plan type (%)			
HMO	15%	15%	16%
PPO	66%	67%	67%
Medicare cost contract	17%	17%	17%
Race or ethnicity (%)			
White	18%	19%	19%
Japanese	32%	32%	31%
Chinese	6%	6%	6%
Filipino	10%	10%	10%
Korean	1%	1%	1%
Native Hawaiian	11%	11%	11%
Other race or ethnicity	4%	5%	5%
Mixed race or ethnicity	5%	5%	5%
Race or ethnicity missing	13%	12%	11%

for the 7 largest groups: Japanese, white, Native Hawaiian, Filipino, Chinese, mixed, and Korean groups. All others were grouped as 'other race or ethnicity'.

Statistical analyses

The study examined the characteristics of patients responding to each of the coordination of care questions, and of patients seeing each type of alternative care provider. Multivariate OLS regression models were constructed to examine the relationship between ratings of coordination of care and patient characteristics. Ordered logistic regression models were also constructed using a categorical (high, medium, or low coordination) dependent variable. Because the results of the logistic regression were similar to that of the OLS regression, only the OLS regression results in this report. Models accounted for the clustering of individuals by physician and were estimated using Stata 9.0 (College Station, Texas).

Results

Patient characteristics

The overall response rate to the Member Satisfaction Survey was 41% (n=47,715 respondents). Of these, approximately 37,000 responded to the coordination of care questions related to other doctors and pharmacists, while approximately 6100 members responded to the question concerning coordination of care with alternative providers.

Table 2 displays characteristics of respondents. The mean age was close to 60 years, with approximately 64 percent of the respondents women. Most members (66%) were in the PPO, while 15% were in the HMO and 17% were in the Medicare cost contract. Regarding ethnicity, the largest group was Japanese (32%). Eighteen percent were white, 11% were Native Hawaiian, 10% were Filipino, 6% were Chinese, 5% were mixed, and 13% had missing race or ethnicity.

Patients seeing alternative care providers

A total of 6101 members (12.8% of survey respondents) reported seeing an alternative provider for the following: naturopathy (n=1357), chiropractic services (n=3488), acupuncture (n=1659), message therapy (n=3866), and Hawaiian traditional healing (n=461).

Table 3 displays the characteristics of members using alternative care services. Compared to all survey respondents, users of alternative care tended to be younger (56.8 vs. 60.4 years old), healthier, and to have a higher level of education. They were more likely to be women and in the PPO plan. More than 70% of members using naturopathy, acupuncture, message therapy, and Hawaiian traditional healing were women, compared to 64% of all respondents and 66% of members using chiropractic services.

The ethnic distribution varied by type of treatment. Native Hawaiians accounted for 36% of members us-

ing Hawaiian healing, but only 9% of members using acupuncture. In general, Japanese were less likely to use alternative therapies than other groups. In contrast, while whites made up 18% of respondents, they accounted for approximately 30% of alternative care users, except in the area of Hawaiian healing where they comprised 22%.

Coordination of care

Ratings of coordination of care between doctors and alternative care providers were lower than ratings of coordination of care between doctors and other doctors or pharmacists (Figure 1). Average scores were 8.4 (out of 10) for coordination with other doctors, 8.1 for coordination with pharmacists and 6.4 with coordination with alternative care providers.

Approximately 38% of patients rated coordination of care with alternative providers as low (1 to 5 out of 10), while 11% rated coordination with other doctors as low and 17% rated coordination with pharmacists as low.

Ratings of coordination of care also varied by type of alternative care provider (Figure 2). Of the five types of care, coordination between doctors and Hawaiian healers received the highest ratings, while coordination with acupuncture practitioners received the lowest ratings. Coordination with naturopathy, message therapy, and chiropractor service providers ranked in between.

Relationship between patient characteristics and coordination of care

Table 4 displays the regression results from the coordination of care models. A positive coefficient indicates that the variable was positively associated with coordination of care, after adjustment for other factors. Results were consistent across the three types of coordination: (1) coordination with other doctors; (2) coordination with alternative care providers; and (3) coordination with pharmacists.

In general, older members and men rated coordination of care higher than younger women (Table 4). Higher education was significantly associated with lower ratings, possibly due to higher expectations. Members in the Medicare cost contract rated coordination between doctors lower than PPO members, whereas HMO members rated all types of coordination lower than did PPO members.

Compared to whites, Native Hawaiians, Filipinos, and members of ‘other race’ rated all types of coordination of care higher. Japanese and members of mixed race or ethnicity rated coordination of care with doctors higher than whites. The ratings of Chinese and Koreans were similar to those of whites.

Compared to Hawaiian healing, coordination of care was significantly lower for acupuncture, chiropractic services, naturopathy, and massage therapy.

Table 3.— Characteristics of Members Seeing Alternative Care Providers

	Naturopathy (n=1357)	Chiropractic Services (n=3488)	Acupuncture (n=1659)	Massage Therapy (n=3866)	Hawaiian Traditional Healing (n=461)
Age (SD)	55.8 (14)	55.8 (15)	56.5 (14)	55.6 (15)	55.4 (15)
Women (%)	72%	66%	74%	73%	73%
Education (%)					
< college graduate	52%	54%	47%	50%	63%
College graduate	24%	24%	24%	24%	17%
Post-college education	22%	21%	29%	25%	20%
Health status (%)					
Poor to good	50%	52%	54%	53%	52%
Very good or excellent	50%	48%	46%	47%	48%
Health plan type (%)					
HMO	19%	17%	17%	17%	20%
PPO	69%	72%	73%	71%	67%
Medicare cost contract	10%	10%	9%	10%	11%
Race or ethnicity (%)					
White	33%	28%	32%	30%	22%
Japanese	20%	25%	25%	24%	11%
Chinese	6%	6%	6%	6%	4%
Filipino	8%	7%	4%	9%	9%
Korean	2%	1%	3%	1%	1%
Native Hawaiian	11%	13%	9%	11%	36%
Other race or ethnicity	6%	5%	4%	5%	5%
Mixed race or ethnicity	6%	6%	5%	6%	4%
Race/ethnicity missing	9%	10%	11%	9%	8%

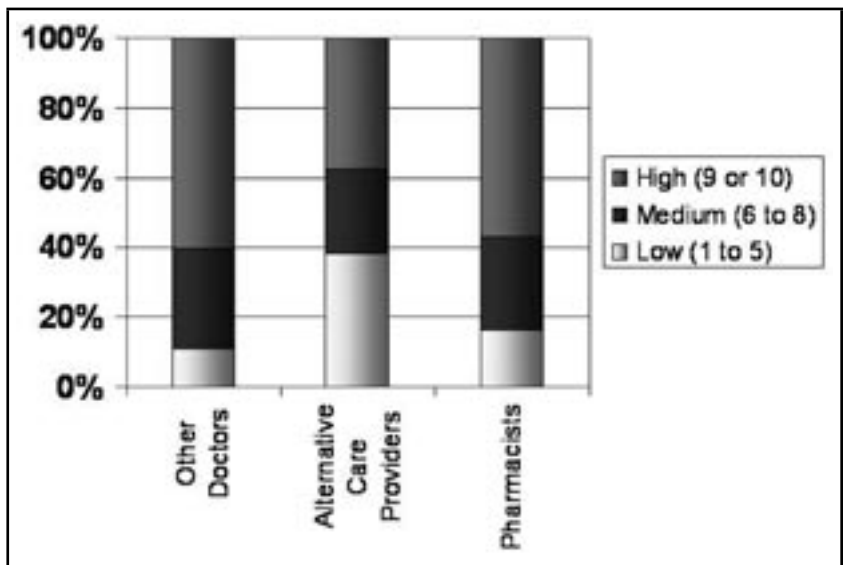


Figure 1.— Coordination of Care Between Doctors, Other Doctors, Alternative Care Providers, Pharmacists

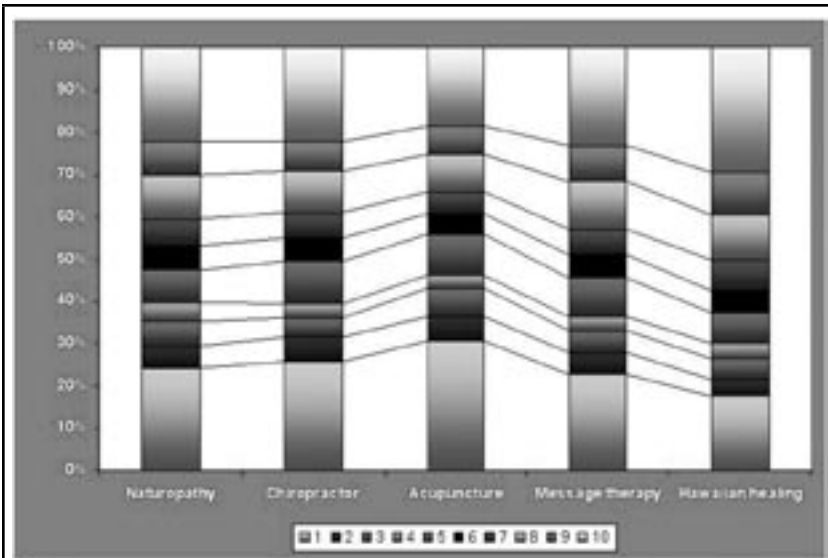


Figure 2.— Coordination of Care Between Doctors, Alternative Care Providers, by Type of Provider

Discussion

In this study of over 47,000 health plan members who responded to a patient survey, more than three quarters of patients reported that more than one provider took an active role in their care, suggesting that coordination of care could be a concern for many patients. Approximately 12.8% reported seeing an alternative care provider for naturopathy, chiropractic services, acupuncture, massage therapy or Hawaiian traditional healing. Users of alternative therapy, tended to be younger, healthier, more educated, and more likely to be women, white, and in the PPO plan. As expected, Native Hawaiians accounted for a greater percentage of members using Hawaiian healing (36%) than for other types of alternative care treatment (e.g. 9% of members using acupuncture). The findings that women and more educated patients are more likely to see alternative medicine providers is consistent with the literature, while evidence of the relative health status of users is mixed, with some studies finding higher use among sicker patients and others finding no difference in health status.⁶⁻⁸

Table 4.— Regression Results: Factors Affecting Coordination of Care Ratings

	Coordination with other doctors (n=36,230)		Coordination with alternative providers (n=8,698)		Coordination with pharmacists (n=37,604)	
	Coef.	p-value	Coef.	p-value	Coef.	p-value
Age	0.02	<0.001	0.03	<0.001	.03	<0.001
Women (%)	-0.17	<0.001	-0.17	<0.001	-0.24	<0.001
Education (relative to <college graduate)						
College graduate	-0.33	<0.001	-0.97	<0.001	-0.50	<0.001
Post-college education	-0.58	<0.001	-1.5	<0.001	-0.91	<0.001
Health status (relative to very good to excellent)						
Poor to good	-0.43	<0.001	-0.46	<0.001	-0.44	<0.001
Health plan type (relative to PPO)						
HMO	-0.08	0.01	-0.36	<0.001	-0.11	0.002
Medicare	-0.09	0.005	0.08	0.47	-0.03	0.38
Race or ethnicity (relative to white)						
Japanese	0.15	<0.001	-0.005	0.95	-0.06	0.07
Chinese	-0.04	0.45	0.07	0.63	-0.39	<0.001
Filipino	0.21	<0.001	1.1	<0.001	0.46	<0.001
Korean	-0.003	0.97	0.03	0.92	-0.39	<0.001
Native Hawaiian	0.43	<0.001	0.69	<0.001	0.31	<0.001
Other race or ethnicity	0.21	<0.001	0.68	<0.001	0.16	0.01
Mixed race or ethnicity	0.30	<0.001	0.41	0.01	0.04	0.48
Race or ethnicity missing	-0.23	0.001	0.16	0.42	-0.42	<0.001
Alternative care provider (relative to Hawaiian healing)						
Naturopathy			-0.39	<0.001		
Chiropractic services			-0.97	<0.001		
Acupuncture			-0.92	<0.001		
Massage therapy			-0.40	<0.001		

To the authors' knowledge, this study is the first to examine the relative ratings of coordination between doctors and (1) other doctors, (2) pharmacists, and (3) alternative care providers. Coordination of care between doctors and alternative care providers was rated lower (6.4 out of 10) than coordination of care with other doctors (8.4). These findings are consistent with the literature. In a study of women with breast cancer, researchers found that reasons for not disclosing complementary or alternative therapies use included anticipating the physician's disinterest, negative response, or unwillingness or inability to contribute useful information.⁹ A recent study of Native Hawaiians combining lā'au lapa'au (Hawaiian herbal healing) and Western medicine found a similar reluctance to share their experiences with alternative care providers.¹⁰ Improving coordination between alternative care providers and physicians is important to avoid adverse drug interactions and to examine the impact of various treatments.¹¹

In contrast, ratings of coordination with pharmacists (8.1) were not far below those for coordination with other doctors (8.4). This provides encouraging evidence for supporters of medication therapy management programs (MTMPs).

The study also found that coordination differed by type of alternative care treatment. Of the alternative therapies, acupuncture had the lowest coordination scores, while traditional Hawaiian healing had the highest scores. After adjustment of other factors, coordination was significantly lower for acupuncture and chiropractic services, compared to Hawaiian healing. Further research is needed to determine how coordination varies between different types of providers.

Significant associations existed between patient characteristics and ratings of coordination of care. The findings regarding type of coverage were different than expected. It was thought that coordination ratings would be higher for HMO patients as they are required to get referrals to see specialists, but this was not the case, as coordination ratings tended to be lower in the HMO than the PPO.

In general, older members and women rated coordination of care higher than younger men. Higher education was significantly associated with lower ratings, possibly due to higher expectations. Racial and ethnic differences also existed with whites, Chinese, and Koreans having the lowest ratings for coordination between their regular doctor and other doctors. Further research is needed to better understand these racial and ethnic differences.

Efforts to improve coordination of care may need to focus on specific groups, including younger people, men, and people in poor

health. Improving coordination for those in poor health is of particular importance, as they are likely to have more complex health care needs and they are at higher risk for adverse events.

Moreover, a survey of California physicians recently found that about 40% of physicians reported that their patients experienced coordination of care problems, with physicians in large practices reporting more issues than physicians in small or solo practices.¹² Hence, intervention to improve coordination of care may want to target large practices first, and the type of intervention may need to differ depending on the structure of the physician practice.

One way to improve coordination of care might be to create integrated financing and delivery programs.¹³ For instance, if alternative medicine services were available at community health centers and paid under the same capitation rates, coordination might improve. In addition, providing a forum for professional dialog between chiropractic and acupuncture services and primary care providers may facilitate improvements in the coordination of care. Whatever the means, improving coordination and communication between alternative providers, pharmacists, and physicians will be critical to improving the overall quality of care, particularly for patients with multiple chronic conditions.

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Describing Hawai'i's Nursing Home Physicians: The Results of a Survey

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Abstract

Introduction: Despite a growing need for physicians providing care to nursing home patients, the characteristics of physicians providing such care are not well described.

Methods: A survey was sent to adult primary care physicians in Hawai'i; respondents' demographic data were obtained. Associations between physician characteristics, level of nursing home experience, and island of practice were analyzed using chi square and multivariate logistic regression models.

Results: Of 806 physicians, 388 (48%) returned surveys. Controlling for years of experience and other demographic factors, having nursing home experience was associated with physician age (40 years and over compared with under 40 years; OR 3.5, 95% Confidence Interval (CI) 1.4-8.5), Family Medicine specialty (compared with Internal Medicine, General Practice or Other; OR 4.0, 95% CI 1.4-11.4), private practice type (compared with employed, other, and trainee physicians; OR 2.3, 95% CI 1.1-4.6), and practice location (neighbor islands compared with Oahu, OR 4.5, 95% CI 1.1-17.8). Physicians practicing on the neighbor islands were more likely to be aged 40 years and older (OR 3.9, 95% CI 1.4-10.3), and white (ethnicity compared with all other ethnicities, OR 4.1, 95% CI 2.1-7.7).

Conclusion: The association of higher physician age with both nursing home experience and neighbor island practice has important implications for the training of physicians to provide nursing home care in Hawai'i.

Introduction

As Hawai'i's population ages, the need for physicians to care for the elderly will continue to grow. The trend toward specialization within primary care, with hospital-based and clinic-based physicians, coupled with the pressure to decrease hospital lengths of stay, has led to sicker nursing home patients and fewer physicians caring for their own patients in nursing homes. There is a shortage of nursing home physicians to meet the needs of the US population,^{1,2} and inadequate numbers of geriatricians in the United States,^{3,4} who are most likely to see patients in nursing homes and at home.⁵ There is little published literature describing the characteristics of physicians who provide nursing home care,⁶ nationally or in Hawai'i. This study sought to describe the characteristics of physicians caring for nursing home patients in Hawai'i, as well as the general characteristics of physicians working in the rural and underserved areas of Hawai'i.

Methods

This study utilizes data from a survey of adult primary care physicians that was conducted in 1998. The survey was sent to 806 adult primary care physicians in Hawai'i to better understand the demographic characteristics and attitudes of physicians most likely to provide care to nursing home patients. The survey contained questions regarding the demographic characteristics of the responding physicians; the remainder of the survey contained questions on the knowledge and attitudes of physicians about advance directives and tube feeding. The physicians were identified from the Hawai'i Medical Association's physician directory. A second mailing was sent to non-responders after 2 weeks. Telephone reminders were also made. The study was approved by the University of Hawai'i Institutional Review Board.

The results of the demographic section of the survey were analyzed using chi-square tests by comparing nursing home experience (in years) and island location (O'ahu, Maui, Kaua'i, Hawai'i, Moloka'i, and Lana'i) with demographic factors collected on the responding physicians. Physicians who responded to the survey were placed in one of two groups according to their designation of the island base of their practice: O'ahu or the neighbor islands (Maui, Kaua'i, Hawai'i, Moloka'i, and Lana'i).

Two main outcomes were studied by logistic regression models: (1) Nursing home experience (dichotomized into any years vs. none), and (2) Neighbor island vs. Oahu as a practice site. All physician demographic variables were first evaluated with chi square or Fisher exact tests and univariate analyses, and then multivariate analyses were performed on the factors with significant relationships on chi square, Fisher exact or univariate analyses. Several variables were combined for analysis due to small numbers of respondents in a cell. These included "other" ethnicity [included "mixed" (23, 5.9%) Hawaiian, part-Hawaiian, or Pacific Islander (21, 5.4%); unknown (15, 3.9%); Korean (6, 1.5%); African-American (4, 1%); Indian (3, 0.8%); Vietnamese (3, 0.8%); and less than 0.5% of the physicians indicating several other ethnicities], "other" religion [included other (48, 12%), unknown (22, 6%), Jewish (13, 3%), and multiple other affiliations each having less than 6% of the respondent population], general practice specialty [included general

practice (n=31 (8%) and other specialties (n=28 (7%)), and employed practice type [included employed (110, 28%) educator (1, 0.3%), other (1, 0.3%) and unknown (14, 3.6%)]. SAS 9.1 was used for analyses.

Results

Of 806 physicians surveyed, 388 (48%) responded. The demographic characteristics of the physicians are listed in Table 1.

Table 2 demonstrates characteristics of physicians by years of nursing home experience. In multivariate analysis, Table 3, physicians aged over 40 years, family medicine physicians (compared with internal medicine, general practitioners, and other specialties), private practice physicians (compared to employed, academic/other, and trainees) and those with neighbor island practice location (compared with O'ahu) had a higher likelihood of having any years of nursing home experience.

Table 4 demonstrates characteristics of physicians by island location of practice. In multivariate analysis, Table 5, physician age over 40 years (compared with physicians under 40 years), white ethnicity (compared with all other ethnicities as a group), and rural location of practice (compared with urban location of practice) were significantly associated with a greater likelihood of neighbor island practice location.

Discussion

This 1998 survey targeted physicians likely to provide care to nursing home patients. Having a practice based on the neighbor islands was associated with an increased likelihood of having nursing home experience. This was consistent with the literature, which found that rural physicians had the heaviest patient loads in nursing homes,⁷ and that physicians within smaller communities were more likely to provide nursing home care.^{8,9} Physician age over 40 years (controlling for physician years of practice experience) was associated with an increased likelihood of having experience in providing nursing home care. This was also consistent with prior findings that physicians licensed for 11 to 20 years had the heaviest patient loads in nursing homes.⁷ Family medicine physicians were more likely than internists, general practitioners, and other physicians to have nursing home experience, similar to a previous study,⁷ while having a private practice was more strongly associated with having nursing home experience than employed, academic, or other practice types, and trainees, also noted in another study.⁸ Practicing on the neighbor islands was associated with physician age over 40 years, white ethnicity, and rural location of practice, again reinforcing the associations between physicians with nursing home care experience, neighbor island practice, and physician age.

A study in Missouri in 1993 noted that almost one-third of nursing home patients were attended by physicians

Demographic Characteristics	N=388 (%)
Men	278 (74)
Married	280 (72)
Age	
Under 40 years	106 (27)
40-59 years	233 (60)
60 + years	49 (13)
Ethnicity	
White	133 (34)
Japanese	80 (21)
Chinese	53 (14)
Filipino	40 (10)
Part-Hawaiian and other	82 (21)
Religion	
Catholic	88 (23)
Protestant	110 (28)
Buddhist	36 (9)
Atheist/ Agnostic	52 (13)
Other religion	102 (26)
Practice Characteristics	
Experience in Nursing Homes ^a	310 (83)
Geriatric Medicine subspecialty ^b	20 (5)
Medical Specialty	
Internal Medicine	240 (62)
Family Medicine	89 (23)
General Practice	59 (15)
Practice Type	
Private Practice	220 (57)
Employed	126 (32)
Trainee (resident or fellow)	42 (11)
Practice Location	
Urban	267 (72)
Rural	105 (28)
Island of Practice	
O'ahu	289 (78)
Maui	22 (6)
Kaua'i	16 (4)
Hawai'i	38 (10)
Moloka'i	3 (1)
Lana'i	1 (0.3)
Years of Practice Experience	
Under 5 years	90 (24)
5-9 years	58 (15)
10-19 years	124 (33)
Over 19 years	101 (27)

Percentages may not add up to 100% due to rounding.

^aCompared with physicians who reported no nursing home patient experience.

^bCompared with physicians with other or no subspecialty.

Table 2.— Physicians' Demographic Features by Years of Nursing Home Experience						
Years of Nursing Home Experience	None	< 5	5-9	10-19	20+	P value
	N=63 (17%)	N=95 (26%)	N=58 (15%)	N=96 (26%)	N=61 (16%)	
Physician Age						
under 40 years	36 (57)	53 (56)	15 (26)	2 (2)	0 (0)	
40 -59 years	21 (33)	37 (39)	40 (69)	88 (92)	33 (54)	<.001
60 years and over	6 (10)	5 (5)	3 (5)	6 (6)	28 (46)	
Physician Gender						
Women	24 (38)	30 (32)	18 (31)	15 (16)	7 (12)	<.001
Men	39 (62)	63 (68)	40 (69)	81 (84)	53 (88)	
Physician Marital Status						
Not Married	23 (37)	42 (44)	10 (17)	11 (11)	10 (16)	<.001
Married	40 (63)	53 (56)	48 (83)	85 (89)	51 (84)	
Physician Ethnicity						
White	21 (33)	36 (38)	24 (41)	26 (27)	24 (39)	.002
Japanese	11 (17)	16 (17)	11 (19)	34 (35)	8 (13)	
Chinese	16 (25)	8 (8)	6 (10)	8 (8)	14 (23)	
Filipino	6 (10)	13 (14)	3 (5)	10 (10)	8 (13)	
Part-Hawaiian and Other	9 (14)	22 (23)	14 (24)	18 (19)	7 (11)	
Practice Type						
Private Practice	22 (35)	39 (41)	29 (50)	75 (78)	54 (89)	<.001
Employed or Other	24 (38)	33 (35)	27 (47)	21 (22)	7 (11)	
In-training	17 (27)	23 (24)	2 (3)	0	0	
Specialty						
Internal Medicine	45 (71)	48 (51)	37 (64)	69 (72)	41 (67)	<.001
Family Medicine	6 (10)	26 (27)	16 (28)	23 (24)	17 (28)	
General Practice/ Other	12 (19)	21 (22)	5 (9)	4 (4)	3 (5)	
Years of Practice Experience						
Under 5 years	28 (45)	61 (64)	0	0	1 (2)	<.001
5-9 years	8 (13)	16 (17)	33 (57)	1 (1)	0	
10-19 years	15 (24)	9 (9)	17 (29)	83 (86)	0	
Over 19 years	11 (18)	9 (9)	8 (14)	8 (13)	60 (98)	
Location						
Urban	53 (85)	72 (77)	41 (71)	61 (64)	40 (66)	.024
Rural	9 (15)	22 (23)	17 (29)	35 (36)	21 (34)	
Island of Practice						
O'ahu	60 (95)	82 (87)	38 (66)	61 (65)	47 (80)	<.001
Neighbor Islands	3 (5)	12 (13)	20 (34)	33 (35)	12 (20)	

^aN=373, data not available for 15 respondents. ^bNo significant differences were seen for physician religion.

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The CRC funding source provided expert advice regarding design, implementation and analysis of the study. However, the principal investigator retained full control over the study.

Drs. Bell and Masaki had full access to all the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

who may be retiring between 2000 and 2010,⁷ and this survey of Hawai'i physicians also raises concern that many of the primary care physicians who have been providing care to the elderly are older, with fewer younger primary care physicians choosing to provide care for nursing home patients.

Previous studies have found geriatricians are the most likely to care for nursing home patients, and 95% of the physicians in this study with board certification in geriatrics had experience in caring for nursing home patients. The small number (20) of geriatricians in the study limited the analysis of geriatric board certification as a factor. Most of the geriatricians trained in Hawai'i during the time of this study joined academic practices with the primary focus of training geriatric fellows. However, since then, there are geriatricians in Hawai'i and nationally specializing in nursing home practices,⁸ filling a vital need.

National efforts are underway to increase geriatric training across the spectrum of medical education, with required geriatric rotations in internal medicine and family medicine residencies,^{4,10} but required geriatric medicine rotations during medical school are still limited. The University of Hawai'i is one of less than 10 out of 145 allopathic and osteopathic medical schools to have a distinct Department of Geriatric Medicine;⁶ has required geriatric medicine rotations for internal medicine, family medicine, psychiatry, and obstetrics-gynecology residents; and a required geriatric medicine rotation for fourth year medical students in place since 2005. Additionally, since 1998, the number of geriatric medicine fellowship positions in Hawai'i has increased to 12 per year, making it one of the four largest geriatric medicine fellowship programs in the country. In addition, since this study was completed, the University of Hawai'i's Department of Geriatric Medicine has developed a large and growing teaching nursing home program. In this program, faculty geriatricians provide care for nursing home patients in more than 18 nursing homes while students, residents, and fellows participate as part of required rotations.

This study also compared characteristics of physicians on O'ahu and the neighbor islands. Previous studies have noted the lack of health care services and access to service as problems in rural Hawai'i.¹¹ Physicians who practice in rural communities tend to have been raised in rural communities,¹² have family in rural communities, or have been exposed to rural communities through their residency training.¹³ However, this study also highlights the relationship between serving rural areas and providing care in nursing homes.

The strengths of this study included the level of detail available in the demographic data, as well as the accuracy of the variables, as the physicians indicated the variables personally on the survey form. The key limitations of the study are the age of the data and the nonresponder bias, however, comparison with recent physician data

	Univariate Analysis	P-value	Multivariate Analysis	P-value
	Unadjusted Odds Ratio (95% CI)		Adjusted Odds Ratio (95% CI)	
Physician age > 40 yrs ^a	4.6 (2.6-8.0)	<.001	3.5 (1.4-8.5)	0.007
Men	2.1 (1.2-3.7)	0.012	1.9 (1.0-3.6)	0.056
Married ^b	1.9 (1.0-3.3)	0.034	1.4 (0.7-2.8)	0.30
White Ethnicity ^c	1.1 (0.6-2.0)	0.74	0.9 (0.4-1.8)	0.72
Family Medicine Specialty ^d	3.4 (1.4-8.2)	0.006	4.0 (1.4-11.4)	0.009
Private Practice ^e	3.2 (1.8-5.7)	<.001	2.3 (1.1-4.6)	0.021
10 + yrs Practice Experience ^f	2.4 (1.4-4.3)	0.002	0.7 (0.3-1.7)	0.39
Rural Practice Location ^g	2.6 (1.2-5.5)	0.012	0.8 (0.3-2.0)	0.62
Neighbor Island Practice ^h	6.8 (2.1-22.2)	0.002	4.5 (1.1-17.8)	0.031

Bolded values indicate p<.05. ^aCompared to physicians <40 years old, ^bCompared to single, divorced, widowed, or separated, ^cCompared to all other ethnicities combined, ^dCompared to Internal Medicine, General Practice and other specialties, ^eCompared to employed, in-training, or other, ^fCompared to fewer than 10 years of practice experience, ^gCompared to urban (city of Honolulu), ^hCompared to O'ahu. Factors only with significant relationships on univariate or chi square analyses were used in multivariate analysis.

revealed similar percentages of physicians in the various specialties and island locations. In 2006, there were approximately 975 physicians in Hawai'i who designated as their specialty family medicine (25%), general practice (7%), and internal medicine and its subspecialties(68%)¹⁴, and 74% of the Oahu-based physicians in this group are internists, 20% are family medicine, and 6% are general practitioners. These percentages match closely with the survey respondent population. Other sources of data on the ethnicity of physicians in Hawai'i are harder to compare, as most other sources do not separate the Asian ethnicities.

Future directions in this area include an update survey of the physician workforce in Hawai'i, particularly targeting those caring for the elderly and in rural areas, in order to continue to describe the need to train additional physicians in the state, and to monitor how well this need is being met. A physician workforce survey is currently being linked with relicensure for physicians in Hawai'i, and the results will significantly aid in the planning and development of recruitment and training programs for underserved populations.

Conclusion

The physicians likely to care for patients in nursing homes differ significantly by demographic factors depending on the level of nursing home experience and the island location of practice. The association of both nursing home experience and neighbor island-based practice with physician age over 40 years has implications for future planning of the physician workforce in Hawai'i.



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Table 4.— Physician Demographic Features: Neighbor Islands Compared with O'ahu as Location Base for Practice

	Neighbor Islands N=80 (22%) ^a	O'ahu N=289 (78%) ^a	P value
Physician Age			
under 40 years	8 (10)	98 (34)	
40 -59 years	66 (83)	150 (52)	<.001
60 years and over	6 (8)	41 (14)	
Physician Ethnicity			
White	50 (63)	81 (28)	
Japanese	10 (13)	70 (24)	<.001
Chinese	5 (6)	46 (16)	
Filipino	4 (5)	34 (12)	
Part-Hawaiian and Other	11 (14)	58 (20)	
Practice Type			
Private Practice	52 (65)	164 (57)	0.001
Employed/ Other	28 (35)	83 (29)	
In-training	0	42 (15)	
Specialty			
Internal Medicine	34 (43)	203 (70)	<.001
Family Medicine	34 (43)	53 (18)	
General Practice/ Other	12 (15)	33 (11)	
Location			
Urban	21 (26)	241 (84)	<.001
Rural	59 (74)	46 (16)	
Physician Years of Practice			
Less than 5 years	5 (6)	84 (29)	<.001
5-9 years	12 (15)	46 (16)	
10-19 years	40 (50)	83 (29)	
20 years and over	23 (29)	75 (26)	
Years of Nursing Home Practice			
None	3 (4)	60 (21)	<.001
Under 5 years	12 (15)	82 (28)	
5-9 years	20 (25)	38 (13)	
10-19 years	33 (41)	61 (21)	
20 years and over	12 (15)	47 (16)	

^aN=369, data not available for 19 respondents, numbers may not add up to 100% due to rounding.

^bNo significant differences were seen for physician gender, marital status, or religion.

Table 5.— Logistic Regression Models: Influence of Physician Demographic Characteristics on Neighbor Island Practice Location as the Outcome Variable

	Univariate Analysis		Multivariate Analysis	
	Unadjusted Odds Ratio (95 % CI)	P-value	Adjusted Odds Ratio (95 % CI)	P-value
Physician age over 40 years ^a	4.6 (2.1-10.0)	<.001	3.7 (1.2-11.3)	0.02
White Ethnicity ^b	4.3 (2.5-7.2)	<.001	4.0 (2.1-7.7)	<.001
Family Medicine Specialty ^c	3.3 (1.9-5.6)	<.001	1.9 (1.0-3.8)	0.06
10 + yrs Practice Experience ^d	3.0 (1.7-5.5)	<.001	1.1 (0.5-2.6)	0.87
Private Practice ^e	1.4 (0.8-2.4)	0.19	1.3 (0.6-2.6)	0.53
Rural Location of Practice ^f	14.7 (8.2-26.5)	<.001	11.4 (6.0-21.9)	<.001

Bolded values indicate p<.05. ^aCompared to physicians <40 years old, ^bCompared to all other ethnicities combined, ^cCompared to Internal Medicine, General Practice and other specialties, ^dCompared to fewer than 10 years of practice experience, ^eCompared to employed, in-training, or other, ^fCompared to urban. Factors only with significant relationships on univariate or chisquare analyses were included in multivariate model.

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Copper T380A Intrauterine Device: Lost and Found

Bliss Kaneshiro MD; Jeffrey Jensen MD, MPH; and Alison Edelman MD, MPH

Introduction

Intrauterine devices (IUD) have been used to prevent pregnancy for centuries. Although they continued to be popular around the world, in the United States, a history of litigation and negative publicity decreased IUD utilization for the last 20 years. However, the advent of new devices, particularly the levonorgestrel containing IUD has steadily increased IUD utilization among American women.

Occurring in approximately 1 in 1000 insertions,¹⁻³ perforation of the uterus is a rare, although serious complication associated with IUD use. Risk factors include a retroverted, immobile uterus and an inexperienced clinician. While the vast majority of uterine perforations do not involve other organs, a small percentage will involve perforation or erosion into adjacent visceral organs, most often the small bowel.² This report describes a uterine perforation with a Copper T-380A IUD into the small bowel and documents treatment with a laparoscopic bowel resection.

Case

A 22-year-old G2 P2002 had a Copper T-380A IUD inserted when she was 8 months postpartum. Three months following insertion, the IUD strings were not visible on speculum examination and the patient was noted to have an intrauterine pregnancy at 6 weeks gestation. The patient was asymptomatic at the time, continued the pregnancy and had an uncomplicated vaginal delivery at term. Ultrasound performed during pregnancy failed to demonstrate an intrauterine IUD.

The patient presented to the physician 15 months after delivery. She continued to be asymptomatic and was using intramuscular medroxyprogesterone acetate for contraception. Upon review of her history, an x-ray of the abdomen was ordered and revealed an IUD in the abdominal cavity.

At the time of laparoscopy, the vertical base of the IUD was found to be embedded in the jejunum with portions of the arms extruding externally through the wall of the small bowel. The IUD was removed by pulling on the partially extruded strings after which a laparoscopic small bowel resection with end to end anastomosis was performed without complication. The woman's postoperative course was uneventful. She tolerated a regular diet postoperatively and was discharged less than 24 hours after the procedure.

Discussion

Evidence based reviews have demonstrated that IUDs are a rapidly reversible, reliable, safe, and cost effective form of long term contraception that is appropriate for use in most women. Both medicated and non-medicated IUDs offer non-contraceptive health benefits including protection against endometrial cancer.⁴ They also do not interfere with the spontaneity of sex and besides causing alterations in the menstrual cycle, have few systemic side effects resulting in high user satisfaction.

Multiple analyses have demonstrated that IUDs work by preventing fertilization rather than by interfering with implantation of a fertilized embryo. Studies, including those that used sensitive assays for human chorionic gonadotropin^{5,6} and those that attempted to recover sperm or fertilized ova from fallopian tubes,⁷⁻⁹ demonstrated that IUDs work by inhibiting fertilization rather than by causing abortion.

With the advent of new, improved devices, the patient profile for IUD use has expanded and there are relatively few absolute, evidence-based contraindications. Multiple studies have shown that IUD insertion rather than IUD use is associated with infection. Risk of pelvic inflammatory disease in women using IUDs fall to levels similar to women who do not use IUDs, 20 days after insertion.¹⁰ Both the copper and levonorgestrel containing IUD can safely be used in nulliparous women, adolescents, women with a history of ectopic pregnancy, and women with a history of pelvic inflammatory disease who are no longer at high risk for sexually transmitted infections.¹⁰⁻¹²

Complications such as uterine perforation are rare. Perforation at the time of insertion can be associated with pain or bleeding. Perforation may also be asymptomatic and usually goes undiagnosed until the patient returns for follow up.³ This case highlights the importance of educating patients to perform self examination to palpate their own IUD strings or return one month post insertion to verify that the strings are visible. If the IUD strings are not visible, pregnancy should be ruled out and transvaginal ultrasound or abdominal x-ray can confirm intrauterine placement.

Since 1973, there have been more than 50 case reports of complete or partial perforation of an IUD involving the gastrointestinal tract. There are also cases of small bowel obstruction caused by perforation, herniation of bowel through a closed device, kinking of bowel due to

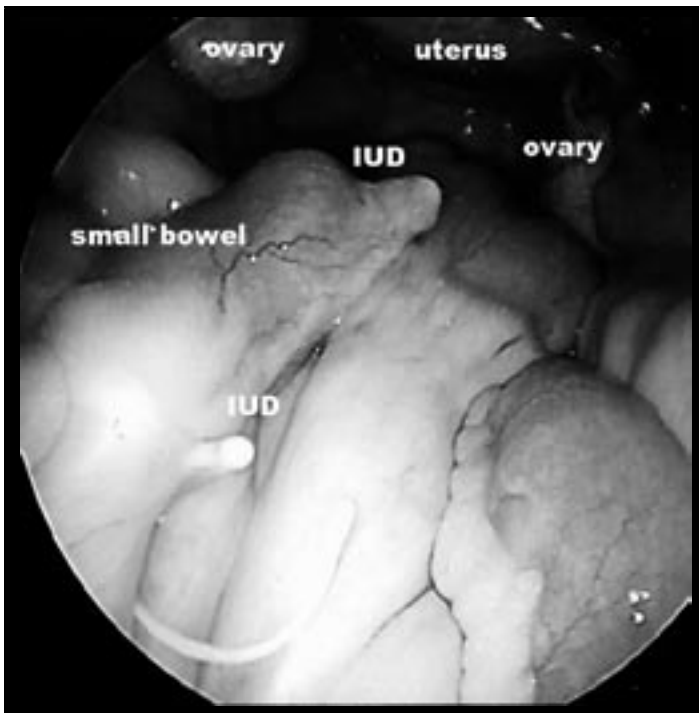
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Figure

adhesions, and strangulation of bowel by IUD strings. All cases of IUD perforation involving the gastrointestinal tract reported in the literature have been associated with an inert or copper containing IUD. While this may make it appear as though hormone containing IUDs result in fewer complicated perforations, worldwide, many more inert and copper containing IUDs have been inserted.

A triad of symptoms including abdominal pain, fever, and diarrhea have been suggested as symptoms of IUD perforation involving the bowel.^{1,2} However, some patients, including ours, are asymptomatic highlighting a diversity of clinical presentation.

Although some have argued that asymptomatic extrauterine IUDs can be left in place, the current standard is to remove extrauterine IUDs, especially if they contain copper. Copper ions are thought to be inflammatory in the abdominal cavity and can result in adhesions and a peritoneal reaction that allows for erosion into other organs.¹ Cases of perforation or erosion into bowel with copper

containing IUDs have been documented to occur as early as 4 weeks following placement.² However, most symptoms associated with gastrointestinal tract perforation do not occur until 2-3 years after insertion¹ suggesting that it takes a longer period of time for a copper containing IUD to erode into organs.

Uterine perforation most commonly occurs at the time of insertion. Thus, a bimanual examination to determine the size and position of the uterus is a critical step in IUD insertion. Experts have also suggested that using a tenaculum to straighten the uterine cavity decreases the risk of perforation.³ Recent postpartum status and lactation are hypothesized to increase perforation risk because the relative hypoprogesterone state leads to endometrial atrophy. However, more definitive studies are needed to define this risk.

This is the first report of a perforated IUD into small bowel that was treated completely via laparoscopy. As surgeons become more comfortable with laparoscopic techniques and procedures, repair of this particular injury by laparoscopy should be considered. Successful laparoscopic treatment is likely to result in an earlier return of bowel function and a shorter hospital stay. A laparoscopic approach is also likely to result in greater economy and patient satisfaction. The use of laparoscopy to manage bowel perforation represents an important advance in the care of women.

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Overview: The Hawai'i Clinical and Translational Science Institute

J. David Curb MD, MPH; Director of Translational Research, John A. Burns School of Medicine

The John A. Burns School of Medicine (JABSOM) and other University of Hawai'i (UH) centers, schools, and colleges, are collaborating with health care related organizations and institutions in Hawai'i, in an unparalleled planning effort to respond to a new National Institutes of Health (NIH) initiative for Clinical and Translational Science Awards (CTSA). This is an expansion of the "bench to bedside" concept designed to extend this concept of the research continuum into the community and to the consumers of health care. The concept of translational science or research translates new findings in a stepwise process in a rapid and efficient manner.

In response to this opportunity, Hawai'i, under the leadership of the John A. Burns School of Medicine, proposes to develop an innovative academic home for clinical research, focused on the unique diversity and geography of Hawai'i, and with a community based collaborative culture that is radically different from that in most other settings. This new research Institute, the Hawai'i Clinical and Translational Sciences Institute (HCTSI), and its partners will bring about a fundamental change of the culture involved in clinical and biomedical research in the state of Hawai'i. Clinical research in Hawai'i has always been based on a strong partnership with the community and has never been primarily university based. Hawai'i has no dominant clinical care organization and there is no university hospital. Elements of the community, including the five major community-based hospitals, have served as the base for clinical care and teaching facilities, as well as a community base for clinical research for the University of Hawai'i. In some cases these organizations developed their own research capabilities. The proposed new Institute will extend and transform the existing collaborative partnerships in the community of Hawai'i into a more unified and coordinated approach to translational research.

This culture will be based on an already collaborative community of investigators with culturally sensitive research agendas, as well as on the creation of new types of expanded interdisciplinary translational research teams. These teams will include expertise in study design, ethics, translational research, grants administration, and analysis, as well as other specific elements dedicated to facilitate each team's ability to conduct relevant high quality research. Ample resources, experienced leadership, and solid institutional support will provide an organized foundation for these efforts for the first time in Hawai'i. Among the key elements of this research home will be a one stop front porch where researchers can get expert advice on designing, developing and implementing translational research. This unit will be staffed by a support and senior experienced research experts and mentors from UH, the community, nationally and internationally, who will be brought in for face to face and virtual consultations.

The intent of this new Institute will be to train and nurture new types of researchers specifically trained to adopt the interdisciplinary team-based translational model and to utilize it to maximize the speed and efficiency of moving new research funding through the translational research continuum.

Hawai'i clinical and translational research

Hawai'i's biomedical research program has grown over the last 10 years. Much of this expansion has been based on the unique multicultural environment of Hawai'i, its unique and isolated geographical position 2500 miles west of California, and its proximity, and its distinctive relationships, to the US affiliated Pacific Territories and to Asia to the West.

Under the leadership of Dean Edwin Cadman (1999-2005) a new medical school campus was built, grew, and prospered. In 2008 with the selection of Dr. Jerris Hedges as the in-coming Dean, JABSOM is on track to continue on this path. Dr. Hedges, a respected clinical researcher, comes to Hawai'i from the Oregon Health and Science University in Portland, Oregon. He contributed to the successful application of that institution, in collaboration with the Kaiser Permanente Portland, to become a CTSA center in 2007. Dr. Hedges has energized the JABSOM research program, renewed and strengthened community partnerships, and dedicated the institution to the development of a translational research program. He is creating a natural bridge to the Portland CTSA. Discussions with the Oregon CTSA have begun to develop a partnership with that institution to share mutual expertise in various areas.

JABSOM was awarded a CTSA planning grant in 2006. Planning began in earnest in 2007 when J. David Curb MD, MPH, previously a part time faculty member at JABSOM, agreed to redirect his efforts to focus on engineering the Hawai'i clinical research transformation. Under his direction, the process of piloting the Hawai'i clinical research scene and increasing its focus on translational research will build on prior community based initiatives.

The HCTSI will promote a fundamental change of the culture involved in clinical and biomedical research in the state.

The aim of the new Institute will be to engage experienced researchers, new to translational research, as well as new junior investigators, to incorporate existing research programs, and to make the existing research support infrastructure investigator friendly and efficient. Future translational research in Hawai'i will grow from areas of inherent strength. These include the ethnic diversity and majority Asian population, its geographic isolation, and its proximity and relationships to the US Pacific Territories and Asia. These strengths will enable Hawai'i to make unique contributions to the national CTSA Network. For example, geographic isolation in Hawai'i means that few patients in Hawai'i go to the hospital or physician down the road in the next community or in another state for medical care. That allows for population based outcome studies not possible in most other communities. In addition, the proximity to Asia and the Pacific Islands provides increased opportunities to collaborate in those areas. Strong links and collaborations already exist. The cooperative Asian/Pacific Islander population has allowed Hawai'i to recruit the majority of patients in that category in trials such as the Women's Health Initiative, despite there being several West Coast centers in areas considered to have large Asian popu-

lations. The Asian population of Hawai'i is largely derived from families who have been living in the state for several generations. Within Hawai'i, research has begun to show that these acculturated individuals have health and disease patterns very different from the "healthy" recent emigrants, and in many ways not as favorable as that of the majority Caucasian population of the United States, thus demonstrating the long term health outlook for an important minority population in the United States.

Among the strengths are the recently funded Regional BioSafety Laboratory (RBL) and the affiliated Center for Disease Control Field Station to be developed in Hawai'i, aimed at providing a front line home for studying new emerging infectious diseases, which are expected to continue to emanate from Asia. This Center has a partnership with a similar facility being developed in Singapore by the Singapore Ministry of Health and Duke University School of Medicine. Of potential interest is a partnership with an RBL Laboratory being developed in Portland and affiliated with the CTSA. The Honolulu Heart Program (HHP), which started as a part of a comparative epidemiologic study of Japanese living in Japan, Hawai'i, and the San Francisco bay area (the NI-HON-SAN Study), is another. A diverse large study is the Multi-Ethnic Cohort study of the UH Cancer Research Center which includes representatives from all of the major ethnic populations in Hawai'i. At the Pacific Health Research Institute (PHRI) a health services study on diabetes care funded for 10 years by the Centers for Disease Control (CDC), takes advantage of the unique geography of Hawai'i and state mandated health insurance. The combination of databases from Kaiser Hawai'i, the Hawai'i Blue Cross/Blue Shield and the Medicaid/Medigap insurance plan covers over 80% of the working aged population in Hawai'i and has offered unique research opportunities. CDC is now funding a pilot to study expansion of this system and the development of community interventions with the Hawai'i State Department of Health. And, Kaiser Permanente Hawai'i has significant research in health services. The UH/Queen's imaging Center is another major NIH funded research focus that is a truly collaborative community program.

Several research, training, and infrastructure programs complementary to the CTSA process already exist in Hawai'i. The University of Hawai'i is designated as a minority institution and has had funding as an National Center for Research Resources Research Center for Minority Institutions (RCMI) awardee for over 15 years. Under that program, it has been funded for a RCMI Clinical Research Infrastructure Initiative (RCRII) and a Clinical Research Education and Career Development (CRECD). It also has two Specialized Neuroscience Research Program [SNRP] grants, an IDEa Networks of Biomedical Research Excellence (INBRE) grant, and two Centers of Biomedical Research Excellence (COBRE) grants from NCR. The Clinical Research Center and the Clinical Research Training Programs established under RCMI and other NCR funding will provide complimentary support to the HCTSI. To ensure the inclusion of pediatric research in the Institute, special attention will be focused on the capabilities of research efforts and successful research funding focusing on fetal, infant, childhood, and adolescent health-related issues in Hawai'i that exist in pockets within the University of Hawai'i and throughout the state.

While the existing community orientation of medical research in Hawai'i has resulted in Hawai'i and JABSOM already having the unique and necessary community focus for truly translational science, the research infrastructure in Hawai'i was largely developed and built in the era before the translational research concept evolved.

Thus, as in most communities, such efforts tend to be somewhat fragmented and not well integrated. A truly innovative change is needed and planned with the advent of the HCTSI.

The new and revolutionary translational research program for Hawai'i will be fueled by the strengthened collaborative commitments between the partners and the scientists affiliated with them, who will form the new Institute and contributions of new and supplemental resources by those partners.

The new translational research program at the University will involve not just JABSOM, but existing and new partners in the university. Perhaps most important is the UH Cancer Research Center of Hawai'i (CRCH). Cancer research centers in general have moved more toward translational research and the UH CRCH is no exception. In addition, other units who will contribute significantly are the College of Engineering, the School of Nursing, the College of Business, the School of Pharmacy, The Social Science Research Institute, School of Law, and others. The UH affiliated program at the Hawai'i VA has an active Post Trauma Stress Disorder (PTSD) research program and is also part of the JABSOM family.

Conclusion

The CTSA application process has stimulated the Hawai'i community to take a closer look at its future as a clinical and translational research center for the Pacific. That in turn has stimulated the University and the community to explore and begin the process of change in the clinical research infrastructure. A successful application to become a Center for Translational Science will truly transform the clinical research enterprise of Hawai'i.



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Complementary and Alternative Medicine

Ian Pagano PhD, Cancer Research Center of Hawai'i

Evidence suggests that the use of complementary and alternative medicine (CAM) in the United States is widespread and is becoming increasingly more popular. According to a 2002 study reported by the National Center for Complementary and Alternative Medicine (NCCAM)¹—one of the 27 institutes that make up the National Institutes of Health—62% of Americans had used some form of CAM in the past 12 months.² This use of CAM was prevalent, but not equivalent, across all demographic categories. Women, African-Americans, and older individuals were among the groups more likely to use CAM.

With such a high rate of use, it follows that there is substantial spending on CAM. Although recent estimates are not available, NCCAM reports that in 1997 Americans spent between \$36 billion and \$47 billion on CAM therapies.³ To give this amount some perspective, NCCAM notes that it is more than the public paid (out-of-pocket) for all hospitalizations in the same year, and it is about half of what was paid for all (out-of-pocket) physician services. Given the high demand and high financial cost for CAM therapies, it is clear that scientific study is important.

Focusing on the state of Hawai'i, a 2002 survey found that 50% of adults had used "provider delivered" CAM services.⁴ Notable is that this figure is not directly comparable to the 62% of Americans of reporting CAM use nationwide. This is because the nationwide figure does not specify that a provider deliver the CAM therapy. So, it is possible that CAM use is even higher in Hawai'i than it is nationwide.

Focusing on cancer patients, it is unclear exactly to what extent CAM therapies are used. A 1997 review of 26 surveys found rates of use ranging from 7% to 64%.⁵ Two more recent studies at the Cancer Research Center of Hawai'i (CRCH) have found relatively low reporting of CAM: 36% and 25%.^{6,7}

As in the case of comparing nationwide with Hawai'i estimates, some of the discrepancy in cancer patient CAM reporting might be explained by differing standards of what is considered CAM. Therefore, in order to get reliable and comparable statistics, it is essential to first have a standard definition. Fortunately, for the benefit of future CAM research, NCCAM provides this.

CAM is formerly defined by NCCAM as a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine. Conventional medicine is defined as medicine that has been proven to be safe and effective, and is practiced by holders of MD or DO degrees (and by other allied health professionals). Complementary refers to medicine that is used together with conventional medicine, and alternative refers to medicine that is used as a substitute for conventional medicine.

NCCAM also classifies CAM therapies into 5 major (but not mutually exclusive) categories based primarily on the type of treatment: mind-body medicine, biologically based practices, manipulative and body-based practices, energy medicine, and whole medical

systems. A common thread running through them is the idea that healing is achieved by targeting the fundamental interconnections and interdependences (systems theory) that exist between the body, mind, environment, and spirit. It is believed that through these interconnections and interdependences, the body has the ability to heal itself.

Mind-body medicine refers to therapies believed to work by improving the mind's ability to influence the body. The emphasis is on self-knowledge and self-care. Consistent with this, Hippocrates is quoted, "I would rather know the person who has the disease than know the disease the person has." Examples of mind-body medicine include prayer, meditation, yoga, hypnosis, tai-chi, and group support. Prayer, the most popular of all CAM therapies, was reported by 45% of respondents in the 2002 NCCAM study.²

Biologically based practices involve the use of natural products, including vitamins, minerals, herbs, proteins, specific foods, and whole diets. This category consists mostly of orally taken dietary supplements, but it is not limited to them (e.g., aromatherapy). In 2002, sales of dietary supplements in the United States were estimated to be almost \$20 billion.¹ Also, the use of dietary supplements may be more frequent among Americans who have who have specific diseases such as cancer.²

Manipulative and body-based practices involve either manipulation or movement of parts of the body. Similar to mind-body medicine, practitioners view the parts of the human body as inter-related, interdependent, and self-regulating. The focus is on applying movements—either within the normal ranges of motion or exceeding them—to the structures and systems of the body. Numerous therapies fall within this category including chiropractic, massage, reflexology, Tui Na, and osteopathy. Evidence suggests that patient satisfaction with chiropractic and massage is very high.⁸⁻¹¹

Energy medicine, the most controversial of CAM therapies, is based on the belief that illness results from imbalances in energy fields and treatment is focused on restoring this balance. These fields are further categorized as either veritable or putative. Veritable fields are electromagnetically and biologically based, and are directly measurable. Such fields are also commonly used in conventional medicine (e.g., MRI, pacemakers, radiation therapy, and laser treatments). Putative fields (biofields) are based on the theory that all human beings are infused with a subtle form of energy. Therapists using energy medicine claim to be able to use fields (either veritable or putative) to effect changes in health. Examples of therapies with veritable fields include sound, light, and magnetism. Putative therapies include acupuncture, qi gong, Reiki, and healing touch.

Whole medical systems are complete systems of theory and practice that incorporate elements from the above CAM domains. Many are traditional systems practiced by individual cultures throughout the world. For example, in its written form traditional Chinese Medicine dates back at least 2,000 years; and unique forms are practiced today in China, Japan, Korea, and Vietnam. One of the primary beliefs

is that the human body is a delicate balance of two opposing, yet inseparable, forces called yin and yang. Health is achieved when these two forces are in balance. When there is imbalance the body's life force (qi) is blocked and illness results. Practitioners use treatments such as herbs, acupuncture, and massage to help restore the flow of qi.

In Hawai'i, traditional healers (kahunas) practice medicine based on the belief that the body, mind, and spirit are one. Hence, the body cannot be healed without healing the spirit. Therapies include a combination of psychic, spiritual, and natural (e.g., noni) treatments to cure illnesses.

At CRCH there has been ongoing research to examine the efficacy of particular CAM interventions. For example, researcher Carolyn Gotay PhD has been a principal investigator on 4 studies specific to CAM. These have included massage, reflexology, mindfulness meditation with researcher Thanh Huynh MD,¹² and noni with researchers Brian Issell MD and Adrian Franke PhD. Additionally, in recognizing the need for more accurate cancer-specific CAM data in the state of Hawai'i, Carolyn Gotay PhD has proposed, along with researcher Gertraud Maskarinec MD PhD, the pooling of CRCH data from various unrelated studies.

This is possible because CAM data are often collected even though the primary objectives of the studies are not related to it. Combining data in this way, not only is the expense of designing a new study reduced, but also a larger and more representative sample is possible. Based on their knowledge of the accessible CRCH data sets, the researchers' specific aims are to describe the patterns of CAM use across different demographic and treatment groups, and to assess any correlations that might exist between CAM use, survival, and quality of life.

A total of 10 studies conducted over the past 15 years were identified and have now been successfully combined into a single comprehensive data set, which includes records from 4,823 people. In all studies information was assessed via self-report, either by mail-in questionnaires or by in-person interviews.

When variables were not measured identically across studies, the simplest format was adopted. For example, with respect to CAM, some studies used an interview format where participants could provide open-ended answers regarding specific CAM use. Other studies used questionnaires where participants could only select from amongst the major CAM categories. When creating the comprehensive data set, the detailed interview data was collapsed so that only information about the major NCCAM categories was retained. (Comparisons between interview and questionnaire assessment methods are planned.)

Because of the pooling of the 10 original data sets, the analyses performed will be a special type of meta-analysis: one based on individual patient data, and not the literature. This approach has been shown to be superior to the more commonly used literature-based one.¹³⁻¹⁵ One disadvantage though, is that the errors of analysis are correlated within studies, violating a major assumption of standard statistical techniques. Fortunately, however, special software developed specifically for these kinds of data is available. For the analyses researchers will be using the SUDAAN 9 software by RTI International.^{16,17}

In conclusion, even though there is evidence of extensive CAM use in the United States, with respect to cancer patients the data are

inconsistent. In order to provide greater clarity, a study is in progress at CRCH where CAM data from 10 studies conducted over the past 15 years have been pooled. Analyses are nearing completion and will soon be published, providing detailed information on the patterns of CAM use across different demographic and treatment groups, as well as possible correlations between CAM use, survival, and quality of life.

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

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Issues in Medical Malpractice XXIII

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

Question:

Ms. Holistica purchased Slim-Yu, an herbal supplement advertised as a weight loss agent sold over-the-counter. She asked her primary care doctor about its effectiveness and safety, and he said that it was OK. Another patient had used it and lost weight without apparent complications. Two months later Ms. Holistica developed jaundice, abnormal liver function tests, and liver failure. Which of the following is (are) correct?

- A. The doctor is not liable because he did not prescribe the supplement.
- B. The doctor may be liable because he had given his approval for its use.
- C. Ms. Holistica should sue the drugstore for selling Slim-Yu.
- D. Ms. Holistica should sue the manufacturer for a defective product.
- E. No one is liable unless the plaintiff proves proximate causation.

Answer to Question: B, C, D, E correct

This case touches on product liability and medical malpractice. To be sure, the doctor did not prescribe Slim-Yu, but he did give his "OK", and the patient may have relied on his approval in taking the supplement. Just because it's an over-the-counter (OTC) preparation does not altogether absolve the physician from blame since he was providing medical advice in his professional capacity when responding to the patient's question. This will become an increasingly frequent issue in malpractice litigation because of the widespread and growing use of alternative or complementary medicine. Totally unregulated, some of these OTC supplements are bound to result in harmful effects to the consumer. The injured party will naturally sue the manufacturer as well as the drugstore for putting the item into the stream of commerce.

Ms. Holistica will still have to prove that Slim-Yu caused the injury, else the defendant will escape liability. Here the facts indicate hepatic failure, but it remains the plaintiff's burden to produce evidence that it was caused by the use of Slim-Yu.

Complementary and Alternative Medicine (CAM)

CAM is not traditionally taught as tried-and-true therapy in medical schools. Therefore, the very implementation of non-standard therapy may be equated with substandard care, and physicians must be very cautious when practicing outside conventional medicine. One appellate judge has warned:

*"Currently, the law does not encourage medical doctors to stray from the pack (because) it is well settled that in medical malpractice actions, the question of negligence must be decided by reference to relevant medical standards of care . . ."*¹

Lack of informed consent is the usual basis for lawsuits against physicians who practice CAM. In *Charell v. Gonzalez*, a cancer patient refused treatment by oncologists and opted instead for nutritional therapies. Her cancer metastasized, leading to blindness and back problems. The patient alleged negligence and failure to warn of risks. The jury found the physician 51% liable for departure from standard of care and lack of informed consent, whereas the plaintiff was found to be 49% at fault for choosing to ignore the recommendations of her oncologists.²

In *Moore v. Baker*, a patient attempted to sue her neurologist for failure to disclose the option of EDTA chelation therapy as an alternative to surgical treatment for coronary blockages. In this case, the patient had undergone a carotid endarterectomy and during the recovery period, a blood clot developed, impeding blood flow to the brain and causing brain damage. The plaintiff alleged that EDTA chelation therapy was as effective as surgery and was less risky, and that the physician had failed to inform her of this option. The physician escaped liability, the court holding that

*"the evidence overwhelmingly suggests that the mainstream medical community does not recognize or accept EDTA therapy as an alternative to a carotid endarterectomy in treating coronary blockages . . . Opposition to EDTA therapy is based not only upon the lack of objective evidence that the treatment is effective, but also upon evidence that the treatment may be dangerous."*³

The allopathic physician however, has the duty to keep up to date with therapeutic developments including certain CAM practices. For example, a 1997 NIH consensus statement supported acupuncture as a legitimate therapy with proven efficacy for adult postoperative- and chemotherapy-induced nausea and vomiting.⁴ Paradoxically, as more scientific data about the efficacy of CAM treatment modalities becomes available, physicians may find themselves liable for failure to incorporate CAM options when informing their patients of treatment alternatives.

There are several legal defenses for a physician's integrating, utilizing or supporting CAM therapies. One possible defense is to assert the "respectable minority" standard of care, if it can be shown that a respectable minority in the medical community also accepts the treatment in question. Courts differ as to what constitutes a respectable minority and there have been no cases to date that have raised this defense.

A second defense is assumption of risk. In *Schneider v. Revici*,⁵ a physician delivered nutritional (selenium and dietary restrictions) and other non-surgical treatment for breast cancer after the patient refused conventional treatments offered by other physicians. The patient signed a detailed consent form releasing the physician from liability and acknowledging that the defendant's treatments lacked FDA approval and that no results could be guaranteed. The cancer spread and patient sued for common law fraud, medical malpractice, and lack of informed consent. The court of appeals held that assump-

tion of risk is a complete defense to malpractice. The same court also held in another case that a patient's failure to sign a consent form did not preclude the jury from considering the assumption of risk defense, as consent may be written or verbal.⁶

A third defense is to plead clinical innovation. An example of this is the off-label or non FDA-approved use of prescription drugs. Here, there is deviation from standard treatment in an attempt to alleviate a desperate situation, e.g., the patient is terminal or has failed conventional therapy.

Even if it's the patient's choice, physicians must still exercise due care when implementing therapy. In *Gonzalez v. New York State Department of Health*, Dr. Gonzales was charged with gross negligence and incompetence after he used nutritional therapies to treat six patients with incurable cancer who had failed or rejected conventional treatment. The hearing committee found that he missed signs of disease progression, and failed to perform adequate assessments, testing, and follow up evaluations. The court held that a patient's consent to or even insistence upon a certain treatment does not relieve the physician from the obligation of treating the patient with the usual standard of care.⁷

When discussing alternative therapy with a patient, the physician should first fully inform the patient about conventional treatments and their limitations. Next, the physician should explain why the novel, rather than the recognized conventional therapy is being considered.⁸ Finally, whether the physician intends to carry out CAM therapy, or refer to another practitioner, the patient must be warned about the potential risks associated with such therapy.

In order to guard against malpractice liability, Cohen and Eisenberg have recommended an approach to stratify risk depending on safety and efficacy. When evidence supports both safety and efficacy, the CAM therapy should gain general acceptance and become the standard of care. Where safety and or efficacy are less well established, the physician should be much more guarded in offering the treatment. They should discourage patients from pursuing dangerous treatments such as injections of unapproved substances and pay close attention to known herb-drug interactions. Two examples are St John's Wort interacting with oral contraceptives, chemotherapy agents and immunosuppressants, and Ginko Biloba's effects on anti-clotting medications. The physician must also routinely inquire about herbal and home remedies when obtaining a medication history. If a patient insists on CAM treatments despite warnings, document the discussion carefully, including disclosure of evidence regarding potential dangers and lack of efficacy.⁹

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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Date	Specialty	Sponsor	Location	Meeting Topic	Contact
June 2008					
6/3-6/4	OSS	American College of Physicians & Surgeons	John A. Burns School of Medicine, University of Hawai'i	Pre-Congress Fresh Cadaver Workshops	Web: www.msmissst.org
6/3-6/7	OSS	American College of Physicians & Surgeons	Hilton Hawaiian Village, Honolulu	1st World Congress of Minimally Invasive Spine Surgery & Techniques	Web: www.msmissst.org
6/10-6/15	Multi	Department of Native Hawaiian Health, John A. Burns School of Medicine, University of Hawai'i	Waimea, Kaua'i	Pacific Region Indigenous Doctors Congress 2008	Tel: (808) 587-8570
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
6/19-6/20	PD	Kaiser Permanente	Hapuna Beach Prince Hotel, Kohala Coast	26th Annual Kaiser Permanente National Pediatric Conference	Tel: (510) 527-9500 Web: www.meetingsbydesign.com
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
6/21-6/28	Multi	Redlands Community Hospital	Marriott Wailea Beach Club & Spa, Wailea, Maui	Redlands Community Hospital CME Conference in Hawai'i	Tel: (909) 355-5501x6361 Web: www.cmtravel.com
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
7/26-8/2	Multi	Queen's Medical Center	Tahiti & Society Islands Cruise	The Queen's Medical Center Summer Medical Practice Seminar - "Carpe Diem - 'Seas' the Day! II"	Tel: 808-537-4406 Web: www.queens.org/cme.html
7/28-8/01	ORS	Kaiser Permanente	Hyatt Regency Kaua'i	Kaiser Permanente Orthopaedic Surgery Conference 2008	Web: www.cmtravel.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.hawaiifacs.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
8/30	Multi	Honolulu County Medical Society	Dole Cannery Ballrooms, Honolulu	How to Select and Implement an EHR	Tel: (808) 536-6988 Email: info@hcmsonline.org
October 2008					
10/9-10/11	Multi	Hawai'i Primary Care Association	Hilton Hawaiian Village, Honolulu	2008 HPCA Annual Conference & Learning Session	Tel: (808) 536-8442 Web: www.hawaiiipca.net
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
11/9-11/14	RNR	Department of Radiology, Mayo Clinic	Fairmont Kea Lani, Maui	Neuroradiology: Practice to Innovation	Tel: (866) 242-1581 Web: www.mayo.edu/cme/radiology.html
December 2008					
12/7-12/12	EM	Institute for Emergency Medical Education, American College of Emergency Physicians	Wailea Marriott, Wailea, Maui	Annual Current Concepts in Emergency Care	Web: www.ieme.com

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THE WEATHERVANE

RUSSELL T. STODD MD, CONTRIBUTING EDITOR



Russell T. Stodd MD

❖ NO GREAT ARTIST CAN LIVE WITHOUT THE CRITIC WITHIN.

The almost magical ability of rare athletes to perform at a level above others is a challenge to scientist Damian Farrow at the Australian Institute of Sport. He found that the best players are not necessarily the fittest, the strongest or the fastest, but they have great “field vision.” Studying hockey star Wayne Gretzky, quarterback Joe Montana, and Boston Celtic star Larry Bird, Farrow found they display a knowledge of where teammates are at all times. The best players continually dart their eyes around the field, while those who make poor decisions focus for too long on certain targets. By tracking vision in another way, Farrow found that

top athletes unconsciously read their opponent’s body language a third of a second before action takes place to anticipate the next maneuver. The question that Dr. Farrow seeks to answer remains, “Is this ability innate as it seems to be or can it be taught?”

❖ AND THAT’S WHY IT IS CALLED THE GRAVEYARD SHIFT!

A study published in the *Journal of the American Medical Association (JAMA)* analyzed 86,000 in-hospital cardiac arrests, collecting data from 500 hospitals over a 7-year period. During that time 11,604, about 20%, survived to leave the hospital. Possibly the most interesting piece of information is that cardiac arrests (code blue) which occurred after 11 PM were considerably less likely to live. The percentage dropped to less than 15% of those patients who were arrested during the graveyard shift. The study did not attempt to examine why this difference existed. “It may well be possible that there is a less-effective and less-efficient response at night,” according to the lead author Mary Ann Peberdy, M.D. Accordingly, hospital administrators must alert their staffs to eliminate this perceived malfunction.

❖ EVERY GOVERNMENT IS A DEVICE BY WHICH A FEW CONTROL THE ACTIONS OF MANY.

The Feds never tire of beating up on doctors. The DHHS (Dept. of Health and Human Services) has proposed a new rule for the National Practitioners Data Bank (NPDB) which is likely to be finalized soon. Unlike the current requirements, any and all licensing actions would be reported, not just those based on professional conduct or competence. Also, all licensed healthcare practitioners would be included. This action represents a sweeping expansion in gathering information for the NPDB. The original design concept was peer review to take a look at how physicians might have gone wrong and try to correct problems, but with so much being reported it will be difficult to figure out which doctors are truly doing good work. The end result may actually lower the standard of care.

❖ MARIJUANA ASH ON YOUR SHIRT WILL PRODUCE A POT HOLE.

Reporting in the *Journal of the American Medical Association (JAMA)*, a New Zealand team conducted a long term study analyzing periodontal disease and possible relation to use of cannabis. 903 people were examined 4 times between the ages of 18 to 32 years to determine disease involving the inner layer of the gums and possible loosening of teeth. They accounted for tobacco use, frequency of dental services, plaque and socioeconomic status. By the time they reached age 32 years, the heaviest cannabis users were 3 to 5 times more likely to have an area of severe gum disease when compared with non-users. In a separate analysis the team also looked only at people who had never smoked tobacco. Those using only marijuana had dramatically increased incidence of gum disease compared to non-users.

❖ THE TWO PLY ROLL – DON’T LEAVE HOME WITHOUT IT.

Jock Stender, head of a marine terminal company, was in Chile and had to make a presentation in Lima, Peru. He bought a sandwich at the Santiago airport, headed for Lima, and was hit with the Inca two-step. He was so weak on arrival that he had to ask his vice-president to do the talking while he sallied back and forth to the toilet. El diablo in mi estomago (devil in my stomach) goes by various names depending on location, Montezuma’s revenge, Hong Kong dog, Delhi belly, Trotskies, Maya macarena, etc., and is commonly caused by enteric bacteria, usually E.coli, campylobacter, B. cereus, and is usually self-limited. According to Richard Olds MD a travel-disease specialist at the Medical College of Wisconsin, 70% of Americans traveling in a developing country (aka third world) for 2 weeks will contract

traveler’s diarrhea. Moreover, studies show that 97% of travelers make a food or beverage error within 72 hours of arrival in a foreign country. Typical missteps include drinking tap water, eating fruits and vegetables washed in tap water, and consuming improperly cooked food. Too often travelers to an exotic location spend their time in hotel rooms and only meet room service personnel. So, carry your hand sterilizer, and follow the three p’s – peel it, purify it, or make it piping hot.

❖ MAN IS THE ONLY ANIMAL WHO HAS THE TRUE RELIGION – SEVERAL OF THEM.

According to the *London Daily Telegraph* some Muslim women medical students at various hospitals are objecting to regulations which require washing hands and forearms. Their complaint is that washing above the wrist reveals bare arms which is immodesty and against their religious practice. Standard infectious disease prevention requires appropriate hand and arm lavage and is crucial for safety, which should be obvious to even the most hidebound Muslim clerics. Some women at Birmingham University said they would change careers rather than comply. Yes. Please do!

❖ “HEY, DUDE! WHERE’S YOUR GARTER BELT AND SUPPORT HOSE?”

In a field previously reserved for the Women’s body men are now reaching for the “mirdle,” so-called because it is a cosmetic body-shaping device designed for the male midriff. Currently, some paunchy males want to suck in the bulging belly, lift the sagging buttocks and bolster their vulnerable male egos. Neiman Marcus and some boutique men’s stores are marketing what is basically a girdle, but that word is a no-no, so they resort to euphemisms like “shapewear,” “support boxers,” and “waist eliminator.” Apparently, a younger generation of males is more open to wearing undergarments that purport to sculpt the masculine figure and level the playing field. Of course, there remains the locker room problem of golfing buddies – “Nice girdle, Grandma.”

❖ BREAKFAST AT MONTEREY IN JUNE. DINNER OFF MAUI IN DECEMBER.

Great white sharks, those ravenous nomadic beauties that migrate through Hawaiian waters, reveal predictable site fidelity as they scout for seals, turtles and surfers. A Stanford team collected data from 100 tagged sharks, which show they stick to specific routes and enjoy the California coast in the summer, then leave the coast in winter to head either to Hawai’i or to a “café” about halfway between the mainland and the islands. Café? Are they there to dine or be seen?

❖ “AND I WILL NEED WORKER’S COMP OF COURSE.”

A man in Franklin County, Washington wanted some time off from work and was worried about a pending drug test. He asked a “friend” to shoot him in the shoulder and so he did. Detectives are investigating the friend who could be charged with reckless endangerment and the injured man is expected to be charged with false shooting (as well as being a moron).

❖ PERHAPS HE CAN SHARE A CELL WITH EX-GOVERNOR SPITZER.

What a pleasure to see class-action attorney Richard (Dickie) Scruggs get nailed for bribing a federal judge. Hopefully he will go to jail. One would have to wonder why a man who won hundreds of millions of dollars in a \$206 billion settlement from tobacco companies would sink so low, except to assume that he sees no moral or ethical problem with bribery. His conviction doesn’t help the image of a profession constantly accused and abused for greed and self-interest.

❖ OIL AT \$110 A BARREL? HAWAIIAN ELECTRIC DOESN’T CARE.

No doubt everyone has experienced a sharp pain in the wallet with the current electric bill. Hawaiian Electric Co. (HECO) bumped your “energy cost adjustment” by 21% since October 2007. It’s all about increased cost of petroleum, of course. What a good deal for HECO; and what a pity that medical reimbursement does not provide a similar opportunity when our expenses elevate.. Lucky you live Hawai’i, I think.

ADDENDA

❖ Fifty-five percent of grocery cart handles are contaminated with body fluids, usually saliva or urine.

❖ Prostitutes at Nevada’s Bunny Ranch contributed \$15,000 to Ron Paul’s political campaign. (Is this robbing Peter to pay Paul?)

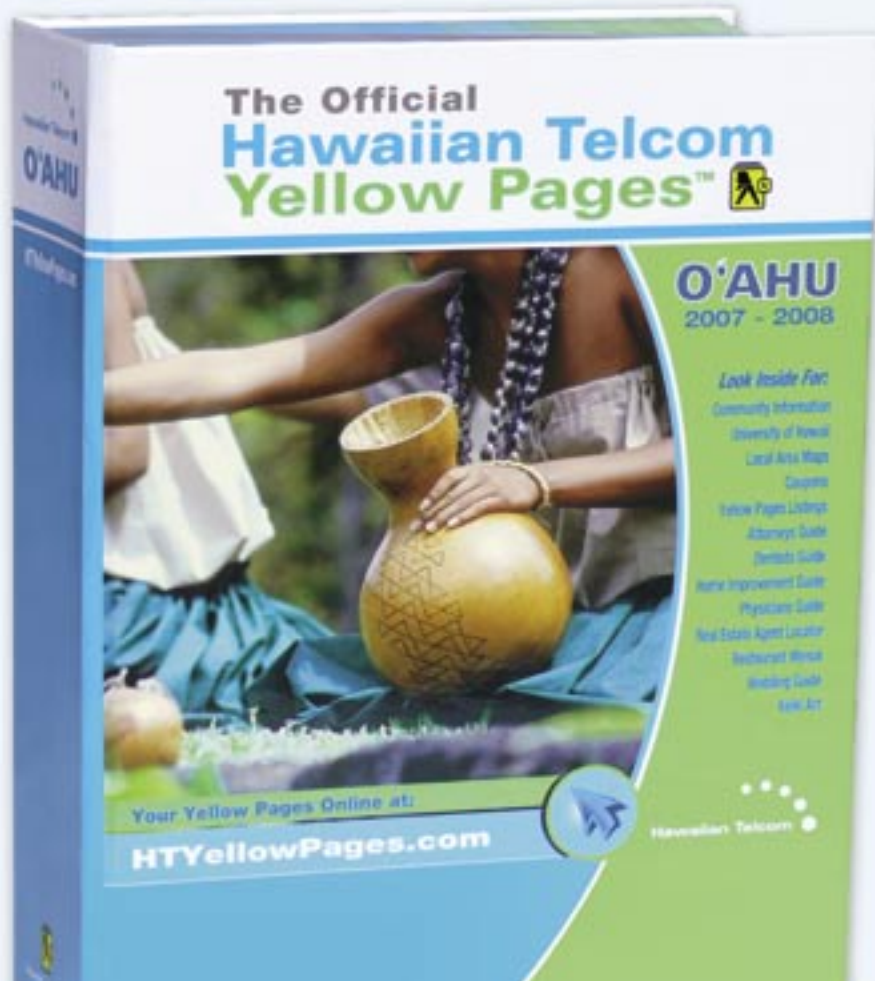
❖ In Berlin, Germany, a man was caught with a stolen suit under his clothes. He was easily spotted because he forgot to take the suit off the hanger.

❖ Kermit the frog is left-handed.

ALOHA AND KEEP THE FAITH — rts■

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

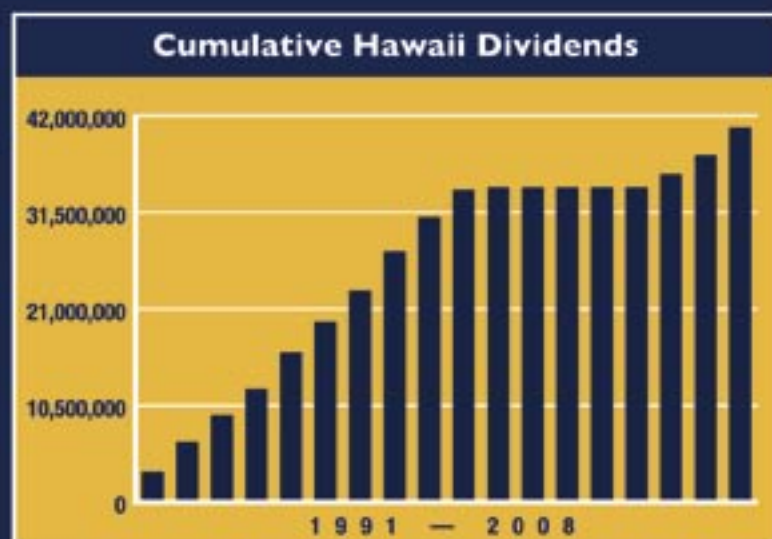


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