



# HAWAI'I MEDICAL JOURNAL

A Journal of Asia Pacific Medicine

December 2008, Volume 67, No. 12, ISSN: 0017-8594

<b>ENHANCING RESIDENTS' TRAINING IN MEDICAL ETHICS: AN EXPLORATORY STUDY ASSESSING ATTITUDES OF INTERNAL MEDICINE RESIDENTS</b>	<b>317</b>
Ritabelle Fernandes MD, MPH; Susan Hashimoto; and Kamal Masaki MD	
<b>FOUR INDICATORS FOR MONITORING PROGRESS IN ADDRESSING THE REGISTERED NURSE WORKFORCE SHORTAGE IN HAWAI'I</b>	<b>322</b>
Carol Winters-Moorhead PhD, RN and Barbara Molina Kooker DrPH, APRN	
<b>THE PACIFIC ISLAND HEALTH CARE PROJECT (PIHCP): EXPERIENCE WITH RHEUMATIC HEART DISEASE (RHD) FROM 1998 TO 2006</b>	<b>326</b>
CPT Mazen I. Abbas MD and COL Donald A. Person MD	
<b>MEDICAL SCHOOL HOTLINE</b>	<b>330</b>
<b>The Heart of Medicine</b> Jill S.M. Omori MD	
<b>MEDICAL LEGAL HOTLINE</b>	<b>332</b>
<b>Issues in Medical Malpractice XXX</b> S.Y. Tan MD, JD	
<b>CANCER RESEARCH CENTER HOTLINE</b>	<b>333</b>
<b>Initial Management of Febrile Neutropenia for the Primary Provider: A Summary of Current Practice Guidelines</b> Andrew Delmas MD; Joshua Hawley MD; and Jeffrey Berenberg MD	
<b>INDEX TO HAWAI'I MEDICAL JOURNAL, VOLUME 67, 2008</b>	<b>337</b>
<b>WEATHERVANE</b>	<b>346</b>
Russell T. Stodd MD	



# Over 50 Years of...

## ...Dedication to Hawaii's Physicians!

*The Board of Directors at Physicians Exchange of Honolulu invite you to experience the only service designed by and for Physicians in Hawaii.*

President: Franklin Young M.D.

Vice President: Stephen Kemble M.D.

Secretary: Paul DeMare M.D.

Treasurer: Richard Philpott ESQ.

Directors: Linda Chiu M.D.

Robert Marvit M.D.

Vince Yamashiroya M.D.

Garret Yoshimi

David Young M.D.

Manager: Rose Hamura

- Professional 24 Hour Live Answering Service
- Relaying of Text Messages to Pagers and Cell Phones
- All Calls Confirmed, Documented and Stored for 7 Years
- HIPAA Compliant
- Affordable Rates
- Paperless Messaging
- Receptionist Services
- Subsidiary of Honolulu County Medical Society
- Discount for Hawaii Medical Association members

*Discover the difference of a professional answering service. Call today for more information.*

**Physicians Exchange of Honolulu, Inc.**  
**1360 S. Beretania Street, #301**  
**Honolulu, HI 96814**

**524-2575**



Franklin Young MD  
President



Stephen Kemble MD  
Vice-President



Paul DeMare MD  
Secretary

Richard Philpott ESQ  
Treasurer (not pictured)



Linda Chiu MD  
Director



Robert Marvit MD  
Director



Vince Yamashiroya MD  
Director



Garret Yoshimi  
Director

David Young MD  
Director (not pictured)



Rose Hamura  
Manager

# HAWAI'I MEDICAL JOURNAL

Published monthly by the  
Hawai'i Medical Association  
Incorporated in 1856 under the Monarchy  
1360 South Beretania, Suite 200  
Honolulu, Hawai'i 96814-1520  
Phone (808) 536-7702; Fax (808) 528-2376  
[www.hmaonline.net](http://www.hmaonline.net)

## Editors

Editor: S. Kalani Brady MD  
Assistant Editor: Alan D. Tice MD  
Contributing Editors: Russell T. Stodd MD  
Satoru Izutsu PhD  
Carl-Wilhelm Vogel MD, PhD  
James Ireland MD  
S.Y. Tan MD, JD  
Editor Emeritus: Norman Goldstein MD

## Editorial Board

Patricia Lanoie Blanchette MD, John Breinich MLS,  
Satoru Izutsu PhD, Alfred D. Morris MD,  
Myron E. Shirasu MD, Russell T. Stodd MD,  
Frank L. Tabrah MD, Carl-Wilhelm Vogel MD, PhD

## Journal Staff

Copy Editor: April Troutman Donahue  
Copy Editor: Niranda Chantavy Hartle  
Copy Editor: Nathalie George  
Copy Editor: Janessa Ruckle  
Production Manager: Drake Chinen

## HMA Officers

President: Gary Okamoto MD  
Secretary: Thomas Kosasa MD  
Treasurer: Jonathan Cho MD  
Immediate Past President: Cynthia Jean Goto MD

## County Society Presidents

Hawai'i: Jo-Ann Sarubbi MD  
Honolulu: Roger Kimura MD  
Maui: Anne Biedel MD  
West Hawai'i: Ali Bairos MD  
Kaua'i: Christopher Jordan MD

## Advertising Representative

Roth Communications  
2040 Alewa Drive  
Honolulu, Hawai'i 96817  
Phone (808) 595-4124  
Fax (808) 595-5087

Abstracts available on PubMed and full text available on Medline.

The *Journal* cannot be held responsible for opinions expressed in papers, discussion, communications or advertisements. The advertising policy of the *Hawai'i Medical Journal* is governed by the Principles Governing Advertising in Publications of the American Medical Association. The right is reserved to reject material submitted for editorial or advertising columns. The *Hawai'i Medical Journal* is published monthly by the Hawai'i Medical Association (ISSN 0017-8594), 1360 South Beretania Street, Suite 200, Honolulu, Hawai'i 96814-1520. Postmaster: Send address changes to the *Hawai'i Medical Journal*, 1360 South Beretania Street, Suite 200, Honolulu, Hawai'i 96814. Nonmember subscriptions are \$30. Copyright 2008 by the Hawai'i Medical Association. Printed in the United States.

The Hawai'i Medical Journal is a monthly, peer-reviewed journal published by the Hawai'i Medical Association.

The Journal's aim is to provide new, scientific information in a scholarly manner, with a focus on the unique, multicultural and environmental aspects of the Hawaiian Islands and Pacific Rim region.



Our goal is to help your practice succeed.  
Come and find out how we do it.

Preferred Rates  
Preferred Terms  
Flexible Repayments

WHERE *your* BUSINESS COMES FIRST



HAWAII NATIONAL BANK

CALL (808) 528-7711  
OR VISIT [www.HAWAII NATIONAL.COM](http://www.HAWAII NATIONAL.COM)

Member FDIC Equal Housing Lender

## 2008 Directory of Physicians




**HMA's 2008 Directory of Physicians** still available!

Don't delay; order your copies today:

online at [www.hmaonline.net](http://www.hmaonline.net)

(click on "online store") or call **(808) 536-7702**. Copies are \$50 each. Quantity discounts and non-profit rates available.



**We reward loyalty. We applaud dedication. We believe doctors deserve more than a little gratitude. We do what no other insurer does. We proudly present the Tribute<sup>®</sup> Plan. We go way beyond dividends. We reward years spent practicing good medicine. We salute a great career. We give a standing ovation. We are your biggest fans. We are The Doctors Company.**

Richard E. Anderson, MD, FACP  
Chairman and CEO, The Doctors Company

You deserve more than a little gratitude for a career spent practicing good medicine. That's why The Doctors Company created the Tribute Plan. This one-of-a-kind benefit provides our long-term members with a significant financial reward when they leave medicine. How significant? Think "new car." Or maybe "vacation home." Now that's a fitting tribute. For more information about our medical professional liability program, including the Tribute Plan, please contact Andrew Hawkins at The Doctors Insurance Agency of California at (800) 720-9828, e-mail [ahawkins@tdcia.com](mailto:ahawkins@tdcia.com), or visit us at [www.tdcia.com](http://www.tdcia.com).



---

# Enhancing Residents' Training in Medical Ethics: An Exploratory Study Assessing Attitudes of Internal Medicine Residents

Ritabelle Fernandes MD, MPH; Susan Hashimoto; and Kamal Masaki MD

## Abstract

*Internal medicine residents at the University of Hawai'i were surveyed in 2005 to identify their attitudes regarding ethics consultation based on exposure to ethics education as part of residency training. Our hypotheses were that senior residents are more likely than interns to request an ethics consultation; and providing or forgoing life-sustaining treatment would outrank other situations for requesting a consult. After two mailings, 46 out of 65 residents completed the survey (71% response rate). Statistical methods included Fisher's exact test for categorical variables, and general linear models to compare means between groups. A majority of residents stated that instruction on ethics was received through lectures and rounds. They were most likely to request an ethics consult for issues concerning medical futility and disagreement resolution. Comparing residents by year of training for reason for ethics consultation, senior residents were more likely to request a consult for questions about artificial nutrition and hydration ( $p=0.06$ ). There was no difference between residents with or without previous exposure to ethics consultation or formal instruction in ethics and the likelihood of requesting a consultation in the future. A majority of residents felt it appropriate for any team member to request an ethics consultation. Ethics consultation can potentially be utilized to strengthen post-graduate medical education in keeping with the Accreditation Council for Graduate Medical Education requirements.*

## Introduction

The Accreditation Council for Graduate Medical Education (ACGME) recognizes the need for exposure of residents to ethics education.<sup>1</sup> Despite this, few training programs for residents in internal medicine provide formal education that would enhance resident knowledge on ethical issues that are likely to arise in their practices.<sup>2</sup> The Joint Commission does require that training institutions address the need for identification of ethical issues and issues prone to conflict within the hospital setting.<sup>3</sup> The Joint Commission also requires that hospitals develop a process to handle such issues.<sup>4</sup> The 1984 report on the General Professional Education of the Physician and College Preparation for Medicine declared much of what is included in medical school curricula is irrelevant to the actual day-to-day work of

clinicians, researchers, and medical administrators, while much of what is excluded is very relevant.<sup>5</sup> Ethics consultations potentially improve patient care by responding to physician requests for assistance with ethical issues and conflict resolution.<sup>6</sup> Previous studies have found that residents are generally aware of the existence of an ethics consultation service, although few know how to formally request a consult.<sup>7</sup> In the course of caring for a hospitalized patient, ethical questions arise about the right thing to do, sometimes well-intentioned individuals disagree about what is best for a patient. The purpose of an ethics consultation is to improve the process and outcomes of patient care by helping to identify, analyze, and resolve ethical problems.<sup>8</sup> Despite the increasing availability of medical ethics consultations, there is little research addressing the impact of these consultations on physicians in training.

This study was conducted to identify attitudes of University of Hawai'i internal medicine residents about ethics consultations based on ethics education they received in the course of their residency training. Our hypotheses were that senior residents are more likely than interns to request an ethics consultation given the greater likelihood of their awareness of Ethics Committees in the course of their training. We expected to confirm the findings of previous studies that providing or forgoing life-sustaining treatment would outrank other situations for requesting an ethics consult.

## Methods

This study was conducted over a seven-month period (2005-2006). A survey (see appendix) consisting of 22 items focused on attitudes toward and reasons for obtaining ethics consultations was mailed in August 2005 to all Internal Medicine residents enrolled at the University of Hawai'i ( $n=65$ ) including medicine/pediatric residents ( $n=5$ ), and preliminary interns ( $n=6$ ). The residents comprised of 43 men and 22 women at this residency program who rotate through various private, not-for-profit, as well as religious hospitals in Hawai'i. A gift certificate to a local movie theater and a self-addressed stamped envelope were included with the survey. Questions were primarily multiple choice

## Authors' Affiliation:

- Department of Geriatric Medicine, John A. Burns School of Medicine, University of Hawai'i, Honolulu, HI (R.F., K.M.)  
- St. Francis International Center for Healthcare Ethics, Honolulu, HI (S.H.)

## Correspondence to:

Ritabelle Fernandes MD, MPH  
University of Hawai'i  
- Geriatric Medicine Department  
347 N. Kuakini St, HPM-9,  
Honolulu, HI 96817  
E mail: fernandes.ritabelle@gmail.com  
Tel: 808-478-8474  
Fax: 808-946-4121

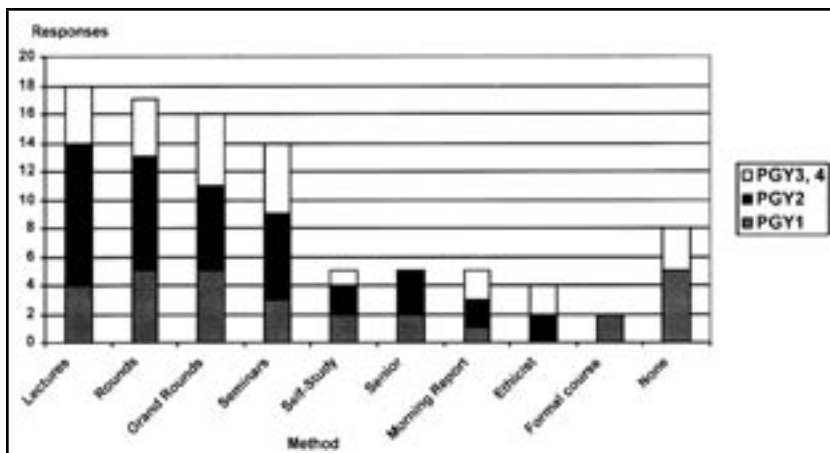


Figure 1.— Instruction in Medical Ethics

Table 1.— Situations where Residents would Request an Ethics Consultation

Variable	PG1 (n=16) (Mean ± S.E)	PG2 (n=15) (Mean ± S.E)	PG3/4 (n=15) (Mean ± S.E)	P value
Medical Futility	4.44 ± 0.17	4.13 ± 0.18	4.73 ± 0.18	.24
Disagreement resolution	4.50 ± 0.20	4.00 ± 0.21	4.20 ± 0.21	.31
Artificial Nutrition & Hydration	3.44 ± 0.23	3.73 ± 0.24	4.07 ± 0.24	.06
Ventilation	3.50 ± 0.24	3.60 ± 0.25	3.73 ± 0.25	.51
CPR	3.25 ± 0.26	3.53 ± 0.27	3.53 ± 0.27	.45
Competence	3.31 ± 0.26	3.73 ± 0.27	3.13 ± 0.27	.63
Advance Directive	3.50 ± 0.25	3.40 ± 0.26	3.07 ± 0.26	.23
Informed Consent	3.19 ± 0.24	3.13 ± 0.24	2.80 ± 0.24	.26

Table 2.— Utility of Ethics Consultation

Variable	PGY1 (n=8) (Mean ± S.E)	PGY2 (n=8) (Mean ± S.E)	PGY3/4 (n=9) (Mean ± S.E)	P Value
Clarifying ethical issues	3.75 ± 0.34	3.88 ± 0.34	3.78 ± 0.32	.95
Increasing physician's confidence in management	3.50 ± 0.43	4.13 ± 0.43	3.33 ± 0.41	.78
Overall educational utility	3.25 ± 0.37	3.88 ± 0.37	3.33 ± 0.35	.87
Identifying new issues	3.13 ± 0.32	3.75 ± 0.32	3.00 ± 0.30	.78
Clinical management of case	3.25 ± 0.37	3.50 ± 0.37	2.56 ± 0.35	.18
Past involvement in a case requiring ethics consult	50%	60%	60%	.81
Future likelihood of requesting an ethics consult	94%	93%	93%	.96

items, but allowed for handwritten comments in specific areas. Due to only 28 respondents, the survey was mailed for the second time in February 2006 and we received an additional 18 respondents. Institutional review board approval was granted for the study by the University of Hawai'i.

## Data Analysis

The survey utilized a 1 - 5 Likert scale (1 = strongly disagree, 5 = strongly agree). The distribution of responses was normal and descriptive statistics were used to

analyze the data. The general linear model was used to compare means between groups (PGY1, PGY2, PGY3/4), and Fisher's exact tests were used for categorical variables. All tests were two-sided and  $p < .05$  was considered statistically significant. Respondents who did not answer a specific question or part of a multidimensional question were excluded from the analyses of that data element. All analyses were performed using SAS version 9.1 (Cary, NC).

## Results

A total of 46 (71%) residents consisting of 16 interns, 15 second year residents and 15 third or fourth-year residents returned a completed survey. Responses varied as to the method by which the resident received instruction in medical ethics. This question on formal instruction was not mutually exclusive and respondents could select more than one choice. The top four methods of acquiring ethics education in residency training were: lectures (n = 18), bedside rounds (n = 17), grand rounds (n = 16), and seminars (n = 14) as demonstrated in Figure 1. Only two interns out of 46 respondents reported having received instruction through a formal course in medical ethics. Eight residents reported having no instruction in medical ethics.

A non-significant trend was noted where residents were more likely to request an ethics consultation in situations involving medical futility and disagreement resolution as compared to cardiopulmonary resuscitation, ventilation, competency, advance directives, and informed consent. Table 1 compares situations in which a resident would be likely to request an ethics consultation. Comparing residents by year of training, senior residents were more likely to request a consult for questions about artificial nutrition and hydration ( $p = .06$ ). Our survey did not further define medical futility leaving it to the discretion of the residents.

Twenty-six (56%) residents were involved in the care of a patient where a formal ethics consultation was requested. The information in Table 2 compares responses between residents regarding the utility of ethics consultations. Responses reflected that residents noted no difference between the utility of ethics consultations provided at the two major local hospitals that included a tertiary care center and a Catholic teaching hospital. Fifteen (60%) out of the 26 residents were neutral or disagreed that the ethics consultation had a positive impact on clinical management of the case. There was a non-significant trend that senior residents were more likely to think that ethics consultations did not impact the clinical management of the case as compared to interns.

There was no difference between residents with or without previous exposure to ethics consultation or formal instruction in ethics and the likelihood of requesting a consultation in the future. Twenty-four (92%) out of 26 residents with past exposure to ethics



consultations were likely to request one in the future as compared with 19 (95%) out of 20 residents who were never involved in an ethics consult. These results were somewhat surprising in that we expected to find lack of exposure to consultations or formal instruction in ethics to be negatively associated with the likelihood of a resident requesting an ethics consultation in the future.

There were few residents who would not request an ethics consult in the future for the following reasons: the time consuming nature of ethics consultations (n=4); perception that consults were not helpful (n=3); concern that the attending physician may object to a consultation being called (n=2). The majority of residents felt it was appropriate for any team member to request an ethics consultation as presented in Figure 2. This question was not mutually exclusive and a few residents checked more than one box.

## Discussion

The authors' first hypothesis was partially supported by the data. Senior residents were more likely to request a consult for questions about artificial nutrition and hydration. In the rest of the categories interns were as likely as residents to request an ethics consultation. The study did not include face-to-face interviews hence we can only postulate that artificial nutrition and hydration may be considered more challenging as starvation of the patient generates highly emotionally charged family discussions. The second hypothesis that was based on previous studies where deciding to forgo life-sustaining treatment ranked as the number one request followed by disagreement resolution was largely unproven.<sup>9</sup> Even though cardiopulmonary resuscitation and ventilation were ranked lower in our study, medical futility is considered by many to be a universal term for a broad range of ethical situations including forgoing life-sustaining treatment. The survey did not define medical futility and it is possible that had a clearer definition been provided the results may have been different. Schneiderman has proposed a patient benefit-centered definition of medical futility that includes both quantitative and qualitative components.<sup>10</sup> The quantitative portion of the definition stipulated that physicians should regard a treatment as futile if empirical data show that the treatment has less than a 1 in 100 chance of benefiting the patient. The qualitative portion of the definition stipulated that if a treatment merely preserves permanent unconsciousness or cannot end dependence on intensive medical care, physicians should consider the treatment futile. Through ethics consultations it is often possible to gain more comprehensive insight into a patient's situation in order to guide decisions about care.

The ACGME requirements for clinical ethics state "the program must include education in the principles of bioethics as applied to medical care, and the residents must participate in decision making involving ethical

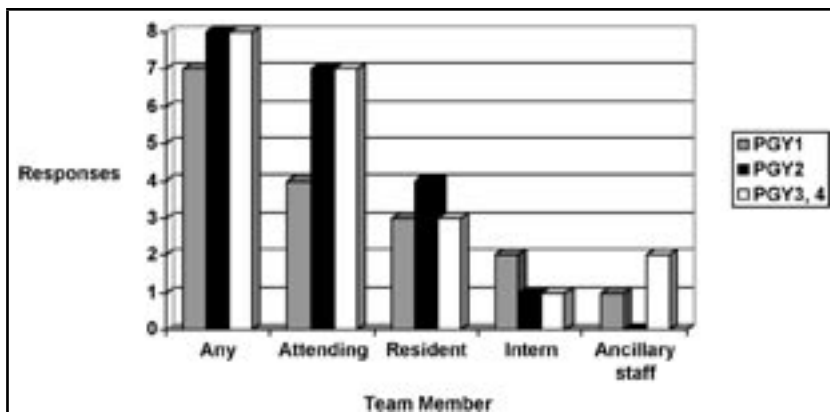


Figure 2.— Person to Request an Ethics Consultation

issues that arise in the diagnosis and management of their patients.” The Internal Medicine Residency Program of the University of Hawai‘i has a curriculum for clinical ethics. The curriculum manual recommends the use of following instructional methods: supervised patient care, reading and bedside rounds. However the interns and residents surveyed in this study noted they received ethics education through lectures, bedside rounds, grand rounds and seminars. There was no statistically significant difference between the residents who reported receiving a formal course versus those who had no instruction and their willingness to request an ethics consultation in the future. A majority of residents with or without past exposure to ethics consultation are likely to request one in the future. This has implications for the future in its wide acceptability to serve as a tool for curriculum development in post-graduate education. Participation in ethics consultations can provide residents practical experience in dealing with actual ethical dilemmas they are likely to encounter in their practice, and therefore can be a valuable part of resident education. The authors recommend future studies interviewing Internal Medicine program directors across the United States to understand how they view ethics education as part of the internal medicine residency. Recognizing barriers to access can help direct future efforts to involve residents in ethics consultations as part of the ethics education for physicians in training.

More than half of the residents who were involved in the care of a patient where a formal ethics consultation was performed did not feel that the consultation impacted the clinical management of the case. This response was not unexpected, as ethics consultations typically do not address clinical management of the patient. Ethics consultations take into consideration medical indications along with other factors such as patient preference (advance directives, agents, non-designated surrogates, etc.), family issues, social and cultural factors, quality of life, and bioethics principles in case analysis. While providing objectivity to the case, recommendations of an ethics consultation are non-binding and advisory emphasizing the importance of communication between patient, family caregivers and clinicians.

This study suggests that the general consensus among residents is that ethics consultations function as a forum for discussion of ethical issues within a hospital setting, and the subsequent ethics committee review, do not have to be requested by an attending physician. This is consistent with the opinion of Judith Wilson Ross that all members of the hospital community should have access to the committee's services.<sup>11</sup>

One of the limitations of this study was the relatively small sample size of residents available through the University of Hawai‘i Internal Medicine Residency Program, although we surveyed the total number of residents (n=65). Because of the limited number of responders, additional studies are needed to

determine the validity of these findings. This survey included only internal medicine residents not other specialties. No pilot testing of the questionnaire was conducted. The strengths of this study were that it addressed an important clinical issue, the potential for using ethics consultation as an avenue for medical instruction, and few previous quantitative studies have looked at this before. This exploratory study identified a need for more research in the field of medical ethics. Two areas of particular interest would be i) a nationwide survey of medical education programs comparing responses of residents to questions regarding the ethics education in various residency programs as well as residents' attitudes toward ethics consultations and ii) a study focused on resident's attitudes on medical futility.

Health care institutions should systematically educate employees and medical staff about the availability and purpose of ethics consultation services. Although research regarding the attitudes of internal medicine residents towards ethics consultations is scant, this exploratory study points out that residents generally find ethics consultations helpful in situations involving medical futility and disagreement resolution. There appears to be a need for more uniformity in methods of instruction within the residency program in order to enhance residents' awareness of ethical issues. Ethics consultation as a tool for teaching residents is a potential for curriculum development in post-graduate medical education.

## Acknowledgments

We thank all the resident physicians for participating in this study, S. Y. Tan MD, JD for his guidance, and the Fellows of the St. Francis International Center for Healthcare Ethics for their insightful comments.

## References

1. American Medical Association. *Graduate Medical Education Directory 2007-2008*. Chicago, Illinois: American Medical Association Press; 2007-2008.
2. Wenger NS, Liu H, Liberman J. Teaching medical ethics to orthopaedic surgery residents. *J Bone & Joint Surg*. 1998;80(8):1125-31.
3. *Comprehensive Accreditation Manual for Hospitals: The Official Handbook (CAMH)*: Joint Commission Resources, Inc; 2007:RI.1.10,RI.1.20.
4. *Comprehensive Accreditation Manual for Hospitals: The Official Handbook (CAMH)*: Joint Commission Resources, Inc; 2007:RI.1.10,1.2.
5. Physicians for the twenty-first century: Project Panel on the General Professional Education of the Physician and College Preparation for Medicine. *J Med Educ*. 1984;59:1-31.
6. Perkins HS, Saathoff BS. Impact of medical ethics consultations on physicians: an exploratory study. *Am J Med*. 1988;85(6):761-65.
7. Gacki-Smith J, Gordon E. Residents' access to ethics consultations: knowledge, use, and perceptions. *Acad Med*. 2005;80(2):168-75.
8. Fletcher J, Siegler M. What are the goals of ethics consultation? A consensus statement. *J Clin Ethics*. 1996;7:122-6.
9. La Puma J, Stocking CB, Darling CM et al. Community hospital ethics consultation: evaluation and comparison with a university hospital service. *Am J Med*. 1992;92: 346-51.
10. Schneiderman LJ, Jecker NS, Jonsen AR. Medical Futility: responses to critiques. *Ann Intern Med*. 1996;125(8):669-674.
11. Ross, JW. *Handbook for Hospital Ethics Committees*. Chicago, Illinois: American Hospital Publications; 1986; 59-60.



**Four Hospitals, One Mission:**  
To provide the very best in healthcare for Hawaii.



Appointment Line: 808-535-7000  
Phone: 808-486-6000  
98-1079 Moanalua Rd.  
[www.kapiolani.org](http://www.kapiolani.org)



Appointment Line: 808-535-7000  
Phone: 808-983-6000  
1319 Punahou St.  
[www.kapiolani.org](http://www.kapiolani.org)



Appointment Line: 808-522-4444  
Phone: 808-522-4000  
888 South King St.  
[www.straubhealth.org](http://www.straubhealth.org)



Wilcox Memorial Hospital: 808-245-1100  
Kauai Medical Clinic: 808-245-1500  
3420 Kuhio Hwy.  
[www.wilcoxhealth.org](http://www.wilcoxhealth.org)

*Affiliates of Hawaii Pacific Health*



## APPENDIX

### SURVEY ON RESIDENTS ATTITUDES TOWARDS MEDICAL ETHICS CONSULTATIONS

1. Date: \_\_\_\_\_

2. What year of residency training are you currently in?

\_\_\_\_ PGY1                      \_\_\_\_ PGY2  
\_\_\_\_ PGY3                      \_\_\_\_ PGY4  
\_\_\_\_ PGY5

3. Does your residency program include any formal instruction in medical ethics?

\_\_\_\_ No                      \_\_\_\_ Yes

4. If yes, how is this done? (Check all that apply)

\_\_\_\_ Grand Rounds  
\_\_\_\_ Seminars/discussion groups  
\_\_\_\_ Formal course  
\_\_\_\_ Independent self-directed study  
\_\_\_\_ Senior resident/colleague  
\_\_\_\_ Lecture  
\_\_\_\_ Clinical rounds with an ethicist (ethics consultation)  
\_\_\_\_ Clinical rounds with the attending  
\_\_\_\_ Other, specify \_\_\_\_\_

You would most likely request an ethics consultation in the following situations:

Strongly Disagree (1)  
Disagree (2)  
Neutral (3)  
Agree (4)  
Strongly Agree (5)

#### Ethical Issue

5. Providing/foregoing CPR \_\_\_\_\_

6. Providing/foregoing mechanical ventilation \_\_\_\_\_

7. Providing/foregoing artificial nutrition and hydration \_\_\_\_\_

8. Assessing adult patient's competence \_\_\_\_\_

9. Advance Directive \_\_\_\_\_

10. Informed Consent \_\_\_\_\_

11. Medically futile treatment \_\_\_\_\_

12. Disagreement resolution with family members or staff \_\_\_\_\_

13. Have you ever been involved in the care of a patient(s) where a formal ethics consultation was requested?

\_\_\_\_ No                      \_\_\_\_ Yes

If yes, please answer questions 14-19. If No, proceed directly to question 20.

14. Where was the patient(s) located? (Check all that apply)

\_\_\_\_ Queens Medical Center      \_\_\_\_ Kuakini Medical Center  
\_\_\_\_ St. Francis Liliha      \_\_\_\_ Kapiolani Medical Center  
\_\_\_\_ Other, specify \_\_\_\_\_

The consultation was helpful in:

Strongly Disagree (1)  
Disagree (2)  
Neutral (3)  
Agree (4)  
Strongly Agree (5)

15. Clarifying ethical issues \_\_\_\_\_

16. Identifying new issues \_\_\_\_\_

17. Clinical management of the case \_\_\_\_\_

18. Increasing physician's confidence in management plans \_\_\_\_\_

19. Overall educational utility \_\_\_\_\_

20. Are you in the future likely to request an ethics consultation?

\_\_\_\_ No                      \_\_\_\_ Yes

21. If No, what are some of the barriers? (Check all that apply)

\_\_\_\_ Lack of an ethics committee      \_\_\_\_ Consultations not helpful  
\_\_\_\_ Time consuming      \_\_\_\_ Objection by other team members  
\_\_\_\_ Lack of awareness      \_\_\_\_ Attending may object  
\_\_\_\_ Other, specify \_\_\_\_\_

22. Who should be the person to request the consultation?

\_\_\_\_ Intern                      \_\_\_\_ Resident  
\_\_\_\_ Attending                      \_\_\_\_ Ancillary staff  
\_\_\_\_ Any team member

Thank you for taking the time to answer this survey.  
Please mail it in the stamped addressed envelope.

---

# Four Indicators for Monitoring Progress in Addressing the Registered Nurse Workforce Shortage in Hawai'i

Carol Winters-Moorhead PhD, RN, CNE and Barbara Molina Kooker DrPH, APRN, NEA-BC

## Abstract

*The purpose of this article is to describe four performance indicators to use as a scorecard to monitor progress in meeting the shortage of registered nurses in Hawai'i. In addition, the RN shortage in the state is described and progress in addressing the situation to date is reviewed. In 2005, a survey was mailed to a stratified, random sample of registered nurses (RNs) residing in the state. The mean age of RNs was 49.3 years, and 69.9% plan to retire by 2020. The current nursing workforce is aging and the profession is not attracting younger, more diverse individuals. A scorecard is proposed to monitor progress into the future to assure continuing health care for the people of Hawai'i.*

The purpose of this article is to describe four performance indicators that can be used as a scorecard to monitor progress in meeting the shortage of registered nurses in Hawai'i. Workforce analysis and development in Hawai'i were stimulated by the Community Initiative on Nursing of Hawai'i (CINH), which was part of the Colleagues in Caring: Regional Collaboratives for Nursing Workforce Development, funded by the Robert Wood Johnson Foundation. A series of registered nursing workforce studies have been supported by CINH from 1997 through 2005.<sup>1,2</sup> This article reports on the findings of the fifth and final study of the series and looks at data trends over time.

## Significance

Like most states, Hawai'i continues to face a shortfall in the supply of registered nurses (RNs). National data forecasts from the Bureau of Health Professionals (2003), "Projected Supply, Demand and Shortages of Registered Nurses, 2000-2020, Hawai'i Revised," indicate that there will be a shortfall of 4,593 registered nurses in Hawai'i by 2020.<sup>3</sup> By 2020 the national shortage is projected to increase to more than 1 million FTE RNs.<sup>4</sup>

The shortage of RNs occurs nationally and globally.<sup>5</sup> This means that it is no longer feasible to import RNs from a different state or another English-speaking country to address one localized shortage. Findings from studies of the national registered nursing workforce by Buerhaus and colleagues indicate that there has been an upsurge in younger RNs, especially women in their

early thirties and men. The increase may be attributed to a combination of factors such as several years of RN wage increases, and continued image and interest-building initiatives. In spite of RN employment growth, there is no empirical evidence that the shortage of nurses has abated.<sup>6</sup>

There is an increasing need for nursing care with the aging of the population when there are decreasing RN resources. To make matters worse, the registered nursing workforce itself is aging. In addition, the loss is qualitative not just quantitative, meaning there is an experience drain looming where the most experienced RNs are nearing retirement age. The situation is worse in Hawai'i because of its geographic isolation.

Numerous solutions have been undertaken by major education and practice stakeholders in the state to address the expanding gap between the projected demand and the supply of registered nurses. After exploring RN workforce issues in Hawai'i for over 10 years, the authors propose a framework with four broad categories. This scorecard of performance indicators would determine if progress has been made in the implementation and efficacy of these strategic solutions to reduce the registered nursing shortage in Hawai'i.

The first indicator, capacity building, includes strategies to improve the capability of the various schools within the state to educate new registered nurses. Second, recruitment and retention measures are those that seek to increase applications to the RN preparation programs, as well as decreasing turnover and vacancy rates of RNs in the workforce. Career development, the third indicator, consists of strategies seeking to advance the knowledge and skills of RNs within the profession. The final indicator, workforce analysis and development, includes macro level strategies to systematically provide data to support additional resources and legislation towards that end, maintain the numbers and levels of RNs needed in the state, and stabilize the registered nursing workforce.

In this article, findings of the authors' latest RN workforce study will be trended with findings from earlier studies, and workforce activities and solutions will be described in relation to these four indicators to monitor progress in the state.

This study was funded by the Community Initiative on Nursing of Hawai'i and co-sponsored by the Hawai'i State Board of Nursing.

Carol Winters-Moorhead PhD  
Professor and Director,  
MSN Nursing Education  
Concentration  
East Carolina University  
College of Nursing  
3164 Health Sciences Bld  
Greenville, NC 27858  
Email:  
wintersmoorhead@ecu.edu

## Method

The research question for this descriptive study was “What are the characteristics of the registered nursing workforce in Hawai‘i?” Comparison with findings from previous RN workforce studies has made it possible to show how these characteristics have changed over time.

Following approval of the Institutional Review Boards of the University of Hawai‘i and Hawai‘i Pacific University, surveys were mailed to a stratified random sampling of registered nurses residing in the state to get an adequate representation of rural and urban nurses in the sample. The study population consisted of 11,302 RNs residing in the state in 2005 as indicated by the State Board of Nursing database. A total of 3600 surveys were mailed out for the appropriate power analysis. A response rate of 34.2% was achieved with the return of 1231 surveys. The survey instrument was essentially unchanged from that which was used in 2001 and 2003. SPSS was used for data analysis.

## Findings

### Age

In 2005, the average age of the registered nursing workforce in Hawai‘i was 49.3 years. As Table 1 shows, there has been a consistent increase in the percentage of RNs 50 years and older from 2001 (46.5%) to 2005 (53.1%). The percentage of RNs in the youngest age group, under 30 years, has decreased from 5.2% in 2001 to 4.2% in 2005.

### Gender

In 2005, males comprised 5.5% of Hawai‘i’s registered nursing workforce. This is notably lower than in previous years. In 2003, males were 6.5% of the RN workforce and in 2001, they were 5.9%.

### Ethnicity

As seen in Table 2, there was a continued decrease in Asian/Pacific Islander registered nurses from 2001 to 2005, and slight increases in the ethnic representation of Hawai‘i’s Filipino RNs in those four years. Native Hawaiians continue to be under-represented although their proportion within the RN workforce has increased over time. In 2005, Native Hawaiians comprised 21.97% of Hawai‘i’s population and 6.4% of the RN workforce, up from 5.1 % in 2001 and 2003.<sup>7</sup>

### Education

In 2005, 49.9% of Hawai‘i’s registered nurses had a baccalaureate or higher degree in nursing. This marks a slight decrease from 52.3% in 2003 but an increase from 35.2% in 2001. In 2005, 21.0% of Hawai‘i’s RNs reported having multiple degrees.

### Licensure/Certification

Since the state licensing data base was used, all respon-

Table 1.— Age Distribution for Years 2001, 2003, 2005

Age	2001	2003	2005
18-29	5.2%	4.6%	4.2%
30-39	15.3	12.6	15.7
40-49	32.7	36.6	27.0
50-59	30.5	33.6	36.7
60+	16.0	17.2	16.4
Mean	48.7 years	49.2 years	49.3 years

Table 2.— Ethnicity for Years 2001, 2003, 2005

Ethnicity	2001	2003	2005
White, not Hispanic	48.3%	48.5%	52.6%
Asian/Pac Isle	24.3	22.8	20.8
Filipino	13.4	12.5	13.5
Hawaiian/Part Hawaiian	5.1	5.1	6.4
Hispanic	1.9	1.8	2.0
Black, not Hispanic	0.6	0.3	0.7
Am Indian/Alaska Native	0.2	0.2	0.5
Multiple Responses	4.7	5.8	1.0
Other	0.1	2.5	2.4
Blank	1.3	0.2	0.5

Table 3.— Years to Retirement, 2001, 2003, 2005

Years to Retire	2001	2003	2005
0-5 years	17.4%	21.0%	34.5%
6-10 years	25.8	26.8	21.5
11-15 years	19.2	19.4	13.9
16-20 years	19.2	20.3	15.4
>20 years	18.4	12.5	14.7
Mean	14.6 years	13.6 years	11.8 years

dents had the basic RN license. The percent of respondents reporting having the APRN (Advanced Practice Registered Nurse) license was 7.9%. In 2005, national certification was reported by 27.8% of the RNs compared to 24.5% in 2003 and 24.9% in 2001.

### Employment

There were more of the Hawai‘i RNs employed in nursing in 2005 (84.1%) than in 2003 (83.6%) and in 2001 (80.0%). Also, more registered nurses indicated having more than one job in 2005 (16.4%) than in 2001 (12.4%) but slightly less than in 2003 than in 2003 (16.7%).

### Retirement

Registered Nurses were asked to indicate the number of years they expected to continue practicing. The mean number of years to retirement has continued to decrease. In 2001 it was 14.6 years, in 2003, 13.6 years and in 2005, the mean years to retirement decreased to 11.8 years. The anticipated mean retirement age in 2015 is 61.1 years. As Table 3 shows, in 2015, 56.0% of the practicing RNs plan to retire; in 2020, 69.9% will retire; and in 2025, 85.3% of Hawai‘i’s current registered nursing workforce will be retired.

## Discussion

The data show that not only is the registered nursing workforce in Hawai'i aging, younger people are not entering the workforce in sufficient numbers to offset the aging factor of both the RN workforce and the population of the state. Forecast data suggest that Hawai'i's elder population is expected to increase at double the rate of the rest of the nation. By 2020, the number of people who are 60 years and older will increase by 75%. Those 85 years and older will increase by 121%.<sup>8</sup> This means that there will be decreasing registered nursing resources at a time when there is increasing demand for them.

The registered nursing workforce in Hawai'i is older than the national workforce. The mean age of 49.3 years in 2005 compares unfavorably with the mean age of RNs across the country which was 46.8 years in the 2004 *National Sample Survey of Registered Nurses*.

The registered nursing workforce in Hawai'i is more ethnically diverse than the national RN workforce. For example, White, not Hispanic, nurses comprised about 52.6% of the nurses in Hawai'i and 88.4% of the national RN workforce (2004, NSSRN). The nursing workforce in Hawai'i has a higher proportion of nurses (49.9%) with baccalaureate or higher degrees in nursing compared to 31% of nurses across the country with baccalaureate or higher degrees in nursing.<sup>9</sup>

## Capacity Building Strategies

The schools of nursing in Hawai'i have well developed recruitment strategies to attract middle school, high school, and entering college students through career fairs, high school counselor training, and brochure/Website advertising. The schools have reported that undergraduate student applications and enrollments have increased dramatically and consist primarily of local residents, military dependents, and students from the mainland United States. However, the capacity to educate these students has not kept up with the demand. For example, one of the public universities' BSN program recently turned away 443 qualified applicants in one academic year due to lack of faculty and teaching facilities.<sup>10</sup>

To address the problem, this public university has successfully obtained additional nursing faculty positions through legislative allocation. In addition, this program has been innovative in introducing technology into the curriculum through extensive use of distance learning modalities and state-of-the art simulation learning. Both public and private programs have introduced accelerated programs to prepare more basic and advanced RNs for the state.

The private universities have added faculty positions, classrooms, laboratories, faculty offices, learning resources, and equipment justified by the increasing student enrollments. In addition, one of the private universities has implemented a model of enrollment management whereby students are admitted to their first clinical nursing courses via a 3-tier rolling system based on the number of credits completed, minimum GPA, and completion of prerequisite courses.

Creative partnerships among the State's public and private schools of Nursing and healthcare agencies have created additional clinical practicum sites and funded special student cohorts, i.e. a cohort of Native Hawaiian and Pacific Islander students. Sharing resources in this manner benefits the patients and the community, updates the curriculum, invigorates teaching and learning opportunities, and promotes development of faculty.

## Recruitment and Retention Strategies

Graduates of the Hawai'i Schools of Nursing have been actively recruited across the country for their preparation in caring for multicultural patient populations. While the majority of the graduating nurses have remained in the islands to practice, the competition to attract graduates to relocate to the mainland United States has increased.

Health care agencies have also stepped up efforts to retain their highly skilled and valuable registered nursing workforce. Use of standardized quality indicators, such as the American Nurses Association National Database of Nursing Quality Indicators (NDNQI) to monitor patient outcomes sensitive to nursing intervention at the unit level, highlight the autonomy of RNs, their impact on patient outcomes, and the importance of RN satisfaction. One major medical center has a large federal training grant to improve retention of RNs while enhancing patient outcomes.

Strategies aimed at recruiting and retaining nursing faculty are also critically important in addressing the RN shortage. For example, efforts to increase faculty salaries and address workload issues are being implemented and need to be evaluated for impact over time.<sup>11,12</sup>

## Career Development Strategies

Both the healthcare agencies and the schools of nursing in Hawai'i have stepped up the career development assistance to their staff RNs and students. Accessible, accelerated, and revitalized LPN/BSN, RN/BSN, RN/MSN and PhD Nursing programs are available in traditional and online formats to attract mid-career and mid-life adults. Faculty in the schools are recruiting and mentoring promising students and clinical faculty to prepare for the faculty role and tenure-leading positions. The national accreditation agencies for schools of nursing, National League for Nursing Accrediting Commission (NLNAC) and Commission on Collegiate Nursing Education (CCNE) as well as the State Hawai'i Board of Nursing regulations mandate at least a master of science degree in nursing as the gold standard for nursing faculty preparation, unless the faculty member also has a doctorate in nursing.

Over the last few years, bills were introduced at the State Legislature to fund scholarships to attract baccalaureate prepared nurses into master's and doctoral programs to prepare them for academic careers. In addition, a private university offers free courses and use of facilities as incentives to recruit and prepare preceptors, and clinical faculty. These retention strategies support career development, while also increasing the number of nursing faculty within the state.

## Workforce Analysis and Development Strategies

Collecting, analyzing, and trending data that are accurate, timely and complete are the first steps in workforce analysis and development. Beyond that, generating and disseminating quality reports are essential to describing the current and projected supply and demand of registered nurses. The pioneering contributions of the CINH series of nursing workforce studies and the resulting reports, legislative testimony, presentations, and publications helped to highlight the issues and stimulate action to address the situation.

The Healthcare Association of Hawai'i (HAH) has solicited data regarding staff turnover rates and traveling RN usage as one measure

of the nursing shortage in the state. The HAH Nursing Shortage Taskforce has published a collaborative report and a fact sheet.<sup>13,14</sup> Both reports have been distributed widely to legislators, healthcare providers/agencies, colleges/universities, and consumers. These reports provide important background information that can be used to support legislation and statewide planning to address this vital aspect of health care in the state.

The most significant and sustainable achievement has been the creation of the Hawai'i State Center for Nursing (HSCFN) by legislative mandate in June 2003 for the purpose improving the health care of the people of Hawai'i by focusing on nursing workforce issues and development.<sup>15</sup> It has already produced multiple reports and conducted surveys of nursing schools, health care agencies, and the nursing workforce. Since its inception, the HSCFN has made major contributions to RN workforce analysis and development within the state.

Schools of nursing at both state and private universities have Health Resources Services Administration (HRSA) federal training grants to improve cultural competence and health disparities in vulnerable populations. In addition the university nursing schools consistently receive HRSA Professional Nurse Traineeships to help support nurses in graduate nursing programs.

### Scorecard of Achievements

The authors suggest that these four indicators be used as a scorecard for monitoring and evaluating progress in addressing Hawai'i's registered nurse workforce shortage. In order to document, track, and evaluate the implementation of proposed nursing workforce strategies, a "scorecard" system would be most useful.

The units of analysis of the scorecard would be the four performance indicators: 1) capacity building, 2) recruitment and retention, 3) career development, and 4) workforce analysis and development. Careful follow up of strategies in each category is essential to evaluating their impact on the registered nurse shortage. There could be overlap between categories that needs to be clarified and refined as this framework is used over time. For example, recruitment and retention strategies are closely related to and may overlap with capacity building strategies. The success of the workforce scorecard would require consensus on the measurement criteria, scoring mechanism, frequency of monitoring, and dissemination of findings for maximum impact on policy and decision-making.

### Conclusion

The RN shortage in Hawai'i and the seriousness of its impact on the public cannot be over-emphasized. The paramount concern in this island state is the preparation of adequate numbers of nurses with appropriate education, clinical skills, and ethnic/gender diversity to replace those registered nurses who plan to retire, deploy, relocate to other states, or to leave the profession altogether. Because of the complexity of the problem, it is difficult to know what strategies are the most effective. As suggested in this article, a systematic approach to evaluating the impact of various solutions to address the registered nurse shortage would monitor progress over time. Such an approach would contribute to setting a strategic course that would better meet the future health care needs of the people of Hawai'i.

### References

- Harrigan R, Kooker B. Health education needs in Hawai'i: Social work, dental hygiene and nursing. *Hawaii Med J*. 2000; 59(2):67-69.
- Kooker B, Winters C, Acosta M, Hobbs S. Nursing workforce supply data trends in Hawai'i. *Hawaii Med J*. 2003; 193-197.
- Bureau of Health Professions Health Resources Services Administration. (2003). *Projected Supply, Demand and Shortages of Registered Nurses: 2000-2020. Hawai'i Revised*. Washington, DC: USDHHS. April 2003. Available at: <http://bhpr.hrsa.gov/healthworkforce/reports/rnproject/hawaii.htm>. Accessed January 17, 2005.
- Bureau of Health Professions Health Resources Services Administration. (2004). *What is Behind HRSA's Projected Supply, Demand, and Shortage of Registered Nurses?* Washington, DC: USDHHS. September 2004. Available at: <http://bhpr.hrsa.gov/healthworkforce/reports/behindnprojections/4.htm>. Accessed February 17, 2007.
- Aiken L, Buchan J, Sochalski J, Nichols B, Powell M. Trends in international nurse migration: The world's wealthy countries must be aware of how the "pull" of nurses from developing countries affects global health. *Health Aff*. 2004; 23:69-77.
- Buerhaus P, Staiger D, Auerbach D. *Trends: new signs of a strengthening U.S. nurse labor market*. Health Aff. 2004;10:1377. Available at: <http://content.healthaffairs.org/cgi/content/abstract/hlthaff.w4.526>. Accessed February 11, 2007.
- Department of Business and Economic Development and Tourism. *State of Hawai'i Data Book*. Table 1.4 – Ethnic Stock by County: 2005. Available at <http://www.hawaii.gov/dbedt/>. Accessed August 5, 2007.
- Executive Office on Aging, State of Hawai'i. *Profile of Hawai'i's Older Adults*. May 2003. Available at: <http://www2.state.hi.us/ea/information/stats/profile2003.pdf>. Accessed February 11, 2007.
- Bureau of Health Professions Health Resources Services Administration, *The Registered Nurse Population: Findings from the 2004 National Sample Survey of Registered Nurses*. 2006. Available at: <http://bhpr.gov/healthworkforce/msurvey04/default.htm>. Accessed September 3, 2007.
- Hawai'i State Center for Nursing. *Survey of Nursing Education Programs 2004-2005*. 2006. Available at [http://www.hinursing.org/reports\\_publication.htm](http://www.hinursing.org/reports_publication.htm). Accessed August 3, 2007.
- Kaufman, K. Compensation for Nurse Educators: Findings from the NLN/Carnegie National Survey with Implications for Recruitment and Retention. *Nurs Educ Pers*. 2007; 223-225.
- Durham, S., Merritt, J., Sorrell, J. Implementing a new faculty workload formula. *Nurs Educ Pers*. 2007; 184-189.
- Raynor C, Hawai'i Nursing Shortage Taskforce. *Hawai'i's Health in the Balance: A Report of the Nursing Workforce*. October 2004. Available at: [http://www.hinursing.org/reports\\_publication.htm](http://www.hinursing.org/reports_publication.htm). Accessed August 3, 2007.
- Hawai'i Nursing Shortage Taskforce. *Fact Sheet on Hawai'i's Nursing Workforce Shortage: Education Capacity*. Fall 2004. Available at: [http://www.hinursing.org/reports\\_publication.htm](http://www.hinursing.org/reports_publication.htm). Accessed August 3, 2007.
- Hawai'i State Center for Nursing. *Hawai'i State Center for Nursing Strategic Plan, 2004-2009*. Available at: <http://www.hinursing.org/strategy.htm>. Accessed August 3, 2007.



#### Aloha Data Services specializes in:

- Questionnaire/survey designs and layout
- Manual data entry (double entry available)
- Automated data entry (Optical Character/Mark Recognition)
- Statistical analysis
- Transcription (English, Japanese, Chinese)

**Aloha Data Services, your solution for all your data needs  
We keep your data safe and secure**

**Mention the Hawaii Medical Journal to receive 15% discount for the first order.**

**Phone: (808) 348-4100**

**Fax: (808) 926-8370**

**Request your free estimate online at [www.alohadata.com](http://www.alohadata.com)**

# The Pacific Island Health Care Project (PIHCP): Experience with Rheumatic Heart Disease (RHD) from 1998 to 2006

CPT Mazen I. Abbas MD and COL Donald A. Person MD

## Abstract

*Rheumatic heart disease (RHD) continues to be a major health problem in developing countries. The burden of disease in many countries, especially those of Oceania, is very high and is still the leading cause of heart-related deaths. Several factors contribute to the prevalence of RHD in the Pacific Basin including poverty, poor access to care, distance for travel, and limited resources.*

*The Pacific Island Health Care Project (PIHCP) at Tripler Army Medical Center (TAMC) is a unique program which provides indigenous, medically under-served peoples in the United States Associated Pacific Islands (USAPIs) with definitive medical and surgical care. The program has been an important source of patients to enhance Graduate Medical Education (GME) at TAMC. Beginning in 1998, a secure, Web-based, store-and-forward telemedicine network was developed. It was ultimately deployed to 11 sites in the USAPIs. This unique platform has facilitated the selection and definitive care of Pacific Islanders at TAMC.*

*The purpose of this study was to review our experience with RHD in patients referred from the USAPIs utilizing a unique telemedicine system. All patient records that were archived in the PIHCP database were retrospectively reviewed for the diagnosis of RHD from 1998 (telemedicine program began) to 2006. Descriptive analysis of the data is displayed in a tabular format. Of the 150 patient consults with RHD in the PIHCP 76 were accepted for care at TAMC and 74 came to Honolulu. Most patients were younger than 40 years of age. Almost all patients evaluated at TAMC had mitral valve involvement, and 81% of patients underwent a surgical procedure to correct the valvular disease. Our experience with RHD and its management illustrates a number of challenges that must be addressed by those who attempt to provide technically advanced care to persons from the developing world. In the case of RHD, patient selection, choice of intervention, and early return of the patient home are critical to the success of any such program. Despite these problems the PIHCP has restored many patients to health and returned them to their island homes as contributing members of society.*

## Introduction

Rheumatic heart disease (RHD), an all too common sequel of acute rheumatic fever (ARF), is especially burdensome in the developing world of the Pacific basin. It is estimated that the prevalence of severe group

A streptococcal disease is close to 18.1 million cases with 1.78 million new cases each year. The prevalence of RHD is reported to be at least 15.6 million cases and accounts for almost 233,000 deaths worldwide each year. Although this disease can be prevented in the developed world, it is the leading cause of heart disease in many Pacific island nations with a prevalence of 3.5 cases per 1000.<sup>1</sup> Developing regions such as those of the United States Associated Pacific Islands (USAPIs) face numerous challenges in addressing RHD including limited financial and medical resources, remote locations, and competition for other health concerns such as tuberculosis, diabetes, hypertension, malnutrition, and cancer.<sup>2</sup> Currently, the most effective method of treating streptococcal infections and avoiding complications, is to identify and treat acute episodes of streptococcal pharyngitis, or as in the case of ARF, it is to prevent recurrent attacks, utilizing prophylactic antibiotics. However, poor access to care and lack of antibiotics compounds the problem, and thus many of those repeatedly infected with group A streptococcus develop heart disease.<sup>2</sup>

The Pacific Island Health Care Project (PIHCP) at Tripler Army Medical Center (TAMC) has been critically important in providing medically under-served, indigenous peoples of the USAPIs with definitive medical and surgical care. In 1989, special Congressional funding allowed TAMC to provide transportation of selected patients from the USAPIs to TAMC so as to enhance graduate medical education (GME) for our residents-in-training. The patients benefit from advanced medical and surgical care available at a modern medical center. During the first ten years of the PIHCP, referrals were made by letter, long distance telephone, or Fax. Diplomatic pouch was used on several occasions. The problems created by time differences (five time zones and the International Date Line), distance (5,000 miles from Honolulu to Koror, Republic of Palau), area (greater than 7,000,000 square miles of Pacific Ocean), and lack of accessibility proved to be almost insurmountable. Access to the Internet in the late 1990s changed our ability to manage these patients. With the technical assistance of Project Akamai (Congressionally funded telemedicine initiative at TAMC) the senior author (DAP) developed a simple store-and-forward

## Disclaimer:

The views expressed herein are those of the authors and do not reflect official policy of the Department of the Army, Department of Defense, or the US Government.

## Authors' Affiliation:

- Pediatrician, SHAPE  
Healthcare Facility, Belgium  
(M.I.A.)

- Medical Director and Senior  
Scientist, Department of  
Clinical Investigation  
Medical Director, Pacific  
Island Health Care Project  
Medical Director, Telemedicine  
Tripler Army Medical Center  
(D.A.P.)

## Correspondence to:

COL Donald A. Person, MC  
USA  
1 Jarrett White Road,  
MCHK-PE  
Honolulu, HI 96859-5000  
Telephone: (808) 433-6709  
Fax: (808) 433-2699  
Email: donald.person@us.  
army.mil



system using the internet to facilitate patient consultation/referral from the USAPIs.

In 1998, the PIHCP established a secure, Web-based, store-and-forward network that was ultimately deployed to 11 sites in the USAPIs.<sup>3</sup> Four sites were established in early 1998. These included: Chuuk State Hospital, Weno, Chuuk, Federated States of Micronesia (FSM); Belau National Hospital, Koror, Republic of Palau; Pohnpei State Hospital, Kolonia, Pohnpei, FSM; and Majuro Hospital, Majuro Island, Majuro Atoll, Republic of the Marshall Islands. Subsequently seven additional sites were established at: Kosrae State Hospital, Tofol, Kosrae, FSM; Yap Memorial Hospital, Colonia, Yap, FSM; Ebeye Community Health Center, Ebeye Island, Kwajalein Atoll, Republic of the Marshall Islands; Community Health Center, Dededo, Guam; Lyndon B. Johnson Tropical Medical Center, Fagaalu, American Samoa; Commonwealth Health Center, Saipan, Commonwealth of the Northern Mariana Islands; and Kwajalein Hospital, Kwajalein Island, Ronald Reagan Ballistic Missile Defense Test Site, Kwajalein Atoll, Republic of the Marshall Islands. The intent was to provide a more efficient consultation and referral service for providers and patients from those areas. This facilitated consultation, referral, and improved triage and selection of patients to be transported to TAMC. Each center was provided with the equipment needed to communicate with consulting physicians at TAMC. The PIHCP system has a large database that now includes nearly 3,200 cases.<sup>3-5</sup> The database was used to review the experience with RHD.

## Methods

All of the cases of RHD referred to PIHCP from USAPIs during the period of 1998 to 2006 were retrospectively reviewed. The records were accessible in the archived, searchable PIHCP database. Terms such as rheumatism, rheumatic fever (RF), rheumatic heart disease, valvular heart disease, ARF, RHD, etc. were used. The case records were then reviewed for results of consultations with the program's medical director, cardiologists (either pediatric or adult), cardiac surgeons, and radiologists. Acceptance to the PIHCP was made by the medical director based on the recommendations of the consultants with respect to GME value, ability to care for the patient at TAMC, availability of funding, and sustainability of post-operative medical therapy on return of patients to their home jurisdiction. Medical records of patients who came to TAMC were also reviewed to determine the details of their evaluation and treatment. A spreadsheet was created that included the following: age, gender, nationality, date of referral, extent of heart disease including valves involved, chest radiographs, electrocardiograms (ECGs), and echocardiograms if available. The cases were divided into those who were accepted and treated at TAMC, and those who were not.

Table 1.—Rheumatic Heart Disease Consults to PICHP

Year	Consults	Sent to TAMC	%
1998	13	9	69%
1999	19	9	47%
2000	22	6	27%
2001	8	4	50%
2002	24	14	58%
2003	20	13	65%
2004	15	7	47%
2005	11	7	64%
2006	18	5	28%
Total	150	74	49%
Location	Consults	Sent to TAMC	%
American Samoa	9	2	22%
Chuuk	35	18	51%
CNMI*	2	1	50%
Ebeye	5	1	20%
Guam*	1	1	100%
Kosrae	13	9	69%
Majuro	14	7	50%
Palau	31	15	48%
Pohnpei	29	17	59%
Yap	11	3	27%
Total	150	74	49%
Age	Consults	Sent to TAMC	%
<10 Years	9	4	44%
10-14 Years	20	11	55%
15-19 Years	34	21	62%
20-24 Years	16	6	38%
25-29 Years	16	7	44%
30-34 Years	9	4	44%
35-39 Years	20	10	50%
>40 Years	26	11	42%
Total	150	74	49%
Gender	Consults	Sent to TAMC	%
Female	75	41	55%
Male	75	33	44%
Total	150	74	49%

PIHCP—Pacific Island Health Care Project, TAMC—Tripler Army Medical Center

CNMI—Commonwealth of Northern Mariana Islands

\*Expatriates patients from Federation States of Micronesia

## Results

A search from 1998 to 2006 resulted in 150 cases referred to PIHCP for RHD. Demographic data for the patients is provided in Table 1. From 1998 to 2006, annual number of consultations ranged from 8 to 24 (Median 18). Overall, slightly

Table 2.— Studies Available on PIHCP for Rheumatic Heart Disease Consults					
All Consults	ECG	CXR	%	Echocardiogram: static views or video	%
Yes	64	85	57%	20	13%
No	86	65	43%	130	87%
Sent to TAMC	ECG	CXR	%	Echocardiogram: static views or video	%
Yes	34	45	61%	11	15%
No	40	29	39%	63	85%

PIHCP—Pacific Island Health Care Project, TAMC—Tripler Army Medical Center

Table 3.— Valve Involvement by Echocardiogram on PIHCP Patients Sent to TAMC		
Valve	Number	%
Mitral	71	96
Aortic	56	76
Tricuspid	20	27
Pulmonic	13	18

PIHCP—Pacific Island Health Care Project, TAMC—Tripler Army Medical Center

Table 4.— Cardiac Procedures Performed on PIHCP patients sent to TAMC			
Procedure	Number	%	
Yes	60	81%	
No	14	19%	
Type	Number	%	
Valves Replaced	27	45%	
Valves Repaired	15	25%	
Both	18	30%	
Valve Replacement	Number	Biprosthetic	Mechanical
Aortic	25	14	11
Mitral	29	16	13
Valve Repair	Number	Annuloplasty	Balloon Valvotomy
Mitral	23	12	11
Tricuspid	11	11	0

PIHCP—Pacific Island Health Care Project, TAMC—Tripler Army Medical Center

more than half of the patients referred were accepted at TAMC (76/150 or 51%). Nearly 70% (9/13) of those referred in 1998 were accepted from a backlog. These were among the first to be referred using the telemedicine system. Chuuk State, Palau, and Pohnpei State accounted for 35, 31 and 29 patients respectively. Most patients were under the age of 40, accounting for 124/150 referrals. No difference was noted in gender for the number of consultations; however, more women than men were sent to TAMC (41 vs 33).

Table 2 provides data on the numbers of Web-based images made available on the PIHCP by the referring providers. ECGs were available 43% of time, chest radiographs 57%, and echocardiographic static views only 13% and a very few video clips, some with color dopler (the latter were all from Palau).<sup>4</sup> These data were similar for those patients who were sent to TAMC however, patients who were studied more completely were more likely to be accepted for transport.

All patients evaluated at TAMC had echocardiographic studies. Of these patients, the mitral valve was involved in 96% of cases compared to aortic (76%), tricuspid (27%), and pulmonic valves (18%) [Table 3]. Of the 74 patients evaluated at TAMC, 60 (81%) were treated surgically, including 27 who had valves replaced (45%), 18 valves were repaired and replaced (30%), and 15 had valves repaired only (25%). Valves replaced were almost equal between mitral (29) and aortic (25). Mitral valves accounted for most valve repairs whether annuloplasty (12) or valvotomy (11) [Table 4]. All except one of the 74 patients reported here survived the surgery and returned home in good condition. The one death was the result of equipment (pump) failure.

## Discussion

This article addresses RHD in patients from the USA-PIs referred to TAMC through the PIHCP. In the ten years prior to the development of the telemedicine platform patients would arrive unannounced often critically ill, sometimes even, in extremis. Occasionally, patients died en route. Even in treatable cases, virtually no medical information was available on arrival and medical attendants were infrequent. Patients often had additional unrecognized medical conditions such as diabetes, hypertension, tuberculosis, or early pregnancy. Referrals by long distance telephone calls, letters, or fax were hard to understand, often interrupted, dropped, garbled or otherwise unintelligible. Because of limited resources, lack of infrastructure, personnel constraints, and lack of medications, only basic medical services are available in many of the isolated, insular communities. With the unrestrained flow of patients from Micronesia to TAMC, the cost of medical care become prohibitive. During the early 1990s more than 400 Pacific Islanders were cared for annually, at a cost of \$8-10 million per year.

As communication technology improved and the Internet became available and accessible even in the remote Western Pacific, the concept of an asynchronous, store-and-forward network linking the USAPIs with TAMC was developed by the senior author and members of the Project Akamai team. This effort, resulted in the current PIHCP program in 1998. Since then, all consultations and referrals have been made using the secure, password protected, Web-based telemedicine system.

Primary prevention of ARF and RHD is based on early recognition and treatment of streptococcal infections, particularly Group A,  $\beta$ -hemolytic streptococcal pharyngitis. However, previously noted, patients in developing countries do not have readily available medical care. Many individuals live in remote jungles or distant, isolated islands and atolls. Some atolls are hundreds of miles from primary care, accessible only by canoe. In some situations weather and tide conditions are such that access from the lagoon to the open sea may occur only once or twice a year. Few islands have airstrips; those that do may only have one or two flights a week. Furthermore, even if access to care were available, many system problems exist such as: limited or no laboratory support; no film or developer; broken equipment; and lack of medicines. There are no radiologists or pathologists in the USAPIs. Basic services such as electricity, potable water, sewage, and waste management are severely limited. Poverty limits the ability of patients to obtain treatment or results in poor compliance with treatment plans. Thus, patients are undiagnosed or have untreated streptococcal infections including ARF. Secondary complications such as valvular heart disease occurs when patients have recurrent bouts of ARF or recurrent streptococcal infections.<sup>3</sup> Secondary prevention with intramuscular penicillin has been demonstrated to be more effective than oral penicillin.<sup>6</sup> However, for all of the above problems, many patients ultimately resort to taking a few oral penicillin tablets and then discontinuing when the supply runs out. Therefore, patients have worsening RHD and eventually develop complications such as SBE, heart failure, atrial fibrillation, mycotic aneurysms, or stroke. Throughout the remote islands of the USAPIs, community health workers attempt to contact individuals/families using the radio or other means of communication reminding parents to bring their children with RF or RHD into the clinic for their monthly bicillin injections. Prevention of severe morbidity or early mortality requires effective planning, consultation, and referral. This was virtually impossible in the remote Pacific prior to the development of the PIHCP.

The PIHCP evolved as a way of evaluating patients in advance of transfer to determine suitability for definitive surgical care at TAMC. The system allows the attachment of chest X-rays, ECGs, and even echocardiographic video clips. The referring provider responds to consultant questions regarding physical findings, laboratory data, previous medical therapy, additional tests, EKGs etc. Maximal medical therapy at home is expected. For example patients with SBE must be treated at home. Any post-operative care must be sustainable when the patient returns home. For these reasons, mechanical valve replacements are avoided in favor of tissue valve prostheses including xenografts, homografts, and allografts. Valvuloplasties are performed when appropriate. Life-long anticoagulation is not possible in most jurisdictions. Patients must be carefully screened and selected prior to coming to TAMC. It is expected that the patient would have been treated medically prior to any transfer. Elderly or debilitated patients are not accepted. Some medical patients have been accepted, only to discover when they arrive that they are pregnant. Sadly such patients are returned home. Those persons more completely evaluated prior to referral were more likely to be accepted and have better outcomes. The PIHCP has provided our residents-in-training with remarkable patients who are incredibly grateful. The humanitarian benefits of the program are incalculable. On balance the PICHP has lessened the burden of ARF and RHD in the Developing World of the USAPIs.

#### References

1. Carapetis JR, Steer AC, Mulholland EK, Weber, M. The global burden of group A streptococcal diseases. *The Lancet Infectious Diseases* 5(11): 685-94, 2005 Nov.
2. World Health Organization. *Rheumatic fever and rheumatic heart disease: report of a WHO expert consultation, Geneva, WHO, 29 Oct to 1 Nov, 2001. WHO Tech Rep Ser* 2001;923.
3. Person, DA. Pacific Island Health Care Project: early experiences with a web-based consultation and referral network. *Pacific Health Dialog* 7(2): 29-35, 2000.
4. Person, DA. The Republic of Palau and the Pacific Island Health Care Project (PIHCP). *Pacific Health Dialog* 12(1): 132-140, 2005.
5. Hensel KS, Person DA, Schaefer RA, Burkhalter WE. An Internet-Based Referral/Consultation System for the U.S.-Associated Pacific Islands: Its Contribution to Orthopedic Graduate Medical Education at Tripler Army Medical Center. *Military Medicine* 170(3): 214-218, March 2005.
6. Manyemba J, Mayosi BM. *Penicillin for secondary prevention of rheumatic fever*. Cochrane Database of Systematic Reviews (3):CD002227, 2002.

**Until there's a cure, there's the American Diabetes Association.**



## The Heart of Medicine

**Jill S.M. Omori MD, Associate Professor, Family Medicine & Community Health, Office of Medical Education**

*(Dr. Omori was nominated by peers and colleagues as the recipient of the 2008 "Humanism Award". Her speech was delivered at the White Coat Ceremony\*, July 25, 2008.)*

Dean Hedges, fellow members of the faculty, alumni, family, friends, and most importantly our honored guests... the JABSOM Class of 2012:

I am extremely humbled and honored to have the opportunity to speak to all of you this evening on this most auspicious and momentous occasion. I would like to congratulate each of you for realizing your dreams of becoming physicians. It has been a long road for many of you but as you know, this is not the culmination of your journey but rather a new fork in your road to becoming the amazing physicians I know you all can be. You will soon realize that you are now all the resident medical experts when you go to family functions and outings with your friends. Soon you will be trying to diagnose your uncle's rash, taking your mother's blood pressure, counseling your friend on what you think is causing their cough, and a very common scenario for medical students... you will be diagnosing yourself with whatever disease you happen to be studying at any given time. You will discover that having an M.D. after your name or even the prospect of you having those two little letters affords you great power... but remember as Spiderman's wise uncle reminded him, "with great power comes great responsibility."

The launching of your medical careers coincides with another very momentous event which only comes around every four years. Hard battles will be fought, important decisions will be made, and a home grown boy from Hawai'i may take center stage in the National limelight... of course I am referring to the 29th Summer Olympic Games which will be starting in a few weeks. I personally love the Olympics and am very excited for the games to begin. And as I watched the Olympic trials recently, I started to notice some striking similarities between Olympic world class athletes and medical students. Both are fierce competitors who have an inner drive and determination that you rarely see in others; they both push their minds and bodies to the ultimate limits, far beyond what they ever thought possible in order to be the best that they can be; many spend their entire lives training for their ultimate goals, sacrificing the normal luxuries in life to obtain them; and both are used to being the cream of the crop and are often expected to perform miraculous feats. In addition, similar to how athletes fill their bodies with enhancing nutritional vitamins and supplements our medical students also nourish their bodies with loads of stimulating Starbucks and other caffeine-infused beverages. But unlike Olympic athletes, the greatest rewards for medical students and physicians do not come in the form of gold medals, world records, or their face on a box of Wheaties, but rather in the form of respect and gratitude from our patients and their families, and the self-realization that we have provided exceptional and compassionate care to all who needed our

help. Don't get me wrong, there will be tangible rewards that I'm sure many of you will fight tooth and nail for and that certainly will afford you short term "fame" and advantages. But as you are gunning for these short term rewards, keep in mind that after 82 years people still remember that Jesse Owens won four gold medals in the 1936 Summer Olympics, but after four short years no one will remember or even care what you scored on your board exams or how many clerkships you received an honors grade in. What people will remember is how you patiently counseled them at 3:00 am when they had questions about their newborn, how you delivered the news that they had a disease that they never knew existed, and how you competently and compassionately cared for their loved one when they had their heart attack or stroke. To reach these goals you must learn more than what you will read in books and journals or learn about in anatomy lab and lectures. The science of medicine will not be enough, you must learn the art of medicine, and even more than that you must embrace the heart of medicine.

I have recently had the fortune of finding myself on the opposite side of the receptionist desk, the other end of the stethoscope, and the receiving end of the scalpel. Although it may seem strange to refer to a diagnosis of cancer as a fortunate event, I truly believe that everything happens for a reason and that you can find a blessing in every challenge you encounter in life. This experience has reminded me of the tremendous importance of physicians remembering their patients' perspectives of health and illness and while I would never wish ill health upon any of you, I do believe that it is incredibly important for all of us to step back once in awhile, to see the world from our patients' eyes, and to think about what they are thinking, feeling, fearing, and living. And though I am truly grateful for the excellent care that I am receiving, it makes me wonder if I were not a physician if I would be receiving this same standard of care. While we'd all like to believe that I would, the sad truth of the matter is that I might not. Just today, while waiting for one of my tests to be done, a very polite and courteous receptionist who had just reviewed my face sheet apologized to me for not realizing that I was a physician. I thought this was very strange and told her not be silly, and inside I felt sad that perhaps she felt that she needed to treat me nicer or with more respect just because of the fact that I was a doctor. Everyone deserves to be treated with the same respect and dignity, regardless of their station in life. There are also many in our society, the impoverished and the disenfranchised, that struggle on a daily basis for just the basic essentials that you and I take for granted... food, education, housing, and healthcare. It is this disparity and injustice in society and consequently in healthcare that drives my passion to provide high quality, compassionate health care to everyone, especially the underserved.

I am sure that many of you sitting on the stage here tonight share this same passion with me, but my fear is that by the end of your medical training it will have faded for many of you. For the past

three years, I have served on the admissions committee for this medical school and throughout these years of reviewing hundreds of applications and personal statements, not once did I ever come across an applicant who wanted to become a doctor because of potential wealth, fame, or prestige... but rather I read with encouragement your stories of inspiration and hope, how you wanted to make a true impact in patients' lives, and how you would use the gift of medicine to help those most in need. This is the heart of medicine and is a large part of the reason you were all chosen to be here and as someone who will be teaching you for the next four years at this medical school I need to believe that you were all telling the truth. So why then do I fear that some of you will have a change of heart by the end of your training? I am ashamed to admit that while medicine is a healing profession, the culture of medical training is sometimes far from nurturing and healing and it will often put extraordinary demands on your mental and physical well being, not to mention your pocketbooks, and you may feel at times that it is draining all of the humanity and compassion out of you, making it easy for you to abandon your dreams. After all, who would fault you for feeling defeated after being told by older doctors that your lives are so easy now because you only have to work 80 hours a week and who would fault you for feeling cynical after treating numerous alcoholics with end-stage liver disease, life-long smokers with lung cancer, or drug addicted mothers fighting to keep their babies.

But as someone who has a sincere interest in helping you to become high-quality, caring, and compassionate physicians I challenge you to start to face this quandary head on and to survive your training with your souls intact. You must start to look beyond the diseases and the stereotypes and start to see and hear your patients as individuals; their stories, their adventures, their hopes, and their dreams. You must remember your own dreams and passions, and always reflect on your reasons for entering this noble profession. You must allow yourself to falter and make mistakes, for all of you will, but just know that it is what you choose to learn from those mistakes that can help to shape you into a better physician. You must support and rely on those that are sitting around you on this stage and those sitting in the audience, for they will be your true lifelines on this incredible journey. You must always remember what a true privilege it is for you to be a doctor and to be a part of your patients' lives in a way that few others will ever experience...they will share with you their most intimate secrets, deepest fears, and greatest joys. You must allow yourself to experience and enjoy the full richness and wonder that is medicine. And lastly, you must always remember your priorities in life and resist the ever present danger of allowing medicine to consume it, always remembering your family and friends who got you to where you are, balancing medicine with your interests and passions, and your needs and desires. This was perhaps the greatest blessing of my recent diagnosis, a reminder that I needed to take a good look at the things that are truly important to me and do a much better job at nourishing my body and my soul.

So as you put on your white coats this evening and recite the Hippocratic oath, listen to the words carefully and do not disregard their meaning, and let it help to guide you over the next four years and beyond. Robert F. Kennedy once said, "It is from numberless diverse acts of courage and belief that human history is shaped. Each time a man stands up for an ideal, or acts to improve the lot

of others, or strikes out against injustice, he sends forth a tiny ripple of hope, and crossing each other from a million different centers of energy and daring, those ripples build a current that can sweep down the mightiest walls of oppression and resistance." I look forward to seeing what ripples you will create with your hearts and to being a part of the current that you generate. Congratulations and welcome to the heart of medicine!

*\*White Coat Ceremony: Conceived by the Arnold P. Gold Foundation "impresses upon them (the medical students) the primacy of the doctor-patient relationship. It also encourages them to accept the obligations inherent in the practice of medicine; to be excellent in science, compassionate, and lead lives of uprightness and honor. It emphasizes for students a physician's responsibility to take care of patients and also to care for patients. The message conveyed is that physicians should care as well as cure."*



**Aloha Laboratories, Inc**  
**...when results count**

**CAP accredited laboratory**  
**Quality and Service**

**David M. Amberger M.D.**  
**"Best Doctors in America"**  
**Laboratory Director**

**Phone (808) 842-6600**

**Fax (808) 848-0663**

**results@alohalabs.com**

**www.alohalabs.com**



## Issues in Medical Malpractice XXX

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

**Question:** A 5-year-old boy develops excruciating testicular pain from torsion of the testis. The urologist recommended emergency surgery but both parents refused. The urologist's action should include which of the following (one or more)?

- A. Perform surgery without consent as this is an emergency and consent is unnecessary so long as there are two supporting signatures in the chart.
- B. If the boy nods in assent, this would constitute valid informed consent under the circumstances.
- C. Acquiesce to the parents, as they have the legal authority to decide.
- D. Try to persuade the parents that surgery is in the best interests of the child, but operate if they insist on withholding consent.
- E. Request a court hearing and treat the boy conservatively in the meantime.

**Answer: D.** If consent cannot be readily obtained and a delay places the patient in jeopardy, it is not necessary. The two-signature practice merely documents peer agreement regarding the need for surgical intervention, but it is neither required by law nor does it immunize against a subsequent lawsuit. The facts here indicate that the parents are available and are, in fact, refusing to give consent. Courts may allow a 16-year-old, but not a 5-year-old to assent to a procedure against parental wishes. Parental values are rightly accorded legal recognition, but in rare cases, giving in to the parents may mean serious harm to a child. In this case, one should do the utmost to persuade the parents that surgery is in the child's best interests. Answer D is best, notwithstanding the risk that the parents might file a suit against the urologist. If there is time, one might petition for a court hearing, which would most likely rule in favor of surgery. However, unless an immediate court hearing can be arranged, E is not the best choice (assuming "waiting" carries an unacceptable risk of testicular loss).

### Capacity to Consent

All adults of sound mind are presumed to be competent to give informed consent. The better term is "capacity for medical decision-making." Consent is obtained from the patient with capacity; otherwise an authorized surrogate decision-maker, usually the next of kin or legal guardian, gives the consent. In most instances, one can determine capacity without much difficulty. A simple approach in deciding whether a patient has medical decision-making capacity is to ask two questions: 1) whether the patient understands the procedure and more importantly, 2) whether the patient understands the consequences of accepting or refusing such treatment and alternatives. It is the attending physician's duty to determine the patient's decision-making capacity. In difficult cases, a consultation with a psychiatrist may be of help, but this is not usually necessary or recommended.

For a minor, the doctor must obtain permission from the parents or guardian unless the minor is emancipated, i.e., conducting himself or herself as an adult and no longer under the control of the parents. If a relative rather than the parents accompanies the child, parental consent should still be sought. In the case of separated or divorced parents, the party having custody of the child usually gives the consent.

Occasionally, pediatricians face the dilemma of parents refusing to give permission for a proposed effective treatment. One should always respect parental values, but the doctor has to look out for the patient's best interests as well. In situations where the intervention is burdensome or its effectiveness limited, one might ethically acquiesce to parental wishes. However, where the intervention is highly effective or lifesaving with few risks, then the doctor may be obligated to pursue legal means in the face of continued parental resistance. The U.S. Supreme Court has said that: "Parents may be free to become martyrs themselves. But it does not follow they are free, in identical circumstances, to make martyrs of their children..." (The case, *Prince v. Massachusetts*,<sup>1</sup> was not a medical consent case. It dealt instead with a mother's violation of a state law prohibiting minors from selling religious literature in the streets).

Special rules apply in reproductive medicine. For example, the law does not require parental consent for a minor's request for an abortion.<sup>2</sup> In some jurisdictions, the law may even disallow informing the parents of such a request, or it may permit parental notice, but deny them any decision-making authority.<sup>3</sup> Family planning, pregnancy services, and treatment for venereal diseases in minors are exempt from the requirement of parental consent.

In patients who have prepared an advance medical directive (AMD), physicians are obligated by law to follow the patient's wishes regarding life-sustaining treatment, typically at the end of life. The AMD, sometimes called a 'living will', is drawn up when the individual is fully cognitive, and springs into effect when the person loses the capacity to decide. The patient typically identifies a surrogate decision-maker in the AMD, and this person is said to have durable power of attorney for healthcare decisions (called an agent under Hawai'i law). If no surrogate is identified, then a non-designated surrogate is selected, by consensus, from among the patient's family members and/or persons of interest. Finally, where no decision-maker is forthcoming, the healthcare team should then seek a court-appointed legal guardian.

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](mailto:siang@hawaii.edu) or call (808) 728-9784 for more information.

### References

1. *Prince v. Massachusetts*, 321 U.S. 158 (1944).
2. *Planned Parenthood of Central Mo. v. Danforth*, 428 U.S. 52 (1976).
3. *H.L. v. Matheson*, 450 U.S. 398 (1981).





## Initial Management of Febrile Neutropenia for the Primary Provider: A Summary of Current Practice Guidelines

Andrew Delmas MD, Joshua Hawley MD, and Jeffrey Berenberg MD; Tripler Army Medical Center

### Introduction

The Infectious Disease Society of America (IDSA) first published guidelines for the management of neutropenic fever over 15 years ago, after multiple clinical studies defined the importance of empiric antibiotic therapy in neutropenic patients receiving chemotherapy. The IDSA has since updated and revised those initial guidelines twice, in 1997 and 2002.<sup>1</sup> The National Comprehensive Cancer Network (NCCN) had also previously published guidelines entitled "Neutropenia and Fever." However in 2007, these guidelines were revised and renamed "Prevention and Treatment of Cancer-Related Infections" in order to include other immunocompromised states that pose similar infection risk to neutropenia.<sup>2</sup>

While many publications were written and multiple new therapies were developed between 2002 and 2007, the overriding principles in the 2002 IDSA and 2007 NCCN remain very similar. The purpose of this paper is to outline and review the primary recommendations for the management of neutropenic fever in cancer patients for the primary care provider.

### Definitions

Both the IDSA and the NCCN define fever as one reading of 38.3°C (101°F) or 38°C (100.4°F) for more than one hour. The IDSA defines neutropenia as an absolute neutrophil count (ANC) of less 1000 cells/mm<sup>3</sup>, with increased risk for infection with an ANC less than 500 cells/mm<sup>3</sup> and even greater for ANC less than 100 cells/mm<sup>3</sup>. The NCCN defines neutropenia as an ANC less than 500 cells/mm<sup>3</sup> or an ANC less than 1000 cells/mm<sup>3</sup> and expected to decline to less than 500 cells/mm<sup>3</sup> within 48 hours. It is important to note both organizations recommend empiric therapy for neutropenic patients with clear evidence of infection even in the absence of fever.

### Initial Assessment

The history and physical exam for a febrile neutropenic patient should be relatively similar to any febrile patient presenting to a primary care provider. The history should include known comorbidities of the patient, recent antibiotic therapy, and sick contacts. The time since last chemotherapy is also very important in the initial history as it can help predict the duration of neutropenia. The physical exam should be complete and focused on the most common sites of infection, e.g. periodontal and mucosal surfaces, sinuses, abdomen, the lung, perineum and anus, and skin, especially vascular access sites and recent puncture wounds from bone marrow aspiration.

Laboratory evaluation should at a minimum include a complete blood count with manual differential, chemistry panel with urea nitrogen and creatinine to assess renal function, urine analysis, and transaminases. Blood cultures should also be collected during the initial evaluation before empiric antibiotic therapy is initiated. Collection of cultures from two separate sites, central and/or peripheral, is important to assess for catheter-related infections.

Radiographic studies such as a chest X-ray or specific abdominal imaging, ultrasound or computed tomography scanning, should also be obtained during the initial evaluation as the patient's symptoms dictate. However, our practice is to obtain chest X-rays as part of the initial assessment even in the absence of respiratory symptoms.

### Initial Antibiotic Regimen

Initial empiric antibiotic therapy is an urgent priority to reduce the potentially significant morbidity and mortality from infections in neutropenic patients. The initial choice of empiric antibiotic therapy is determined primarily by the level of risk for serious infection and most likely source for infection based on the patient's presentation and initial assessment.

### Outpatient Management

Patients who are at the lowest risk and have appropriate access to care, i.e. 24 hours a day, 7 days a week, may be candidates for outpatient therapy with oral antibiotics. While clinical judgment and other criteria are necessary, the Multinational Association for Supportive Care in Cancer has been established to aid providers in determining the severity of risk<sup>3</sup> (Table 1). Other criteria for determining low risk patients include the absence of catheter infection, temperature <39.0°C, expected duration of neutropenia <10 days, normal hepatic and renal function tests, outpatient status at the time of fever onset, and general clinical stability (specifically no signs of sepsis, hypotension, altered mental status, or uncontrolled nausea/vomiting). The NCCN guidelines have also added the use of alemtuzumab as a high risk factor.

Even low risk patients require very close follow-up and monitoring. The NCCN recommends a period of 2-12 hours of observation at initial presentation in addition to 24 hour follow-up assessment. Oral antibiotic recommendations include the combination of amoxicillin/clavulanate and ciprofloxacin both dosed as 500mg three times daily. Penicillin-allergic patients may substitute clindamycin for amoxicillin/clavulanate.

Table 1.— Scoring of low risk patients with neutropenic fever; score of 21 or greater indicates low-risk patient which can be considered for outpatient therapy

Extent of illness	
Mild, moderate	5
Severe	3
No hypotension	5
No Chronic obstructive pulmonary disease	4
Solid tumor or no fungal infection	4
No dehydration	3
Outpatient at onset of fever	3
Age <60	2

## Intravenous Antibiotics

Initial options include monotherapy, combination therapy without vancomycin, or vancomycin plus 1 or 2 additional antibiotics. The choice between therapeutic regimens is a clinical decision based on the most likely site of infection, suspected causative organisms, local susceptibility patterns, and clinical stability of the patient.

Monotherapy is indicated in clinically stable patients without known colonization of drug-resistant organisms and low suspicion for resistant organisms based on local susceptibilities, recent antibiotic use, recent hospitalization, most likely site of infection, and possibility for *Pseudomonas* infection. Both the IDSA and NCCN recommend the use of cefepime, carbapenem (imipenem-cilastatin or meropenem), or piperacillin/tazobactam (although not as strongly recommended in the IDSA guidelines due to lack of evidence at the time). Ceftazidime is not strongly recommended as monotherapy by either organization due to known extended-spectrum beta-lactamases which reduce its spectrum of coverage.

Combination therapy with an aminoglycoside plus either an antipseudomonal penicillin or antipseudomonal cephalosporin is recommended by both the IDSA and NCCN for synergistic effect with some gram negative bacilli and reduction of resistant organisms. The IDSA guidelines suggest the use of an aminoglycoside plus a carbapenem which is not mentioned in the NCCN recommendations. The NCCN guidelines also include a stronger recommendation for ciprofloxacin plus an antipseudomonal penicillin, which can be considered in patients not previously receiving quinolone prophylaxis.

Both the NCCN and IDSA have very similar recommendations on the addition of vancomycin to a one or two drug regimen. In general it should be considered if any of the following circumstances exist:

- Possibility of catheter-related infection
- Skin/soft tissue infection
- Clinically unstable patient
- Known colonization with resistant organisms
- Gram positive organism from initial cultures before final speciation and susceptibility testing is complete

Other broad spectrum gram positive antibiotics such as daptomycin, linezolid, quinupristin-dalfopristin, and tigecycline are not recommended by either organization for initial empiric therapy.

Empiric antifungal therapy is generally considered after the patient has failed to respond to the initial antibiotic regimen but may also be used in the clinically unstable patient with signs of sepsis. The standard of care in the IDSA guidelines and still recommended in by the NCCN is initial treatment with fluconazole (if the patient was not previously on fluconazole prophylaxis) or broadening coverage with liposomal-amphotericin B (L-AMB) if the patient is taking fluconazole for prophylaxis.

Relatively newer antifungal medications, including voriconazole, itraconazole, and caspofungin, have been studied for empiric therapy in the persistently febrile neutropenic patient<sup>4,5,6</sup> but not for initial treatment. These are included in the more recent NCCN guidelines. In the authors' opinion, voriconazole could be considered for initial therapy when aspergillus is strongly suspected due to its equality or even superiority over L-AMP in other patient populations.<sup>7,8</sup> The

authors also believe caspofungin may be considered in patients with a strong suspicion for candidemia due to its efficacy in treatment of resistant *Candida* species.<sup>9</sup> It is important to consult an infectious disease specialist early in patients with suspected invasive fungal infections.

## Follow-up Assessment

Patients should be reassessed at a minimum of every 24 hours after initial presentation and initiation of antibiotic treatment. The efficacy of therapy should be determined after 3-5 days. If the patient remains febrile a thorough reassessment should be performed including full physical exam, repeat cultures, and further radiographic imaging as indicated. Further management decisions should be made by an infectious disease and/or oncologic specialist experienced in the care of neutropenic cancer patients.

## Conclusions

The primary care physician should know and understand the current standards of care for the initial evaluation and management of a febrile neutropenic patient receiving chemotherapy as he/she may be the first provider these patients visit. Urgent empiric antibiotic therapy is essential to reduce the morbidity and mortality associated with infections in neutropenic cancer patients and the primary physician may be involved in the initial decision making process.

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

The views expressed herein are those of the authors and do not reflect the official policy or position of the Department of the Army, Department of Defense, or US government. The authors are employees of the US government. This work was prepared as part of their official duties and, as such, is not subject to copyright.

## References

1. 2002 Guidelines for the Use of Antimicrobial Agents in Neutropenic Patients with Cancer. Infectious Disease Society of America
2. Prevention and Treatment of Cancer-Related Infections. Version 1.2008. National Comprehensive Cancer Network, Practice Guidelines in Oncology
3. Klastersky J, Paesmans M, Rubenstein EJ et al. The Multinational Association for supportive Supportive Care in Risk Index: A Multinational Scoring System for Identifying Low-Risk Febrile Neutropenic Cancer Patients. *Journal of Clinical Oncology* 2000; 18(16): 3038-51
4. Walsh TJ, Pappas P, Winston DJ, et al. Voriconazole compared with liposomal amphotericin B for empiric fungal therapy in patients with neutropenia and persistent fever *New England Journal of Medicine* 2002; 346:225-234.
5. Boogaerts M, Winston DJ, Bow EJ, et al. Intravenous and oral itraconazole versus intravenous amphotericin B deoxycholate as empiric antifungal therapy for persistent fever in neutropenic patients with cancer who are receiving broad-spectrum antibacterial therapy. A randomized, controlled trial. *Annals of Internal Medicine* 2001; 135: 412-422.
6. Walsh TJ, Teppler H, Donowitz GR, et al. Caspofungin versus liposomal amphotericin B for empirical antifungal therapy in patients with persistent fever and neutropenia. *New England Journal of Medicine* 2004; 351 (14): 1391-1402
7. Herbrecht R, Denning DW, Patterson TF, et al. Voriconazole versus amphotericin b for primary treatment of invasive aspergillosis. *New England Journal of Medicine* 2002;347(6): 408-15
8. Denning DW, Ribaud P, Milpied N, et al. Efficacy and safety of voriconazole in the treatment of acute invasive aspergillosis. *Clinical Infectious Diseases* 2002;34: 563-71.
9. Gilbert, David N, Moerlering, Robert C Jr., Eliopoulos, George M, Sande, Merle A; *The Sanford Guide to Antimicrobial Therapy*. 2008, Thirty-eighth edition



## Why should you belong to the Hawaii Medical Association, your county medical society and the American Medical Association?

Here are three reasons why:



The Hawaii Medical Association champions your cause as it relates to all Hawaii doctors and patients. We are the organization responsible for representing you each and every day in front of state legislature, regulatory agencies, regional business organizations and media on state-level reforms and regulations.



Your county medical society offers a place for you to get involved locally. Nothing beats interacting with colleagues who face the same challenges you do in your community—and no organization can better represent you when local pressures are making caring for patients difficult.



Only the AMA has the strength to advocate on your behalf nationally. We're working on such challenges as solving the problem of the uninsured and the permanent replacement of the Medicare physician payment formula. The AMA is the only organization that speaks for all doctors.

All three work together on your behalf to make medicine better for doctors and patients.  
Do your part and support all three today.

**Call HMA at (808) 536-7702.**

*"Our profession is under attack on many fronts, and membership in the AMA, along with my state and county societies, provides me exceptional value in assuring a strong voice in advocacy on the national, state and local levels."*

—Mitchell B. Miller, MD, physician member of the AMA and his local and state societies

# Index to Hawai'i Medical Journal

## Volume 67, 2008

### Authors Index

- ABBAS M. The Pacific Island Health Care Project (PIHCP): experience with rheumatic heart disease (RHD) from 1998 to 2006, 67(12):326
- ABBOTT R. Association between low blood pressure and cognitive function in late life: the Honolulu-Asia aging study [ACP Hawai'i abstracts], 67(7):181
- ACOPA JD. Individualizing colon cancer treatment: the role of predictive and prognostic factors [Cancer research center hotline], 67(11):304
- AGNOS K. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76
- AHEDO A. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76
- AMOA F. Health care needs of the homeless of O'ahu, 67(8):213
- ANDAYA JM. Health care needs of the homeless of O'ahu, 67(8):213
- ANTONELLI MA. Medical licensure in the United States: past, present, and future [Medical school hotline], 67(6):162
- APISARNTHANARAK A. Diffuse pachymeningitis due to mycobacterium tuberculosis: a case study report and review of the literature, 67(4):100
- APISARNTHANARAK P. Diffuse pachymeningitis due to mycobacterium tuberculosis: a case study report and review of the literature, 67(4):100
- ARNETT M. A perplexing case of a 34-year-old man with unexplained chest pain, very low HDL and central hypogonadism [ACP Hawai'i abstracts], 67(7):186
- ASAO KK. Predictors of methamphetamine use in Native Hawaiians and Pacific peoples with heart failure [Queen's Medical Center's summer research internship 2007: selected abstracts], 67(6):161
- ATEBARA K. Tobacco use, back pain, and the need for vertebral surgery among patients referred for pre-operative evaluation [ACP Hawai'i abstracts], 67(7):186
- AU L. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76
- BACHMANN AS. Proteasome inhibitors in pediatric cancer treatment [Cancer research center hotline], 67(9):247
- BAILEY C. Cardiac transplantation in Hawai'i: a summary of the first 21 years, 67(11):289
- BANE-TERAKUBO T. Parent-child reading interactions among English and English as a second language speakers in an underserved pediatric clinic in Hawai'i, 67(10):260
- BANKOWSKI MJ. What virulence factors enable staphylococcus aureus to cause blood stream infections? [ACP Hawai'i abstracts], 67(7):182
- BELL C. Describing Hawai'i's nursing home physicians: the results of a survey, 67(5):126
- BERENBERG J. Hypertrophic osteoarthropathy and hypercalcemia in metastatic renal cell carcinoma [ACP Hawai'i abstracts], 67(7):183
- Initial management of febrile neutropenia for the primary provider: a summary of current practice guidelines [Cancer research center hotline], 67(12):333
- BERGERT L. The influence of intravenous hydration on hospital length of stay in infants with hyperbilirubinemia, 67(1):15
- BERRY SP. Health care needs of the homeless of O'ahu, 67(8):213
- BIUK-AGHAI EN. Circulating blood volume measurements correlate poorly with pulmonary artery catheter measurements, 67(1):8
- BLANCHETTE PL. Association between low blood pressure and cognitive function in late life: the Honolulu-Asia aging study [ACP Hawai'i abstracts], 67(7):181
- Describing Hawai'i's nursing home physicians: the results of a survey, 67(5):126
- BRAUN K. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76
- A feasibility study of methodology for recruitment and for comparative testing of ciliary function in Hawaiians and Caucasians, 67(8):209
- BROOKS B. Effects of volcanic SO<sub>2</sub> on pulmonary function [ACP Hawai'i abstracts], 67(7):187
- BURGESS S. The impact of the rapid response team on patient care at Tripler Army Medical Center [ACP Hawai'i abstracts], 67(7):179
- BURRIS J. The impact of the rapid response team on patient care at Tripler Army Medical Center [ACP Hawai'i abstracts], 67(7):179
- CAHPITAL AD. Circulating blood volume measurements correlate poorly with pulmonary artery catheter measurements, 67(1):8
- CHEN R. Association between low blood pressure and cognitive function in late life: the Honolulu-Asia aging study [ACP Hawai'i abstracts], 67(7):181
- CHENTANEZ T. Cardiobacterium hominis endocarditis presenting as acute embolic stroke: a case report and review of the literature [ACP Hawai'i abstracts], 67(7):186
- Chyeseobacterium meningosepticum presented as cellulitis with septic shock: a case report and review of the literature [ACP Hawai'i abstracts], 67(7):187
- Treatment outcomes among patients with hepatitis C in Hawai'i [ACP Hawai'i abstracts], 67(7):184
- CHO J. The International Association for the Study of Lung Cancer -- The Lung Cancer Staging Project: better data, better decisions, better outcomes [Medical school hotline], 67(8):220
- CHOI D. A feasibility study of methodology for recruitment and for comparative testing of ciliary function in Hawaiians and Caucasians, 67(8):209
- CHOI JK. Does procedure volume impact confidence and complications among internal medicine residents [ACP Hawai'i abstracts], 97(7):181
- CHOKRUNGVARANON N. Cardiobacterium hominis endocarditis presenting as acute embolic stroke: a case report and review of the literature [ACP Hawai'i abstracts], 67(7):186
- Chyeseobacterium meningosepticum presented as cellulitis with septic shock: a case report and review of the literature [ACP Hawai'i abstracts], 67(7):187
- CHOLIKUL S. Post-stroke bipolar affective disorder in the elderly: a case report and literature review [ACP Hawai'i abstracts], 67(7):179
- CHOW D. Prolonged QT interval and QT dispersion in HIV-infected individuals [ACP Hawai'i abstracts], 67(7):185
- COEL M. A feasibility study of methodology for recruitment and for comparative testing of ciliary function in Hawaiians and Caucasians, 67(8):209
- COMEAX T. Fertility Preservation in Cancer Patients, 67(7):190
- CONDE F. Providing psychosocial support to men with prostate cancer and their wives [Cancer research center hotline], 67(3):80
- COON DR. Reflections on the JABSOM experience for the incoming class of 2011 [Medical school hotline], 67(1):18
- CURB JD. Overview: the Hawai'i Clinical and Translational Science Institute [Medical school hotline], 67(5):134
- DANN M. Does procedure volume impact confidence and complications among internal medicine residents [ACP Hawai'i abstracts], 97(7):181
- DAVIS H. Hypertrophic osteoarthropathy and hypercalcemia in metastatic renal cell carcinoma [ACP Hawai'i abstracts], 67(7):183
- DAVIS J. Initial antihypertensive prescriptions, switching patterns and adherence among insured patients in Hawai'i, 67(4):96
- DELA CRUZ MR. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76
- DELMAS A. Initial management of febrile neutropenia for the primary provider: a summary of current practice guidelines [Cancer research center hotline], 67(12):333
- Pantoea agglomerans: An underreported cause of serious infection in Hawai'i [ACP Hawai'i abstracts], 67(7):180
- DILLARD AY. Partnerships to address obesity disparities in Hawai'i: the PILI 'Ohana Project, 67(9):237
- DOMANSKI J. 26-year-old woman with corynebacterium accolens breast abscess [ACP Hawai'i abstracts], 67(7):180
- Does procedure volume impact confidence and complications among internal medicine residents [ACP Hawai'i abstracts], 97(7):181

- DONEZA J. A classic case of ITP in a woman presenting with spontaneous bruising, 67(11):292
- EAGLIN VH. Attitudes and perceptions of nurses-in-training and psychiatry and pediatric residents towards animal-assisted interventions, 67(1):45
- EDELMAN A. Copper T380A intrauterine device: lost and found, 67(5):131
- EFIRD JT. Environmental factors of obesity in communities with Native Hawaiians, 67(9):233
- Predictors of methamphetamine use in Native Hawaiians and Pacific peoples with heart failure [Queen's Medical Center's summer research internship 2007: selected abstracts], 67(6):161
- ERONDU N. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76
- FERGUSON T. Pantoa agglomerans: An underreported cause of serious infection in Hawai'i [ACP Hawai'i abstracts], 67(7):180
- FERN BD. Tobacco use, back pain, and the need for vertebral surgery among patients referred for pre-operative evaluation [ACP Hawai'i abstracts], 67(7):186
- FERNANDEZ E. Effects of volcanic SO<sub>2</sub> on pulmonary function [ACP Hawai'i abstracts], 67(7):187
- FERNANDEZ R. Enhancing resident's training in medical ethics: an exploratory study assessing attitudes of internal medicine residents, 67(12):317
- FORTALEZA-DAWSON T. Describing Hawai'i's nursing home physicians: the results of a survey, 67(5):126
- FOSTER J. Providing psychosocial support to men with prostate cancer and their wives [Cancer research center hotline], 67(3):80
- FRANCIS TB. Graves' disease manifested as vocal cord dysfunction [ACP Hawai'i abstracts], 67(7):184
- A perplexing case of a 34-year-old man with unexplained chest pain, very low HDL and central hypogonadism [ACP Hawai'i abstracts], 67(7):186
- FRASER SL. 26-year-old woman with corynebacterium accolens breast abscess [ACP Hawai'i abstracts], 67(7):180
- Pantoa agglomerans: An underreported cause of serious infection in Hawai'i [ACP Hawai'i abstracts], 67(7):180
- FUJIKAMI G. Association between low blood pressure and cognitive function in late life: the Honolulu-Asia aging study [ACP Hawai'i abstracts], 67(7):181
- FUKUMOTO JS. The hematologist's approach to myelodysplastic syndrome [Cancer research center hotline], 67(6):164
- FUKUNAGA B. Tobacco use, back pain, and the need for vertebral surgery among patients referred for pre-operative evaluation [ACP Hawai'i abstracts], 67(7):186
- FUKUYAMA O. Chronic thromboembolic pulmonary hypertension in an asian woman [ACP Hawai'i abstracts], 67(7):184
- Substantial systolic improvement and reverse cardiac remodeling in elderly-onset idiopathic dilated cardiomyopathy ≥ 65 years of age, 67(6):156
- GADAM S. Post-stroke bipolar affective disorder in the elderly: a case report and literature review [ACP Hawai'i abstracts], 67(7):179
- GELLERT KS. A feasibility study of methodology for recruitment and for comparative testing of ciliary function in Hawaiians and Caucasians, 67(8):209
- GOH YS. Conjunctival pain at termination of cataract surgery, 67(9):242
- GOLDBERG M. Does procedure volume impact confidence and complications among internal medicine residents [ACP Hawai'i abstracts], 97(7):181
- Unexplained hepatocellular injury associated with Graves' disease [ACP Hawai'i abstracts], 67(7):182
- GOLDEN S. Smoking prevalence and its association with surgical procedures and co-morbidities [ACP Hawai'i abstracts], 67(7):182
- Tobacco use, back pain, and the need for vertebral surgery among patients referred for pre-operative evaluation [ACP Hawai'i abstracts], 67(7):186
- GRANDINETTI A. Effects of volcanic SO<sub>2</sub> on pulmonary function [ACP Hawai'i abstracts], 67(7):187
- GUERRERO A. Suicidal behavior trends in a pediatric population in Hawai'i, 67(3):69
- HARMON A. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76
- HARO-ARVIZU P. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76
- HASHIMOTO S. Enhancing resident's training in medical ethics: an exploratory study assessing attitudes of internal medicine residents, 67(12):317
- HAWLEY J. Initial management of febrile neutropenia for the primary provider: a summary of current practice guidelines [Cancer research center hotline], 67(12):333
- HENDERSON M. Cost benefit considerations of preventing elderly falls through environmental modifications to homes in Hana, Maui, 67(3):65
- HENDERSON R. Cost benefit considerations of preventing elderly falls through environmental modifications to homes in Hana, Maui, 67(3):65
- HENDERSON S. Cost benefit considerations of preventing elderly falls through environmental modifications to homes in Hana, Maui, 67(3):65
- HIGASHIGAWA K. Arterial aneurysms on the hand, 67(2):37
- HIRAOKA M. Impact of maternal body mass index on risk of severe perineal laceration during childbirth [Queen's Medical Center's summer research internship 2007: selected abstracts], 67(6):160
- HIROTA S. A classic case of ITP in a woman presenting with spontaneous bruising, 67(11):292
- HO HC. Circulating blood volume measurements correlate poorly with pulmonary artery catheter measurements, 67(1):8
- HOLCK P. Effects of volcanic SO<sub>2</sub> on pulmonary function [ACP Hawai'i abstracts], 67(7):187
- HONG RA. Cardiac transplantation in Hawai'i : a summary of the first 21 years, 67(11):289
- HOSHIDE R. Effects of volcanic SO<sub>2</sub> on pulmonary function [ACP Hawai'i abstracts], 67(7):187
- HUANG GY. Parent-child reading interactions among English and English as a second language speakers in an underserved pediatric clinic in Hawai'i, 67(10):260
- INADA M. Health care needs of the homeless of O'ahu, 67(8):213
- ITANO D. Prime-time television exposure to high priority school-aged social-developmental issues, 67(3):74
- ITO H. Brugada syndrome and brugada-type electrocardiogram, 67(2):41
- Substantial systolic improvement and reverse cardiac remodeling in elderly-onset idiopathic dilated cardiomyopathy ≥ 65 years of age, 67(6):156
- JACKSON DS. A comparison of adolescent methamphetamine and other substance users in Hawai'i, 67(11):294
- JACOBS J. Problem-based learning: emergence of vertically stable study groups among first and second-year JABSOM students [Medical school hotline], 67(4):104
- JENSEN J. Copper T380A intrauterine device: lost and found, 67(5):131
- JIM R. Factor XIII deficiency (fibrin stabilizing factor), 67(10):270
- JINNO S. What virulence factors enable staphylococcus aureus to cause blood stream infections? [ACP Hawai'i abstracts], 67(7):182
- JOYNER J. Cardiobacterium hominis endocarditis presenting as acute embolic stroke: a case report and review of the literature [ACP Hawai'i abstracts], 67(7):186
- JUÁREZ DT. Initial antihypertensive prescriptions, switching patterns and adherence among insured patients in Hawai'i, 67(4):96
- Patient perceptions of inter-provider coordination of care, 67(5):121
- KAHOLOKULA JK. Native Hawaiian health disparities research [Medical school hotline], 67(8):218
- Partnerships to address obesity disparities in Hawai'i: the PILI 'Ohana Project, 67(9):237
- KANESHIRO, B. Copper T380A intrauterine device: lost and found, 67(5):131
- KANJA ML. Hawai'i air quality monitoring assessment: some effects of Hawai'i's smoke-free work and public places law, 67(6):149
- KASUYA R. Problem-based learning: emergence of vertically stable study groups among first and second-year JABSOM students [Medical school hotline], 67(4):104
- KASUYA RT. The John A. Burns School of Medicine (JABSOM) graduation objectives [Medical school hotline], 67(11):301
- Problem-based learning: emergence of vertically stable study groups among first and second-year JABSOM students [Medical school hotline], 67(4):104
- KEKAUOHA BP. Partnerships to address obesity disparities in Hawai'i: the PILI 'Ohana Project, 67(9):237
- KERNS T. Hypertrophic osteoarthropathy and hypercalcemia in metastatic renal cell carcinoma [ACP Hawai'i abstracts], 67(7):183

- KESSEL B. Impact of maternal body mass index on risk of severe perineal laceration during childbirth [Queen's Medical Center's summer research internship 2007: selected abstracts], 67(6):160
- KHAWCHAROENPORN T. Cardiobacterium hominis endocarditis presenting as acute embolic stroke: a case report and review of the literature [ACP Hawai'i abstracts], 67(7):186
- Diffuse pachymeningitis due to mycobacterium tuberculosis: a case study report and review of the literature, 67(4):100
- Evaluation of empiric oral antibiotic treatment for outpatients with cellulitis in a community with a high prevalence of community-associated methicillin-resistant staphylococcus aureus (CA-MRSA) infections [ACP Hawai'i abstracts], 67(7):183
- Treatment outcomes among patients with hepatitis C in Hawai'i [ACP Hawai'i abstracts], 67(7):184
- KIM RJ. A comparison of adolescent methamphetamine and other substance users in Hawai'i, 67(11):294
- KINDLE K. Cardiac transplation in Hawai'i: a summary of the first 21 years, 67(11):289
- KIRATISIN P. Diffuse pachymeningitis due to mycobacterium tuberculosis: a case study report and review of the literature, 67(4):100
- KITABAYASHI KM. Parent-child reading interactions among English and English as a second language speakers in an underserved pediatric clinic in Hawai'i, 67(10):260
- KLAUS G. The influence of intravenous hydration on hospital length of stay in infants with hyperbilirubinemia, 67(1):15
- KLAUS S. The influence of intravenous hydration on hospital length of stay in infants with hyperbilirubinemia, 67(1):15
- KOOKER BM. Four indicators for monitoring progress in addressing the registered nurse workforce shortage in Hawai'i, 67(12):322
- KOSS W. Circulating blood volume measurements correlate poorly with pulmonary artery catheter measurements, 67(1):8
- KOTSUBO CZ. A very special place for children with cancer [Cancer research center hotline], 67(2):50
- KRETZER K. Initial antihypertensive prescriptions, switching patterns and adherence among insured patients in Hawai'i, 67(4):96
- KRUPITSKY D. Hawai'i air quality monitoring assessment: some effects of Hawai'i's smoke-free work and public places law, 67(6):149
- KUALII B. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76
- LAUNER L. Association between low blood pressure and cognitive function in late life: the Honolulu-Asia aging study [ACP Hawai'i abstracts], 67(7):181
- LAURIN D. Association between low blood pressure and cognitive function in late life: the Honolulu-Asia aging study [ACP Hawai'i abstracts], 67(7):181
- LE MARCHAND L. Ethnic difference in smoking and lung cancer risk in Hawai'i [Cancer research center hotline], 67(4):107
- LEAKE A. Partnerships to address obesity disparities in Hawai'i: the PILI 'Ohana Project, 67(9):237
- LEE L. Acute interstitial nephritis complicating a new diagnosis of Wegener's granulomatosis, 67(1):12
- LEE MT. Parent-child reading interactions among English and English as a second language speakers in an underserved pediatric clinic in Hawai'i, 67(10):260
- LICHENG L. Chronic thromboembolic pulmonary hypertension in an asian woman [ACP Hawai'i abstracts], 67(7):184
- LIM J. The impact of the rapid response team on patient care at Tripler Army Medical Center [ACP Hawai'i abstracts], 67(7):179
- LING C. Cost benefit considerations of preventing elderly falls through environmental modifications to homes in Hana, Maui, 67(3):65
- LINSKEY KR. Parent-child reading interactions among English and English as a second language speakers in an underserved pediatric clinic in Hawai'i, 67(10):260
- LIPSHER J. Hawai'i air quality monitoring assessment: some effects of Hawai'i's smoke-free work and public places law, 67(6):149
- LOOK M. Native Hawaiian health disparities research [Medical school hotline], 67(8):218
- LOPRINZI C. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76
- LOYLE C. The impact of the rapid response team on patient care at Tripler Army Medical Center [ACP Hawai'i abstracts], 67(7):179
- LUCERO P. Graves' disease manifested as vocal cord dysfunction [ACP Hawai'i abstracts], 67(7):184
- LUCIDI S. Fertitity Preservation in Cancer Patients, 67(7):190
- MAALOUF N. Acute interstitial nephritis complicating a new diagnosis of Wegener's granulomatosis, 67(1):12
- MADDOCK J. Environmental factors of obesity in communities with Native Hawaiians, 67(9):233
- MAESHIRO M. At the crossroads: past, present and future of the University of Hawai'i John A. Burns School of Medicine-Okinawa Chubu Hospital partnership [Medical school hotline], 67(9):246
- MAGAT RC. Suicidal behavior trends in a pediatric population in Hawai'i, 67(3):69
- MASAKI K. Association between low blood pressure and cognitive function in late life: the Honolulu-Asia aging study [ACP Hawai'i abstracts], 67(7):181
- Describing Hawai'i's nursing home physicians: the results of a survey, 67(5):126
- Enhancing resident's training in medical ethics: an exploratory study assessing attitudes of internal medicine residents, 67(12):317
- Post-stroke bipolar affective disorder in the elderly: a case report and literature review [ACP Hawai'i abstracts], 67(7):179
- MATTHIAS TH. Graves' disease manifested as vocal cord dysfunction [ACP Hawai'i abstracts], 67(7):184
- MAU MK. Environmental factors of obesity in communities with Native Hawaiians, 67(9):233
- Hawai'i's role to increase public participation in health research, 67(1):4
- Native Hawaiian health disparities research [Medical school hotline], 67(8):218
- Partnerships to address obesity disparities in Hawai'i: the PILI 'Ohana Project, 67(9):237
- Predictors of methamphetamine use in Native Hawaiians and Pacific peoples with heart failure [Queen's Medical Center's summer research internship 2007: selected abstracts], 67(6):161
- MAVOORI H. The influence of intravenous hydration on hospital length of stay in infants with hyperbilirubinemia, 67(1):15
- MISTUDA B. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76
- MITTAL A. A fresh look at esophageal cancer incidence among Asian/Pacific Islanders and Caucasians, 67(8):206
- MONLUX A. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76
- MONTONAGA H. The role of sunny buddies in medical education [Medical school hotline], 67(2):48
- MORENO-CABRAL CE. Cardiac transplation in Hawai'i : a summary of the first 21 years, 67(11):289
- MOSIER SW. Partnerships to address obesity disparities in Hawai'i: the PILI 'Ohana Project, 67(9):237
- MUNDY LM. Diffuse pachymeningitis due to mycobacterium tuberculosis: a case study report and review of the literature, 67(4):100
- NACAPOY AH. Partnerships to address obesity disparities in Hawai'i: the PILI 'Ohana Project, 67(9):237
- NAPIERKOWSHI JJ. Unexplained hepatocellular injury associated with Graves' disease [ACP Hawai'i abstracts], 67(7):182
- NIGG C. Establishing an Institute for Childhood and Adolescent Obesity Research and Education [Medical school hotline], 67(10):272
- NISHIDA K. Prognostic factors and utility of scoring systems in patients with hematological malignancies admitted to the intensive care unit and required a mechanical ventilator, 67(10):264
- Substantial systolic improvement and reverse cardiac remodeling in elderly-onset idiopathic dilated cardiomyopathy  $\geq$  65 years of age, 67(6):156
- OLSON K. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76
- OMORI J. The heart of medicine [Medical school hotline], 67(12):330
- Problem-based learning: emergence of vertically stable study groups among first and second-year JABSOM students [Medical school hotline], 67(4):104
- ONA FV. A fresh look at esophageal cancer incidence among Asian/Pacific Islanders and Caucasians, 67(8):206



- ORR J. Effects of volcanic SO<sub>2</sub> on pulmonary function [ACP Hawai'i abstracts], 67(7):187
- OSHEROFF W. Patient perceptions of inter-provider coordination of care, 67(5):121
- OSHIRO R. Neuropsychological test performance of Hawai'i high school athletes: Hawai'i ImPACT normative data, 67(4):93
- PAGANO I. Complementary and alternative medicine [Cancer research center hotline], 67(5):136
- PALAKIKO D. Partnerships to address obesity disparities in Hawai'i: the PILI 'Ohana Project, 67(9):237
- PALALAY MP. Prognostic factors and utility of scoring systems in patients with hematological malignancies admitted to the intensive care unit and required a mechanical ventilator, 67(10):264
- PANG L. Cost benefit considerations of preventing elderly falls through environmental modifications to homes in Hana, Maui, 67(3):65
- PARSA AA. Arterial aneurysms on the hand, 67(2):37
- PARSA FD. Arterial aneurysms on the hand, 67(2):37
- PARTIKA N. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76
- PASTORINO S. Glioma: challenges and new insights in the development of effective therapies [Cancer research center hotline], 67(1):20
- PATEL SJ. The influence of intravenous hydration on hospital length of stay in infants with hyperbilirubinemia, 67(1):15
- PEDRO T. Cost benefit considerations of preventing elderly falls through environmental modifications to homes in Hana, Maui, 67(3):65
- PERSON, DA. The Pacific Island Health Care Project (PIHCP): experience with rheumatic heart disease (RHD) from 1998 to 2006, 67(12):326
- PETROVICH H. Association between low blood pressure and cognitive function in late life: the Honolulu-Asia aging study [ACP Hawai'i abstracts], 67(7):181
- PIEN B. Chyseobacterium meningosepticum presented as cellulitis with septic shock: a case report and review of the literature [ACP Hawai'i abstracts], 67(7):187
- PIRGA J. Parent-child reading interactions among English and English as a second language speakers in an underserved pediatric clinic in Hawai'i, 67(10):260
- PUBUTSKY A. Hawai'i air quality monitoring assessment: some effects of Hawai'i's smoke-free work and public places law, 67(6):149
- RAKSKUL P. Diffuse pachymeningitis due to mycobacterium tuberculosis: a case study report and review of the literature, 67(4):100
- RAMOS JW. Glioma: challenges and new insights in the development of effective therapies [Cancer research center hotline], 67(1):20
- RANDOLPH M. A fresh look at esophageal cancer incidence among Asian/Pacific Islanders and Caucasians, 67(8):206
- ROSS GW. Association between low blood pressure and cognitive function in late life: the Honolulu-Asia aging study [ACP Hawai'i abstracts], 67(7):181
- RUDOY R. Establishing an Institute for Childhood and Adolescent Obesity Research and Education [Medical school hotline], 67(10):272
- SAITO E. Environmental factors of obesity in communities with Native Hawaiians, 67(9):233
- Native Hawaiian health disparities research [Medical school hotline], 67(8):218
- SAITO H. Smoking prevalence and its association with surgical procedures and co-morbidities [ACP Hawai'i abstracts], 67(7):182
- Tobacco use, back pain, and the need for vertebral surgery among patients referred for pre-operative evaluation [ACP Hawai'i abstracts], 67(7):186
- SAKAI DH. The John A. Burns School of Medicine (JABSOM) graduation objectives [Medical school hotline], 67(11):301
- SALAMANCA L. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76
- SALERNO S. Does procedure volume impact confidence and complications among internal medicine residents [ACP Hawai'i abstracts], 97(7):181
- SAMIFUA M. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76
- SAUNDERS J. Acute interstitial nephritis complicating a new diagnosis of Wegener's granulomatosis, 67(1):12
- SCHATZ I. Association between low blood pressure and cognitive function in late life: the Honolulu-Asia aging study [ACP Hawai'i abstracts], 67(7):181
- SEIFRIED S. What virulence factors enable staphylococcus aureus to cause blood stream infections? [ACP Hawai'i abstracts], 67(7):182
- SETO TB. Impact of maternal body mass index on risk of severe perineal laceration during childbirth [Queen's Medical Center's summer research internship 2007: selected abstracts], 67(6):160
- Predictors of methamphetamine use in Native Hawaiians and Pacific peoples with heart failure [Queen's Medical Center's summer research internship 2007: selected abstracts], 67(6):161
- SHEA W. The influence of intravenous hydration on hospital length of stay in infants with hyperbilirubinemia, 67(1):15
- SHIKUMA C. Native Hawaiian health disparities research [Medical school hotline], 67(8):218
- Prolonged QT interval and QT dispersion in HIV-infected individuals [ACP Hawai'i abstracts], 67(7):185
- SHIRAMIZU B. At the crossroads: past, present and future of the University of Hawai'i John A. Burns School of Medicine-Okinawa Chubu Hospital partnership [Medical school hotline], 67(9):246
- SHOHET R. Transcriptional analysis of cardia HIF-1 [Queen's Medical Center's summer research internship 2007: selected abstracts], 67(6):160
- SIU A. Partnerships to address obesity disparities in Hawai'i: the PILI 'Ohana Project, 67(9):237
- SMERZ RW. The role of the Hyberbaric Treatment Center in medical education at John A. Burns School of Medicine (JABSOM) [Medical school hotline], 67(7):188
- SOMOGYI-ZALUD E. Describing Hawai'i's nursing home physicians: the results of a survey, 67(5):126
- SPENCER-TOLENTINO K. Native Hawaiian health disparities research [Medical school hotline], 67(8):218
- STEFFEN AD. Korean cancer incidence in Hawai'i : a population in transition [Cancer research center hotline], 67(10):274
- STERKENBURG C. Establishing an Institute for Childhood and Adolescent Obesity Research and Education [Medical school hotline], 67(10):272
- STODD RT. The weathervane, 67(1):30
- The weathervane, 67(2):58
- The weathervane, 67(3):86
- The weathervane, 67(4): 114
- The weathervane, 67(5):142
- The weathervane, 67(6):170
- The weathervane, 67(7):198
- The weathervane, 67(8):226
- The weathervane, 67(9):254
- The weathervane, 67(10):281
- The weathervane, 67(11):310
- The weathervane, 67(12):346
- SUWANTARAT N. Treatment outcomes among patients with hepatitis C in Hawai'i [ACP Hawai'i abstracts], 67(7):184
- SUYAMA A. Smoking prevalence and its association with surgical procedures and co-morbidities [ACP Hawai'i abstracts], 67(7):182
- Tobacco use, back pain, and the need for vertebral surgery among patients referred for pre-operative evaluation [ACP Hawai'i abstracts], 67(7):186
- SUZUKI S. Prime-time television exposure to high priority school-aged social-developmental issues, 67(3):74
- SUZUKI-UNG D. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76
- TAKANISHI D. Circulating blood volume measurements correlate poorly with pulmonary artery catheter measurements, 67(1):8
- TAKESHITA S. Transcriptional analysis of cardia HIF-1 [Queen's Medical Center's summer research internship 2007: selected abstracts], 67(6):160
- TAM E. Effects of volcanic SO<sub>2</sub> on pulmonary function [ACP Hawai'i abstracts], 67(7):187
- Smoking prevalence and its association with surgical procedures and co-morbidities [ACP Hawai'i abstracts], 67(7):182
- Tobacco use, back pain, and the need for vertebral surgery among patients referred for pre-operative evaluation [ACP Hawai'i abstracts], 67(7):186
- TAM L. Problem-based learning: emergence of vertically stable study groups among first and second-year JABSOM students [Medical school hotline], 67(4):104

TAN SY. Issues in medical malpractice XIX [Medical legal hotline], 67(1):24

--- Issues in medical malpractice XX [Medical legal hotline], 67(2):52

--- Issues in medical malpractice XXI [Medical legal hotline], 67(3):82

--- Issues in medical malpractice XXII [Medical legal hotline], 67(4):110

--- Issues in medical malpractice XXIII [Medical legal hotline], 67(5):138

--- Issues in medical malpractice XXIV [Medical legal hotline], 67(6):167

--- Issues in medical malpractice XXV [Medical legal hotline], 67(7):195

--- Issues in medical malpractice XXVI [Medical legal hotline], 67(8):223

--- Issues in medical malpractice XXVII [Medical legal hotline], 67(9):250

--- Issues in medical malpractice XXVIII [Medical legal hotline], 67(10):279

--- Issues in medical malpractice XXIX [Medical legal hotline], 67(11):303

--- Issues in medical malpractice XXX [Medical legal hotline], 67(12):332

TASKAI A. Prolonged QT interval and QT dispersion in HIV-infected individuals [ACP Hawai'i abstracts], 67(7):185

TASUTOMO O. Problem-based learning: emergence of vertically stable study groups among first and second-year JABSOM students [Medical school hotline], 67(4):104

TAYLOR J. Prolonged QT interval and QT dispersion in HIV-infected individuals [ACP Hawai'i abstracts], 67(7):185

TICE A. Evaluation of empiric oral antibiotic treatment for outpatients with cellulitis in a community with a high prevalence of community-associated methicillin-resistant staphylococcus aureus (CA-MRSA) infections [ACP Hawai'i abstracts], 67(7):183

--- Treatment outcomes among patients with hepatitis C in Hawai'i [ACP Hawai'i abstracts], 67(7):184

--- What virulence factors enable staphylococcus aureus to cause blood stream infections? [ACP Hawai'i abstracts], 67(7):182

TOKESHI J. A classic case of ITP in a woman presenting with spontaneous bruising, 67(11):292

TOM M. Impact of maternal body mass index on risk of severe perineal laceration during childbirth [Queen's Medical Center's summer research internship 2007: selected abstracts], 67(6):160

TSUSHIMA WT. Neuropsychological test performance of Hawai'i high school athletes: Hawai'i ImPACT normative data, 67(4):93

WALKER JM. A perplexing case of a 34-year-old man with unexplained chest pain, very low HDL and central hypogonadism [ACP Hawai'i abstracts], 67(7):186

WALTON, C. Transcriptional analysis of cardia HIF-1 [Queen's Medical Center's summer research internship 2007: selected abstracts], 67(6):160

WANG J. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76

WARNNISSORN N. Diffuse pachymeningitis due to mycobacterium tuberculosis: a case study report and review of the literature, 67(4):100

WATSON J. Does procedure volume impact confidence and complications among internal medicine residents [ACP Hawai'i abstracts], 97(7):181

WEST M. Environmental factors of obesity in communities with Native Hawaiians, 67(9):233

--- Partnerships to address obesity disparities in Hawai'i: the PILI 'Ohana Project, 67(9):237

WHITE L. Association between low blood pressure and cognitive function in late life: the Honolulu-Asia aging study [ACP Hawai'i abstracts], 67(7):181

WILKENS LR. Korean cancer incidence in Hawai'i: a population in transition [Cancer research center hotline], 67(10):274

WILSON T. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76

WINKES A. The influence of intravenous hydration on hospital length of stay in infants with hyperbilirubinemia, 67(1):15

WINTERS-MOORHEAD C. Four indicators for monitoring progress in addressing the registered nurse workforce shortage in Hawai'i, 67(12):322

WITHY K. Describing Hawai'i's nursing home physicians: the results of a survey, 67(5):126

--- Health care needs of the homeless of O'ahu, 67(8):213

WONG KN. Environmental factors of obesity in communities with Native Hawaiians, 67(9):233

WONG WF. Post-stroke bipolar affective disorder in the elderly: a case report and literature review [ACP Hawai'i abstracts], 67(7):179

YAMAMOTO J. A fresh look at esophageal cancer incidence among Asian/Pacific Islanders and Caucasians, 67(8):206

YAMAMOTO L. The influence of intravenous hydration on hospital length

of stay in infants with hyperbilirubinemia, 67(1):15

--- Prime-time television exposure to high priority school-aged social-developmental issues, 67(3):74

YAMAUCHI H. Circulating blood volume measurements correlate poorly with pulmonary artery catheter measurements, 67(1):8

YEE D. Hawai'i's role to increase public participation in health research, 67(1):4

YOUNG K. Tobacco use, back pain, and the need for vertebral surgery among patients referred for pre-operative evaluation [ACP Hawai'i abstracts], 67(7):186

YU M. Circulating blood volume measurements correlate poorly with pulmonary artery catheter measurements, 67(1):8

ZHOU XJ. Acute interstitial nephritis complicating a new diagnosis of Wegener's granulomatosis, 67(1):12

ZIMBRA D. Neuropsychological test performance of Hawai'i high school athletes: Hawai'i ImPACT normative data, 67(4):93

## Subject Index

ACCIDENTAL FALLS. Cost benefit considerations of preventing elderly falls through environmental modifications to homes in Hana, Maui, 67(3):65

ADOLESCENTS. A comparison of adolescent methamphetamine and other substance users in Hawai'i, 67(11):294

--- Establishing an Institute for Childhood and Adolescent Obesity Research and Education [Medical school hotline], 67(10):272

--- Neuropsychological test performance of Hawai'i high school athletes: Hawai'i ImPACT normative data, 67(4):93

--- Prime-time television exposure to high priority school-aged social-developmental issues, 67(3):74

--- Suicidal behavior trends in a pediatric population in Hawai'i, 67(3):69

AGED. Cost benefit considerations of preventing elderly falls through environmental modifications to homes in Hana, Maui, 67(3):65

--- Post-stroke bipolar affective disorder in the elderly: a case report and literature review [ACP Hawai'i Abstracts], 67(7):179

--- Substantial systolic improvement and reverse cardiac remodeling in elderly-onset idiopathic dilated cardiomyopathy  $\geq$  65 years of age, 67(6):156

AIR POLLUTANTS. Effects of volcanic SO<sub>2</sub> on pulmonary function [ACP Hawai'i abstracts], 67(7):187

--- Hawai'i air quality monitoring assessment: some effects of Hawai'i's smoke-free work and public places law, 67(6):149

ANABOLIC AGENTS. A perplexing case of a 34-year-old man with unexplained chest pain, very low HDL and central hypogonadism [ACP Hawai'i abstracts], 67(7):186

ANESTHESIA PRE-OPERATIVE EVALUATION CENTER. Smoking prevalence and its association with surgical procedures and co-morbidities, 67(7):182

ANEURYSMS. Arterial aneurysms on the hand, 67(2):37

ANIMALS. Attitudes and perceptions of nurses-in-training and psychiatry and pediatric residents towards animal-assisted interventions, 67(1):45

ANTIHYPERTENSIVE AGENTS. Initial antihypertensive prescriptions, switching patterns and adherence among insured patients in Hawai'i, 67(4):96

ANTI-INFLAMMATORY AGENTS. Acute interstitial nephritis complicating a new diagnosis of Wegener's granulomatosis, 67(1):12

ASIAN AMERICANS. Korean cancer incidence in Hawai'i: a population in transition, 67(10):274

ATHLETES. Neuropsychological test performance of Hawai'i high school athletes: Hawai'i ImPACT normative data, 67(4):93

ATTITUDE OF HEALTH PERSONNEL. Attitudes and perceptions of nurses-in-training and psychiatry and pediatric residents towards animal-assisted interventions, 67(1):45

BACK PAIN. Tobacco use, back pain, and the need for vertebral surgery among patients referred for pre-operative evaluation [ACP Hawai'i abstracts], 67(7):186

BIPOLAR DISORDER. Post-stroke bipolar affective disorder in the elderly: a case report and literature review [ACP Hawai'i abstracts], 67(7):179

BLOOD COAGULATION. Factor XIII deficiency (fibrin stabilizing factor), 67(10):270

BLOOD VOLUME DETERMINATION. Circulating blood volume measurements correlate poorly with pulmonary artery catheter measurements, 67(1):8

BODY MASS INDEX. Impact of maternal body mass index on risk of severe perineal laceration during childbirth [Queen's Medical Center's summer research internship 2007: selected abstracts], 67(6):160

BRAIN NEOPLASMS. Glioma: challenges and new insights in the development of effective therapies [Cancer research center hotline], 67(1):20

BRUGADA SYNDROME. Brugada syndrome and brugada-type electrocardiogram, 67(2):41

CAMP ANUENUE. A very special place for children with cancer [Cancer research center hotline], 67(2):50

CARDIOBACTERIUM. *Cardiobacterium hominis* endocarditis presenting as acute embolic stroke: a case report and review of the literature [ACP Hawai'i abstracts], 67(7):186

CARDIOMYOPATHY, DILATED. Substantial systolic improvement and reverse cardiac remodeling in elderly-onset idiopathic dilated cardiomyopathy  $\geq$  65 years of age, 67(6):156

CATARACT EXTRACTION. Conjunctival pain at termination of cataract surgery, 67(9):242

CATHETERIZATION. Circulating blood volume measurements correlate poorly with pulmonary artery catheter measurements, 67(1):8

CENTER FOR NATIVE AND PACIFIC HEALTH DISPARITIES RESEARCH. Native and Pacific health disparities research [Medical school hotline], 67(8):218

CHILDREN. Establishing an Institute for Childhood and Adolescent Obesity Research and Education [Medical school hotline], 67(10):272

--- Prime-time television exposure to high priority school-aged social-developmental issues, 67(3):74

--- Proteasome inhibitors in pediatric cancer treatment [cancer research center hotline], 67(9):247

--- Suicidal behavior trends in a pediatric population in Hawai'i, 67(3):69

--- A very special place for children with cancer [Cancer research center hotline], 67(2):50

CHRYSEOBACTERIUM. *Chryseobacterium meningosepticum* presented as cellulitis with septic shock: a case report and review of the literature [ACP Hawai'i abstracts], 67(7):187

COLORECTAL NEOPLASMS. Individualizing colon cancer treatment: the role of predictive and prognostic factors [Cancer research center hotline], 67(11):304

COMMUNITY HEALTH SERVICES. Hawai'i's role to increase public participation in health research, 67(1):4

COMPLEMENTARY THERAPIES. Complementary and alternative medicine [Cancer research center hotline], 67(5):136

CONFIDENTIALITY. Issues in medical malpractice XXVII [Medical legal hotline], 67(9):250

--- Issues in medical malpractice XXVIII [Medical legal hotline], 67(10):279

CONTINUITY OF PATIENT CARE. Patient perceptions of inter-provider coordination of care, 67(5):121

CORYNEBACTERIUM ACCOLENS. 26-year-old woman with *Corynebacterium accolens* breast abscess [ACP Hawai'i abstracts], 67(7):180

COST-BENEFIT ANALYSIS. Cost benefit considerations of preventing elderly falls through environmental modifications to homes in Hana, Maui, 67(3):65

COUNCIL OF PUBLIC REPRESENTATIVES. Hawai'i's role to increase public participation in health research, 67(1):4

CROSS-CULTURAL COMPARISON. Ethnic difference in smoking and lung cancer risk in Hawai'i [Cancer research center hotline], 67(4):107

DISASTER TRAINING. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76

DRUG THERAPY. Acute interstitial nephritis complicating a new diagnosis of Wegener's granulomatosis, 67(1):12

--- Glioma: challenges and new insights in the development of effective therapies [Cancer research center hotline], 67(1):20

DRUG UTILIZATION. Initial antihypertensive prescriptions, switching patterns and adherence among insured patients in Hawai'i, 67(4):96

DUTY TO WARN. Issues in medical malpractice XXII [Medical legal hotline], 67(4):110

--- Issues in medical malpractice XXVII [Medical legal hotline], 67(9):250

--- Issues in medical malpractice XIX [Medical legal hotline], 67(1):24

EDUCATION, MEDICAL. The John A. Burns School of Medicine (JABSOM) Graduation objectives [Medical school hotline], 67(11):301

--- Problem-based learning: emergence of vertically stable study groups among first and second-year JABSOM students [Medical school hotline], 67(4):104

--- Reflections on the JABSOM experience for the incoming class of 2011 [Medical school hotline], 67(1):18

--- The role of sunny buddies in medical education [Medical school hotline], 67(2):48

--- The role of the Hyperbaric Treatment Center in medical education at John A. Burns School of Medicine (JABSOM) [Medical school hotline], 67(7):188

ELECTROCARDIOGRAPHY. Brugada syndrome and brugada-type electrocardiogram, 67(2):41

EMBOLISM. *Cardiobacterium hominis* endocarditis presenting as acute embolic stroke: a case report and review of the literature [ACP Hawai'i abstracts], 67(7):186

ENDOCARDITIS. *Cardiobacterium hominis* endocarditis presenting as acute embolic stroke: a case report and review of the literature [ACP Hawai'i abstracts], 67(7):186

ESOPHAGEAL NEOPLASMS. A fresh look at esophageal cancer incidence among Asian/Pacific Islanders and Caucasians, 67(8):206

ETHICS, MEDICAL. Enhancing resident's training in medical ethics: an exploratory study assessing attitudes of internal medicine residents, 67(12):317

FACTOR XIII. Factor XIII deficiency (fibrin stabilizing factor), 67(10):270

FERTILITY. Fertility preservation in cancer patients, 67(7):190

FLUID THERAPY. The influence of intravenous hydration on hospital length of stay in infants with hyperbilirubinemia, 67(1):15

GLIOMA. Glioma: challenges and new insights in the development of effective therapies [Cancer research center hotline], 67(1):20

GRAVES DISEASE. Graves' disease manifested as vocal cord dysfunction [ACP Hawai'i abstracts], 67(7):184

--- Unexplained hepatocellular injury associated with Graves' disease, 67(7):182

HANA, MAUI. Cost benefit considerations of preventing elderly falls through environmental modifications to homes in Hana, Maui, 67(3):65

HAWAI'I. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76

--- Cardiac transplantation in Hawai'i: a summary of the first 21 years, 67(11):289

--- A comparison of adolescent methamphetamine and other substance users in Hawai'i, 67(11):294

--- Describing Hawai'i's nursing home physicians: the results of a survey, 67(5):126

--- Four indicators for monitoring progress in addressing the registered nurse workforce shortage in Hawai'i, 67(12):322

--- Hawai'i air quality monitoring assessment: some effects of Hawai'i's smoke-free work and public places law, 67(6):149

--- Hawai'i's role to increase public participation in health research, 67(1):4

--- Health care needs of the homeless of Oahu, 67(8):213

--- Initial antihypertensive prescriptions, switching patterns and adherence among insured patients in Hawai'i, 67(4):96

--- Korean cancer incidence in Hawai'i: a population in transition, 67(10):274

--- Neuropsychological test performance of Hawai'i high school athletes: Hawai'i ImPACT normative data, 67(4):93

--- Partnerships to address obesity disparities in Hawai'i: the PILI 'Ohana Project, 67(9):237

--- Suicidal behavior trends in a pediatric population in Hawai'i, 67(3):69

HAWAI'I CLINICAL AND TRANSLATIONAL SCIENCE INSTITUTE. Overview: the Hawai'i Clinical and Translational Science Institute [Medical school hotline], 67(5):134

HEALTH PLANNING COUNCILS. Hawai'i's role to increase public participation in health research, 67(1):4

HEALTH SERVICES ACCESSIBILITY. Health care needs of the homeless of Oahu, 67(8):213

HEALTH SERVICES NEEDS AND DEMANDS. Four indicators for monitoring progress in addressing the registered nurse workforce shortage in Hawai'i, 67(12):322

HEALTHCARE DISPARITIES. Health care needs of the homeless of Oahu, 67(8):213

--- Native and Pacific health disparities research [Medical school hotline], 67(8):218

HEART TRANSPLANTATION. Cardiac transplantation in Hawai'i: a

summary of the first 21 years, 67(11):289

**HEMATOLOGIC NEOPLASMS.** Prognostic factors and utility of scoring systems in patients with hematological malignancies admitted to the intensive care unit and required a mechanical ventilator, 67(10):264

**HEMODYNAMICS.** Circulating blood volume measurements correlate poorly with pulmonary artery catheter measurements, 67(1):8

**HEPATITIS.** Treatment outcomes among patients with hepatitis C in Hawai'i [ACP Hawai'i abstracts], 67(7):184

**HIV.** Prolonged QT interval and QT dispersion in HIV-infected individuals [ACP Hawai'i abstracts], 67(7):185

**HOMELESS PERSONS.** Health care needs of the homeless of Oahu, 67(8):213

**HUMAN-ANIMAL RELATIONSHIP.** Attitudes and perceptions of nurses-in-training and psychiatry and pediatric residents towards animal-assisted interventions, 67(1):45

**HYPERBARIC TREATMENT CENTER.** The role of the Hyperbaric Treatment Center in medical education at John A. Burns School of Medicine (JABSOM) [Medical school hotline], 67(7):188

**HYPERBILIRUBINEMIA.** The influence of intravenous hydration on hospital length of stay in infants with hyperbilirubinemia, 67(1):15

**HYPERTENSION.** Chronic thromboembolic pulmonary hypertension in an Asian woman [ACP Hawai'i abstracts], 67(7):184

**HYPOTENSION.** Association between low blood pressure and cognitive function in late life: the Honolulu-Asia aging study [ACP Hawai'i abstracts], 67(7):181

**HYPOXIA-INDUCIBLE FACTOR 1.** Transcriptional analysis of cardia HIF-1 [Queen's Medical Center's summer research internship 2007: selected abstracts], 67(6):160

**INCIDENCE.** Korean cancer incidence in Hawai'i: a population in transition, 67(10):274

**INFANT, NEWBORN.** The influence of intravenous hydration on hospital length of stay in infants with hyperbilirubinemia, 67(1):15

**INFORMED CONSENT.** Issues in medical malpractice XX [Medical legal hotline], 67(2):52

--- Issues in medical malpractice XXI [Medical legal hotline], 67(3):82

--- Issues in medical malpractice XXII [Medical legal hotline], 67(4):110

--- Issues in medical malpractice XXIII [Medical legal hotline], 67(5):138

--- Issues in medical malpractice XXV [Medical legal hotline], 67(7):195

--- Issues in medical malpractice XXVIII [Medical legal hotline], 67(10):279

**INTERNSHIP AND RESIDENCY.** Does procedure volume impact confidence and complications among internal medicine residents [ACP Hawai'i abstracts], 97(7):181

--- Enhancing resident's training in medical ethics: an exploratory study assessing attitudes of internal medicine residents, 67(12):317

**INTRAUTERINE DEVICES, COPPER.** Copper T380A intrauterine device: lost and found, 67(5):131

**INTRAVENOUS THERAPY.** The influence of intravenous hydration on hospital length of stay in infants with hyperbilirubinemia, 67(1):15

**JOHN A BURNS SCHOOL OF MEDICINE.** At the crossroads: past, current, and future of the University of Hawai'i John A. Burns School of Medicine--Okinawa Chubu Hospital Partnership [Medical school hotline], 67(9):246

--- The heart of medicine [Medical school hotline], 67(12):330

--- The John A. Burns School of Medicine (JABSOM) Graduation objectives [Medical school hotline], 67(11):301

--- Reflections on the JABSOM experience for the incoming class of 2011 [Medical school hotline], 67(1):18

--- The role of the Hyperbaric Treatment Center in medical education at John A. Burns School of Medicine (JABSOM) [Medical school hotline], 67(7):188

**LIABILITY, LEGAL.** Issues in medical malpractice XIX [Medical legal hotline], 67(1):24

--- Issues in medical malpractice XX [Medical legal hotline], 67(2):52

--- Issues in medical malpractice XXI [Medical legal hotline], 67(3):82

--- Issues in medical malpractice XXII [Medical legal hotline], 67(4):110

--- Issues in medical malpractice XXIII [Medical legal hotline], 67(5):138

--- Issues in medical malpractice XXIV [Medical legal hotline], 67(6):167

--- Issues in medical malpractice XXV [Medical legal hotline], 67(7):195

--- Issues in medical malpractice XXVI [Medical legal hotline], 67(8):223

--- Issues in medical malpractice XXVII [Medical legal hotline], 67(9):250

--- Issues in medical malpractice XXVIII [Medical legal hotline], 67(10):279

--- Issues in medical malpractice XXIX [Medical legal hotline], 67(11):303

--- Issues in medical malpractice XXX [Medical legal hotline], 67(12):332

**LICENSURE, MEDICAL.** Medical licensure in the United States: past, present, and future [Medical school hotline], 67(6):162

**LUNG NEOPLASMS.** Ethnic difference in smoking and lung cancer risk in Hawai'i [Cancer research center hotline], 67(4):107

--- A feasibility study of methodology for recruitment and for comparative testing of ciliary function in Hawaiians and Caucasians, 67(8):209

--- The International Association for the Study of Lung Cancer -- The Lung Cancer Staging Project: better data, better decisions, better outcomes [Cancer research center hotline], 67(8):220

**MALPRACTICE.** Issues in medical malpractice XIX [Medical legal hotline], 67(1):24

--- Issues in medical malpractice XX [Medical legal hotline], 67(2):52

--- Issues in medical malpractice XXI [Medical legal hotline], 67(3):82

--- Issues in medical malpractice XXII [Medical legal hotline], 67(4):110

--- Issues in medical malpractice XXIII [Medical legal hotline], 67(5):138

--- Issues in medical malpractice XXIV [Medical legal hotline], 67(6):167

--- Issues in medical malpractice XXV [Medical legal hotline], 67(7):195

--- Issues in medical malpractice XXVI [Medical legal hotline], 67(8):223

--- Issues in medical malpractice XXVII [Medical legal hotline], 67(9):250

--- Issues in medical malpractice XXVIII [Medical legal hotline], 67(10):279

--- Issues in medical malpractice XXIX [Medical legal hotline], 67(11):303

--- Issues in medical malpractice XXX [Medical legal hotline], 67(12):332

**MENINGITIS, BACTERIAL.** Diffuse pachymeningitis due to mycobacterium tuberculosis: a case study report and review of the literature, 67(4):100

**METHAMPHETAMINE.** A comparison of adolescent methamphetamine and other substance users in Hawai'i, 67(11):294

--- Predictors of methamphetamine use in Native Hawaiians and Pacific peoples with heart failure [Queen's Medical Center's summer research internship 2007: selected abstracts], 67(6):161

**MYCOBACTERIUM TUBERCULOSIS.** Diffuse pachymeningitis due to mycobacterium tuberculosis: a case study report and review of the literature, 67(4):100

**MYELODYSPASTIC SYNDROMES.** The hematologist's approach to myelodysplastic syndrome [Cancer research center hotline], 67(6):164

**NATIVE HAWAIIANS.** Environmental factors of obesity in communities with Native Hawaiians, 67(9):233

--- Native and Pacific health disparities research [Medical school hotline], 67(8):218

--- Predictors of methamphetamine use in Native Hawaiians and Pacific peoples with heart failure [Queen's Medical Center's summer research internship 2007: selected abstracts], 67(6):161

**NEEDS ASSESSMENT.** Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76

**NEOPLASMS.** Fertility preservation in cancer patients, 67(7):190

--- A fresh look at esophageal cancer incidence among Asian/Pacific Islanders and Caucasians, 67(8):206

--- Korean cancer incidence in Hawai'i: a population in transition, 67(10):274

--- Prognostic factors and utility of scoring systems in patients with hematological malignancies admitted to the intensive care unit and required a mechanical ventilator, 67(10):264

--- Proteasome inhibitors in pediatric cancer treatment [cancer research center hotline], 67(9):247

--- A very special place for children with cancer [Cancer research center hotline], 67(2):50

**NEUTROPENIA.** Initial management of febrile neutropenia for the primary provider: a summary of current practice guidelines [Cancer research center hotline], 67(12):333

**NEPHRITIS, INTERSTITIAL.** Acute interstitial nephritis complicating a new diagnosis of Wegener's granulomatosis, 67(1):12

**NEUROPSYCHOLOGICAL TESTING.** Neuropsychological test performance of Hawai'i high school athletes: Hawai'i ImPACT normative data, 67(4):93

**NURSES.** Four indicators for monitoring progress in addressing the registered nurse workforce shortage in Hawai'i, 67(12):322

**NURSING HOMES.** Describing Hawai'i's nursing home physicians: the results of a survey, 67(5):126

**OBESITY.** Environmental factors of obesity in communities with Native Hawaiians, 67(9):233

--- Establishing an Institute for Childhood and Adolescent Obesity Research and Education [Medical school hotline], 67(10):272

--- Partnerships to address obesity disparities in Hawai'i: the PILI 'Ohana Project, 67(9):237

OSTEOARTHROPATHY, HYPERTROPHIC. Hypertrophic osteoarthropathy and hypercalcemia in metastatic renal cell carcinoma [ACP Hawai'i abstracts], 67(7):183

PACIFIC EMPRINTS. Assessment of disaster training needs for physicians and other health professionals serving vulnerable populations in Hawai'i [Medical school hotline], 67(3):76

PACIFIC ISLANDS. A fresh look at esophageal cancer incidence among Asian/Pacific Islanders and Caucasians, 67(8):206

--- Native and Pacific health disparities research [Medical school hotline], 67(8):218

--- The Pacific Island Health Care Project (PIHCP): experience with rheumatic heart disease (RHD) from 1998 to 2006, 67(12):326

PACIFIC ISLAND HEALTH CARE PROJECT. The Pacific Island Health Care Project (PIHCP): experience with rheumatic heart disease (RHD) from 1998 to 2006, 67(12):326

PANTOEIA. Pantoea agglomerans: An underreported cause of serious infection in Hawai'i, 67(7):180

PARENT-CHILD RELATIONS. Parent-child reading interactions among English and English as a Second Language speakers in an underserved pediatric clinic in Hawai'i, 67(10):260

PATIENT CARE. The impact of the rapid response team on patient care at Tripler Army Medical Center [ACP Hawai'i Abstracts], 67(7):179

--- Patient perceptions of inter-provider coordination of care, 67(5):121

PERINEUM. Impact of maternal body mass index on risk of severe perineal laceration during childbirth [Queen's Medical Center's summer research internship 2007: selected abstracts], 67(6):160

PHOTOTHERAPY. The influence of intravenous hydration on hospital length of stay in infants with hyperbilirubinemia, 67(1):15

PHYSICIAN-PATIENT RELATIONS. Issues in medical malpractice XXV [Medical legal hotline], 67(7):195

--- Issues in medical malpractice XXVI [Medical legal hotline], 67(8):223

PILI 'OHANA PROJECT. Partnerships to address obesity disparities in Hawai'i: the PILI 'Ohana Project, 67(9):237

POSTOPERATIVE COMPLICATIONS. Issues in medical malpractice XIX [Medical legal hotline], 67(1):24

PRACTICE PATTERNS. Initial antihypertensive prescriptions, switching patterns and adherence among insured patients in Hawai'i, 67(4):96

PRESCRIPTIONS, DRUG. Initial antihypertensive prescriptions, switching patterns and adherence among insured patients in Hawai'i, 67(4):96

PROBLEM-BASED LEARNING. Problem-based learning: emergence of vertically stable study groups among first and second-year JABSOM students [Medical school hotline], 67(4):104

PROGNOSIS. Prognostic factors and utility of scoring systems in patients with hematological malignancies admitted to the intensive care unit and required a mechanical ventilator, 67(10):264

PROSTATE NEOPLASMS. Providing psychosocial support to men with prostate cancer and their wives [Cancer research center hotline], 67(3):80

PROTEASOME. Proteasome inhibitors in pediatric cancer treatment [cancer research center hotline], 67(9):247

PURPURA, THROBOCYTOPENIC. A classic case of ITP in a woman presenting with spontaneous bruising, 67(11):292

QUALITY OF LIFE. Providing psychosocial support to men with prostate cancer and their wives [Cancer research center hotline], 67(3):80

--- A very special place for children with cancer [Cancer research center hotline], 67(2):50

READING. Parent-child reading interactions among English and English as a Second Language speakers in an underserved pediatric clinic in Hawai'i, 67(10):260

RETROSPECTIVE STUDIES. The influence of intravenous hydration on hospital length of stay in infants with hyperbilirubinemia, 67(1):15

RHEUMATIC HEART DISEASE. The Pacific Island Health Care Project (PIHCP): experience with rheumatic heart disease (RHD) from 1998 to 2006, 67(12):326

SHOCK, SEPTIC. *Chyeseobacterium meningosepticum* presented as cellulitis with septic shock: a case report and review of the literature [ACP Hawai'i abstracts], 67(7):187

SMOKING. Ethnic difference in smoking and lung cancer risk in Hawai'i [Cancer research center hotline], 67(4):107

--- Smoking prevalence and its association with surgical procedures and co-morbidities, 67(7):182

--- Tobacco use, back pain, and the need for vertebral surgery among patients referred for pre-operative evaluation [ACP Hawai'i abstracts], 67(7):186

SMOKING CESSATION. Hawai'i air quality monitoring assessment: some effects of Hawai'i's smoke-free work and public places law, 67(6):149

SOCIAL SUPPORT. Providing psychosocial support to men with prostate cancer and their wives [Cancer research center hotline], 67(3):80

STAPHYLOCOCCUS AUREUS. Evaluation of empiric oral antibiotic treatment for outpatients with cellulitis in a community with a high prevalence of community-associated methicillin-resistant staphylococcus aureus (CA-MRSA) infections [ACP Hawai'i abstracts], 67(7):183

--- What virulence factors enable staphylococcus aureus to cause blood stream infections? [ACP Hawai'i abstracts], 67(7):182

SUBSTANCE ABUSE. A comparison of adolescent methamphetamine and other substance users in Hawai'i, 67(11):294

--- Predictors of methamphetamine use in Native Hawaiians and Pacific peoples with heart failure [Queen's Medical Center's summer research internship 2007: selected abstracts], 67(6):161

SUICIDE. Suicidal behavior trends in a pediatric population in Hawai'i, 67(3):69

SUNNY BUDDIES. The role of sunny buddies in medical education [Medical school hotline], 67(2):48

SUPPORT GROUPS. Providing psychosocial support to men with prostate cancer and their wives [Cancer research center hotline], 67(3):80

--- The role of sunny buddies in medical education [Medical school hotline], 67(2):48

TELEVISION. Prime-time television exposure to high priority school-aged social-developmental issues, 67(3):74

TNM CLASSIFICATION. The International Association for the Study of Lung Cancer -- The Lung Cancer Staging Project: better data, better decisions, better outcomes [Cancer research center hotline], 67(8):220

TRIPLER ARMY MEDICAL CENTER. The impact of the rapid response team on patient care at Tripler Army Medical Center [ACP Hawai'i Abstracts], 67(7):179

TUBERCULOSIS. Diffuse pachymeningitis due to mycobacterium tuberculosis: a case study report and review of the literature, 67(4):100

UNITED STATES. Medical licensure in the United States: past, present, and future [Medical school hotline], 67(6):162

US TOO PROSTATE CANCER SUPPORT GROUP. Providing psychosocial support to men with prostate cancer and their wives [Cancer research center hotline], 67(3):80

VOCAL CORDS. Graves' disease manifested as vocal cord dysfunction [ACP Hawai'i abstracts], 67(7):184

VOLCANIC EMISSIONS. Effects of volcanic SO<sub>2</sub> on pulmonary function [ACP Hawai'i abstracts], 67(7):187

WEGENER'S GRANULOMATOSIS. Acute interstitial nephritis complicating a new diagnosis of Wegener's granulomatosis, 67(1):12

WHITE COAT CEREMONY. The heart of medicine [Medical school hotline], 67(12):330

# UPCOMING CME EVENTS

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

Date	Specialty	Sponsor	Location	Meeting Topic	Contact
<b>January 2009</b>					
1/9-1/11	N	American Society for Peripheral Nerve	Grand Wailea Resort, Wailea, Maui	ASPN 2009 Annual Meeting	Web: <a href="http://www.peripheralnerve.org">www.peripheralnerve.org</a>
1/10-1/13	Multi	American Society for Reconstructive Microsurgery	Grand Wailea Resort, Wailea, Maui	2009 Annual Meeting	Web: <a href="http://www.microsurg.org">www.microsurg.org</a>
1/19-1/23	AN	California Society of Anesthesiologists	Hyatt Regency Maui, Ka'anapali Beach, Maui	CSA Hawaiian Seminar	Web: <a href="http://www.csahq.org">www.csahq.org</a>
1/25-1/30	R	Department of Radiology, Mayo Clinic	Mauna Lani Resort	Tutorials in Diagnostic Radiology w/Advanced Radiology Life Support	Tel: (866) 242-1581 Web: <a href="http://www.mayo.edu/cme/radiology.html">www.mayo.edu/cme/radiology.html</a>
1/26-1/27	Multi	Kaiser Permanente	Ihilani Resort & Spa, Honolulu, HI	7th Annual Pain Management Symposium	Tel: (808) 432-5704
1/27-1/31	R	NYU School of Medicine Department of Radiology	The Four Seasons Hualalai	NYU Radiology in Hualalai	Web: <a href="http://www.radcme.med.nyu.edu">www.radcme.med.nyu.edu</a>
1/28-1/31	PMD	American Academy of Pain Medicine	Hilton Hawaiian Village, Honolulu	Annual & Scientific Meeting	Web: <a href="http://www.painmed.org">www.painmed.org</a>
<b>February 2009</b>					
2/5-2/7	Multi	Department of Native Hawaiian Health, John A. Burns School of Medicine, University of Hawai'i	Hilton Orange County, Costa Mesa, California	He Huliau -- A Turning Point Eliminating Health Disparities in Native & Pacific Peoples: Cardiometabolic Disparities	Tel: (808) 587-8570
2/7-2/13	OBG, NPM	USC Keck School of Medicine	Westin Maui Hotel, Kaanapali, Maui	Perinatal Medicine 2009	Tel: (800) 872-1119
2/15-2/20	IM, ID	University of California San Francisco School of Medicine	The Fairmont Orchid, Kohala Coast, Hawai'i	Infectious Diseases in Clinical Practice: Update on Inpatient and Outpatient Infectious Diseases	Tel: (415) 476-4251 Web: <a href="http://www.cme.ucsf.edu/cme">www.cme.ucsf.edu/cme</a>
2/15-2/20	R	University of California San Francisco School of Medicine	The Fairmont Orchid, Kohala Coast, Hawai'i	Current Concepts in Body Imaging	Tel: (415) 476-4251 Web: <a href="http://www.cme.ucsf.edu/cme">www.cme.ucsf.edu/cme</a>
2/22-2/27	GS	Mayo Clinic	Hapuna Beach Prince Hotel, Kohala Coast, Hawai'i	Mayo Clinic Interactive Surgery Symposium	Tel: (480) 301-4580
2/23-2/26	CD	Mayo Clinic	Turtle Bay Resort, O'ahu	Arrhythmia's & the Heart	Web: <a href="http://www.mayo.edu">www.mayo.edu</a>
2/27-3/1	FM	Hawai'i Academy of Family Physicians	Hilton Waikiki Prince Kuhio Hotel, Honolulu, O'ahu	Hawai'i Update: Celebrating Diversity in Our Community and Our Specialty	Tel: (808) 864-9812 Web: <a href="http://www.hafp.com">www.hafp.com</a>
2/28-3/7	IM	USC Keck School of Medicine	Hapuna Beach Prince Hotel, Kahala Coast, Hawai'i	37th Annual Diagnostic & Therapeutic Skills in Internal Medicine	Tel: (800) 872-1119
<b>March 2009</b>					
3/5-3/8	PYG	American Association for Geriatric Psychiatry	Hawai'i Convention Center, Honolulu	AAGP 22nd Annual Meeting	Web: <a href="http://www.aagponline.org">www.aagponline.org</a>
3/9-3/13	GE, HEP	Mayo Clinic	Marriot Wailea Beach Resort, Maui	Gastroenterology & Hepatology	Web: <a href="http://www.mayo.edu">www.mayo.edu</a>
3/11-3/14	PCP	UCLA School of Medicine	Makena Resort, Makena, Maui	Meeting the Challenge of Primary Care	Web: <a href="http://www.cme.ucla.edu">www.cme.ucla.edu</a>



Date	Specialty	Sponsor	Location	Meeting Topic	Contact
<b>March 2009 Con't.</b>					
3/11-3/14	ID, IM PCP, ER	Staph Institute	Hilton Hawaiian Village, Honolulu	Staphylococcal Symposium	Infections Limited Hawai'i Tel: (808) 373-3488 or (808) 544-2852 Email: alantice@idlinks.com Web: www.staph2009.com
3/15-3/20	GE, R, U	Society of Gastrointestinal Radiologists, Society of Uroradiologists	Grand Wailea Resort, Wailea, Maui	2009 Abdominal Radiology Course	Web: www.sqr.org
3/23-3/27	R	Stanford University School of Medicine	Fairmont Kea Lani, Maui	17th Annual Diagnostic Imaging Update	Tel: (888) 556-2230 Email: radiologycme@med.stanford.edu Web: radiologycme.stanford.edu/2009maui/
<b>April 2009</b>					
4/5-4/10	IM, FM	University of California San Francisco School of Medicine	Wailea Beach Marriott, Wailea, Maui	Primary Care Medicine: Update 2009	Tel: (415) 476-4251 Web: www.cme.ucsf.edu/cme
4/6-4/10	IM, FM	Scripps Clinic	Hapuna Beach Prince Hotel	14th Annual Primary Care in Paradise	Tel: (858) 587-4404 Web: www.scripps.org/conferenceservices
4/13-4/17	Multi	The Permanente Federation	Hyatt Regency Kaanapali, Maui	Kaiser Permanente National Primary Care	Email: cmxtravel@cmxtravel.com Web: www.kpprimarycareconference.org
4/14-4/16	Multi	State of Hawai'i Department of Health, Adult Mental Health Division	Hawai'i Convention Center, Honolulu	6th Annual Best Practices Conference: Responsibility and Recovery in the Legal System	Tel: (808) 586-4686
4/18-4/24	R	International Society for Magnetic Resonance in Medicine	Hawai'i Convention Center, Honolulu	17th Annual Meeting	Web: www.ismrm.org
<b>May 2009</b>					
5/16-5/17	OBG	Department of Obstetrics, Gynecology and Women's Health, John A. Burns School of Medicine and Ian Donald Interuniversity School of Medical Ultrasound Hawai'i	Ala Moana Hotel, Honolulu	Contemporary OB/GYN Ultrasound: Recent Advances and Clinical Practice	Tel: (808) 203-6563 Email: treevesman@ucera.org
<b>October 2009</b>					
10/20-10/24	Multi	American Society of Human Genetics	Hilton Hawaiian Village, Honolulu	2009 Annual Meeting	Web: www.faseb.org/genetics/ashg

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

### DOCTOR, ARE YOU LOOKING FOR A CHANGE?

Join **CENEGENICS MEDICAL INSTITUTE** in delivering **proactive, wellness medicine** in a **private-pay setting** offering financial rewards commensurate with what you deserve. Become a Cenegenics Affiliate and transition your current insurance-based practice into a cash practice or become a full- or part-time Clinician at one of our established centers. Find out more: **REGISTER** at [www.cenegenics-hi.com](http://www.cenegenics-hi.com) or **CALL 866-831-2471**. Please fax CV to 702-953-1511 or email: [cmqueen@cenegenics.com](mailto:cmqueen@cenegenics.com).

### PRACTICE FOR SALE

**PSYCHIATRIC PRACTICE.** For sale due to retirement. Email: [VRAdmin2@gmail.com](mailto:VRAdmin2@gmail.com)

### YOUR AD HERE

**Even the Smallest ads are seen in the Hawai'i Medical Journal.** HMA members.— As a benefit of membership, HMA members may place a complimentary one-time classified ad in HMJ as space is available.



# THE WEATHERVANE

RUSSELL T. STODD MD, CONTRIBUTING EDITOR



*Russell T. Stodd MD*

## ❖ CAN A ZEBRA CHANGE ITS SPOTS? CAN A LEOPARD CHANGE ITS STRIPES?

Few Americans south of the 49th parallel will recognize the name of Claude Castonguay. He is the Quebec scholar and architect of the first Quebec health plan who persuaded the government to pass the first government-managed health plan in the 1960s. Other provinces soon followed suit and all of the Dominion mandated managed health care. Fast forward to the new millennium, and Castonguay is chairman of the committee reviewing Quebec health care and admits the system is in "crisis." Now this patriarch of Quebec medicare is urging for the legalization of private health insurance. He wants to

contract out services to the private sector, he advocates for patient co-pay, and he wants government hospitals to rent out space for private practice medical care. "We are proposing to give a greater role to the private sector so that people can exercise freedom of choice."

## ❖ WE MUST LIVE WITH THE AMBIGUITY OF PARTIAL FREEDOM, PARTIAL POWERS AND PARTIAL KNOWLEDGE.

Kaiser Permanente Research Division in Oakland, CA, studied data collected from eleven California counties between May 1, 1997 and April 30, 2000, regarding Sudden Infant Death Syndrome (SIDS). By comparing 312 normal babies of similar socio-economic and ethnic backgrounds with 185 infants who died with SIDS, mothers were asked questions about room fan, pacifier use, room location and temperature, sleep surface, bedding, type of covers and whether a window was open. A common denominator was found to be fan use where a room fan cut the risk of SIDS by 72%. A room temperature of 69°F or higher combined with a fan was associated with a 94% decreased risk of SIDS compared with no fan use. The cause of SIDS remains unknown but one theory is that infant exhaled carbon dioxide gets trapped near airways from bedding or from sleeping on their stomachs.

## ❖ FASHION BY ANY OTHER NAME WOULD BE JUST AS RIDICULOUS.

High fashion has no respect for human anatomy and physiology. The latest in fall foot wear for stylish women is the mega-heel seven inch spike or stiletto. Upper-class women are suffering foot pain, sprained ankles, and broken bones in their eagerness to elevate themselves above the crowd. "I look taller, my legs look longer, and I feel more slender." Never mind the strain on ligaments, bones and soft tissue. At Prada's 2009 fashion show in Milan featuring the extreme heels, two models crashed on the runway, others stumbled, and some were so scared they were crying backstage. One "solution" is to have Restylane or Juvederm injected into the balls of the feet to provide pillows to ease the pain. The heels are selling at between \$600 and \$1,500 and currently make up about 30% of fashion shoe business. Beauty knows no pain.

## ❖ STOP COMPLAINING AND ENJOY A STALE PRETZEL!

In New York the legislature passed the "bill of rights" for air travelers which required that airlines must provide food, water and clean toilets to travelers aboard planes that are delayed for three hours or more. The U.S. District Judge denied the appeal by the Air Transport Association stating, "fresh air, water, sanitation and food are necessities in the extreme situation in which this act applies." Unfortunately for air travelers that decision was overturned. The Airlines Deregulation Act passed during the Carter administration (he also gave away the Panama Canal) preempts states from regulating activities of the nation's air carriers. Apparently, all the airline is required to provide is a cattle car from point A to point B.

## ❖ AGAINST LOGIC THERE IS NO ARMOR LIKE A BUREAUCRACY.

No business enterprise or agency is as efficient as the federal bureaucracy for overriding common sense. Home-infusion therapy for intravenous medications for treating cancer, infection or chronic illnesses has doubled in the last five years. The benefits are obvious: comfort for the patient, avoidance of exposure to hospital bacteria (i.e. MRSA) and cost at roughly one-tenth of a day in the hospital. Medicare, under its part D program will cover drugs given intravenously, but not the nursing services so patients must be admitted to a nursing home or hospital where they are covered under Medicare. The financial absurdity is that home nursing service for IV infusion is \$150 to \$200 per day, not covered, while a typical Medicare hospital day is \$1500 to \$2500. Legislation is currently pending before Congress, but the government has not yet prepared cost estimates, and a

Medicare official stated that the program is juggling many other priorities. Translation: don't hold your breath.

## ❖ THE BEST TOSS OF THE DICE IS AWAY.

People who like to gamble also like to smoke and drink. It is a kind of co-dependent balance at the crap game, the poker table, the slot machine, the blackjack table, the roulette wheel or whatever according to those who indulge in this triple "sin." Now in Illinois smoking is banned in casinos, and tobacco-addicted gamblers are walking away from their game of choice to find the smoking lounge or even go outside to light up. When a gambler is in the "zone" or on a roll and has to walk away, he/she is unlikely to return. The tobacco break pulls the gambler back to reality and it becomes easy to leave the game. Tom Swoik head of the Illinois Casino Gambling Association stated that the smoking ban is having a major impact. Large revenue losses have forced staff reductions and caused drastic drops in state tax revenues generated by casinos. Several other states are considering casino smoking bans, so tobacco lobbyists have joined with casino operators in an effort to keep the air contaminated.

## ❖ BOTOX, THE ALL-PURPOSE FIXER-UPPER.

Botox (Allergan Inc.) came on the medical scene 20 years ago when it was found to be effective in cases of eye muscle imbalance, particularly esotropia and blepharospasm. Creative cosmetologists found the toxin to be useful for brow frown and facial wrinkles resulting in creation of "Botox parties." The most recent request from Allergan to the Food and Drug Administration (FDA) is for chronic migraine. Botox has been used for several years, but some researchers have doubted its effectiveness. The American Academy of Neurology advised in a May publication that Botox injections were not effective in treatment of tension or migraine headache. More recently two studies failed to demonstrate any change in frequency of migraine, but both showed a reduction in headache days. So, if Botox helps even a little for migraine, it will be used.

## ❖ THOSE YOU TRUST THE MOST CAN STEAL THE MOST. HE USED TO HAVE A HANDLE ON LIFE, BUT IT BROKE.

Do you feel sorry for Bill McGuire MD, one-time pulmonologist who went into administration and became head of United Health Group? He had to give up \$200 million when he was ousted as CEO, plus \$100 million in retirement pay, and paid \$7 million in penalties to Security and Exchange Commission. Now he must pay \$30 million and forfeit \$3.7 million stock options to settle shareholder complaints about backdating options. This is Bill's third such settlement in the scandal which caused United Health to pay \$912 million into a shareholders fund. The US Attorney in New York's Southern District is looking into a criminal inquiry against the doctor. Bill and United Health were part of the back-dating scheme in which dozens of companies manipulated dates to reward executives with a chance to reap even more compensation. He obviously was one of the fattest pigs at the trough. Don't give him too much sympathy. Even after all the above, the one-time doctor will still have over \$1 billion to try to live on. Any wonder that common folk don't trust Wall Street?

## ❖ HE JUST WANTED TO EAT, DRINK AND BE MARY!

In Jackson County, Florida, a driver was stopped after he was reported to be swerving off the road and forcing other motorists to take evasive action. A partially consumed bottle of vodka was seen under the edge of the driver's seat. He was asked to step out of the car and was found to be wearing a wig, a dress and fishnet stockings. He failed a field sobriety test, and had a positive breath test. A search of his car yielded a small bag of marijuana, another of methamphetamine, and in the glove box a glass pipe, a gun and a probation officer badge. His attorney stated, "He was off duty!" That is certain; way off!

## ADDENDA

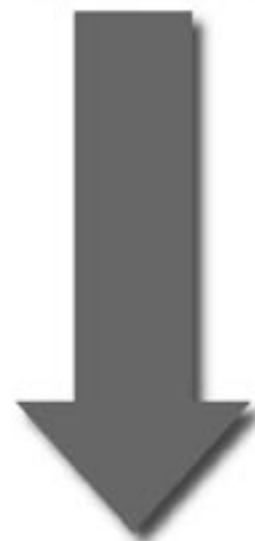
- ❖ Traffic deaths in the United States declined 3.9% in 2007, reaching the lowest level in more than a decade.
- ❖ Three men bought a laptop computer from Wal-Mart in Chandler, AZ, using a stolen credit card, but they were given an empty box by mistake. They were apprehended when they returned to complain.
- ❖ In Mukwonago, WI, a man was siphoning gasoline from a van and wanted to see how much was in his can, so he tried to use his lighter. Police arrested him after he was treated for burns.
- ❖ Asparagus can be grown on Mars.
- ❖ If it weren't for electricity we would all be watching television by candlelight.

## ALOHA AND KEEP THE FAITH — rts■

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

# HAPI'S MEDICAL MALPRACTICE COSTS DECREASE... AGAIN

- Announcing a 7.5% decrease in costs for 2008. This is the third decrease, in addition to a no change in costs since 1996.
- More than 50% of all new HAPI members converted their coverage to us in recent years, saving thousands of dollars on their medical malpractice coverage costs.
- Started 30 years ago, HAPI is the first physician-owned medical malpractice plan in the State of Hawaii. There is no profit motive in HAPI's costs.
- HAPI is strictly local, using all of its funds for the benefit and protection of Hawaii doctors only. In a recent survey, 100% of our members said it is important to them that HAPI is locally based.
- The majority of members who joined HAPI in the beginning have stayed with us throughout their career. In a recent survey, 100% of our members said they are satisfied/extremely satisfied with HAPI.
- HAPI's financial stability, excellent legal representation, and informative loss prevention seminars are consistently quoted by our members as being the most important benefits of membership.



## 2008 TOTAL QUARTERLY COSTS (INCLUDING RETROACTIVE COVERAGE)

Anesthesiology	\$2,946
General Surgery	\$4,168
Internal Medicine	\$1,373
Pediatrics	\$1,662

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



If you are a D.O. or M.D. in private practice, call Jovanka Ijadic, HAPI's Membership Specialist to discuss the cost savings HAPI could offer you. Find out why so many physicians are switching their coverage to HAPI.



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

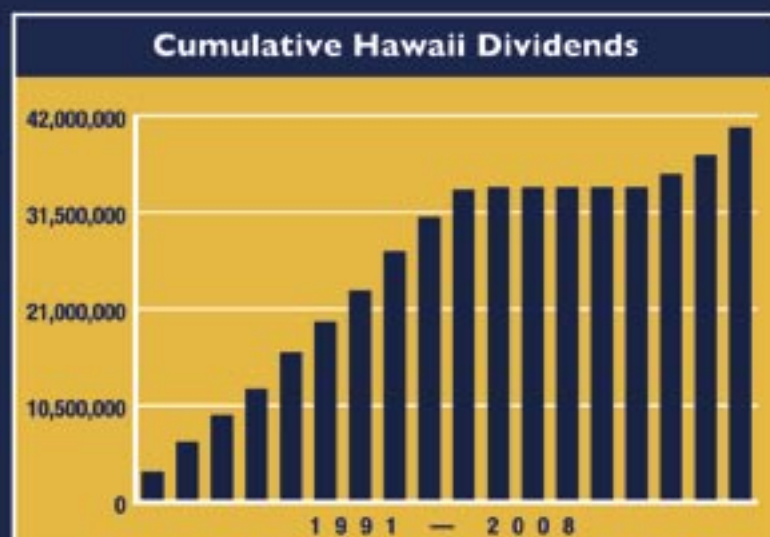


**MIEC** reduced its already low rates in the last 14 of 18 years (1991-2008) with dividend credits on premiums for \$1M/\$3M limits - **averaging a 22.4% savings a year to its policyholders.**

**Has your professional liability carrier done that for you? If not, it may be time to ask why not!**

Other benefits include:

- ZERO profit motive
- 100% owned and governed by our policyholders
- Hawaii physician on the Board: Russell Stodd, MD
- We have insured doctors in Hawaii for the past 27 years
- Nearly 90% of Hawaii claims and suits were closed without payment
- Local Hawaii Claims office to serve policyholders
- We are an insurance company with a non-assessable policy: one set premium; no paying deposits; and no dues or assessments
- Rated A- (excellent) by AM Best



**For more information or to apply:**

Go to [www.miec.com](http://www.miec.com) or call 1-800-227-4527, and a helpful receptionist (not an automated phone tree) will connect you to one of our knowledgeable underwriting staff.

\* Future dividends cannot be guaranteed.