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

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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 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. 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. 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. The Joint Commission also requires that hospitals develop a process to handle such issues. 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. Ethics consultations potentially improve patient care by responding to physician requests for assistance with ethical issues and conflict resolution. 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. 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. 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 existence of an ethics consultation service, although few know how to formally request a consult. 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. Despite the increasing availability of medical ethics consultations, there is little research addressing the impact of these consultations on physicians in training.

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.
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

---

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

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

**Table 2.— Utility of Ethics Consultation**

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

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
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:

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:

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. Among 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. By 2020 the national shortage is projected to increase to more than 1 million FTE RNs.

The shortage of RNs occurs nationally and globally. 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.

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.
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.

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 respondents 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 (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.

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

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

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

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>2001</th>
<th>2003</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>White, not Hispanic</td>
<td>48.3%</td>
<td>48.5%</td>
<td>52.6%</td>
</tr>
<tr>
<td>Asian/Pac Isle</td>
<td>24.3</td>
<td>22.8</td>
<td>20.8</td>
</tr>
<tr>
<td>Filipino</td>
<td>13.4</td>
<td>12.5</td>
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<td>6.4</td>
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<tr>
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Table 3.— Years to Retirement, 2001, 2003, 2005

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<td>26.8</td>
<td>21.5</td>
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<td>Mean</td>
<td>14.6 years</td>
<td>13.6 years</td>
<td>11.8 years</td>
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**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%. 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.9

**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 dependent students, 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.10

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.11,12

**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.\textsuperscript{13,14} 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.\textsuperscript{13} 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**

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. 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. 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.

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...
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. 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. 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.

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<td>2005</td>
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</tr>
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<td>2006</td>
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<td>Total</td>
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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
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 the 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). 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 USAPIs 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 became 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, β-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. Secondary prevention with intramuscular penicillin has been demonstrated to be more effective than oral penicillin. 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 PIHCP has lessened the burden of ARF and RHD in the Developing World of the USAPIs.

References

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 running 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 to 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 life-lines on this incredible journey. 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.”

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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, 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. 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. 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: siyang@hawaii.edu or call (808) 728-9784 for more information.

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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 2002.¹ 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.²

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 than 1000 cells/mm³, with increased risk for infection with an ANC less than 500 cells/mm³ and even greater for ANC less than 100 cells/mm³. The NCCN defines neutropenia as an ANC less than 500 cells/mm³ or an ANC less than 1000 cells/mm³ and expected to decline to less than 500 cells/mm³ 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 obtaining 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 risk³ (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                           |Score|
| 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 antifungal use, recent hospitalization, most likely site of infection, and possibility for *Pseudomonas* infection. Both the IDSA and NCCN recommend the use of ceftazidime, 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 ISDA 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 ISDA 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 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 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. 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. 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.

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—Mitchell B. Miller, MD, physician member of the AMA and his local and state societies
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If it weren't for electricity we would all be watching television by mistake.

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.

Most 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," said 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. The U.S. District Judge denied the appeal by the Air Transport Association stating, “This case is another of methamphetamine, and in the glove box a glass pipe, a gun and a wig, a dress and fishnet stockings. He failed a field sobriety test, and had 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 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; why 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.

❖ 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
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.

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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.

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If you are a D.O. or M.D. in private practice, call Jovanka Ijacic, 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.

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HAPI’s Physicians’ Indemnity Plan, 735 Bishop Street, Suite 311, Honolulu, HI 96813
Ph: 808-538-1908; Fax: 808-528-0123; www.hapihawaii.com
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 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.