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The year 2009 has been very special for all of us with the consequences of a major financial and economic crisis that has hurt us in different ways with differing degrees of severity.

The crisis has generated fear and pessimism but as the year came to the end, some indicators are showing that the health sector has shown some resilience in the face of the crisis. Healthcare decision-makers face major challenges that may have been exacerbated by the crisis although the challenges have been on their radar screen before the crisis.

The threat of global warming has also been the topic most discussed throughout the world with world leaders seeking the appropriate measures to adopt at the Copenhagen summit at the close of the year. On this front, results are not yet there and there are reasons to be concerned for the future we will leave to our children. Once more, short term interests have overridden actions that would have a sustainable long-term impact. In health-care organizations, we continuously face this tension between the need to avoid immediate crisis and the benefit of longer term strategies. The articles you will find in this issue are very representatives of those challenges.

Patient safety is always put among the first priority of IHF members. As the mission of health-care organization is to heal, it is obvious that we all want to reduce all possible adverse events, although zero failure is impossible in human-related activities. The results of a nationwide strategy to implement a patient safety reporting system can provide fruitful lessons both on the impact of such an approach to reduce adverse events, and on the possibilities to enhance the reporting system. Having a solid system of reporting adverse events is the first stage. To improve, it is necessary first to record and analyze all failures. Introducing transparency and a “no blame approach” is already a great achievement. At the IHF we believe that such systems should be fully implemented worldwide and we are very happy to help in sharing experiences.

To promote the patient safety culture it is also possible to develop solidarity between hospitals across the world. This is the objective of the African Partnership for Patient Safety. Hospital partnerships have existed for the last 25 years with mixed results. At the individual level, it has always been a rich experience on both sides of the world. Unfortunately, the institutional approach has always been difficult because these initiatives have not always found their way in the health-care organization strategic plans. Given that partnership is a strong instrument through which to engage in effective development of activities, IHF believes it is important to promote it and for this reason it will organize a session on this topic during the Geneva health forum (http://ghf10.org/). We encourage you strongly to participate in this event.

The health workers crisis is still high on our agenda as not much progress has been recorded since the World Health Report of 2006. The article on the impact of medical tourism on population provides a very interesting insight on a subject that has not been in the forefront of international dialogue. The code on ethical recruitment, to be discussed at the WHO Executive Board in January 2010, should also be on the agenda of the up-coming World Health Assembly. The importance of the mobility of health workers and consequences on the health of populations is an important step to be considered. At the same time, an important increase in mobility of patients for medical travels (medical tourism) can be observed. India is one of the major destinations for medical travel and the article on this topic provides the reader with a better understanding on the risks and benefits for the local population.

Reforming health systems to make them more efficient while increasing access to care is the challenge many governments face. This last year, the USA has decided to undertake such a reform in order to face such a challenge.
scale. Like most of the recent IT-based solutions, technology is not the issue. Rather, the issue at hand concerns the way organizations are able to match technology with human driven processes.

To finish it was important to provide you with an article that could echo the issues addressed at the Copenhagen summit on climate change and sustainable development. Although this article was accepted much before knowing the outcomes of the summit it happened to reflect fairly well the global trend. There are solutions to go green and reduce the global warming but such solutions are bound to the economic environment. If some green options are taken because they provide a good return on investment, they would have been adopted, even if being green was not politically correct! So to make progress, it would take something more than green smoke. Hospital project conception “should include a clear articulation of goals for environmental impact”. This is the way to face the hurdles for a building to become really green.

We do hope that this edition will offer you an interesting and pleasant read that will reflect this year’s major trends while linking with the coming year’s concerns. Undoubtedly, all these matters will remain at the forefront for some years to come. Having all these perspectives for future accomplishment brighten our future.

On behalf of the IHF Secretariat I wish you a happy and successful coming year.

December 2009
Alzheimer’s disease: our biggest long-term health challenge

FRED HASSAN
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER,
SCHERING-PLough CORPORATION

ABSTRACT: As we grapple with reforming health care in America, the discussion often seems to gravitate to short-term issues while ignoring growing long-term threats. There is a health care tsunami approaching. It is Alzheimer’s Disease. How we deal with this crisis will tell us a lot about how we are doing on health policies and actions for the long term – and about how we are doing as a society.

My family and I have had first-hand experience: a loved one gradually became more and more disconnected – more and more helpless. We felt the anguish of Alzheimer’s, as have millions of other Americans.

Alzheimer’s Disease is the number one long-term health challenge our country faces as the baby boomers enter retirement. This disease is poised to wreak devastation on as many as 16 million sufferers by 2050. It is just the beginning. Around half of us over the age of 80 will develop Alzheimer’s. Alzheimer’s already costs more than US$110 billion in annual health-care spending and is spiraling upward. And Alzheimer’s inflicts cruelty on entire families. It can impoverish the caregivers who must abandon work to look after sufferers, while causing depression and despair in spouses, children and other loved ones.

Despite heroic calls for action – such as the recent proposal for a National Alzheimer’s Strategic plan by the Alzheimer’s Study Group – our health care debate appears to be bypassing this looming crisis. Or maybe we are in denial because Alzheimer’s is so terrifying.

We must address this crisis. We must begin by putting Alzheimer’s into the centre of our national dialogue about reforming health care.

Alzheimer’s Disease is the number one long-term health challenge our country faces as the baby boomers enter retirement. This disease is poised to wreak devastation on as many as 16 million sufferers by 2050.

I hope we will see our leaders in Washington rise to this challenge. Meantime business leaders like me, and leaders in lots of other walks of life, need to stand up and join together in galvanizing action on Alzheimer’s. And we have a moral imperative too: the sufferers of Alzheimer’s often cannot speak up for themselves. We must be their voice and their champions.

What do we need to do?
One priority is to accelerate the work on medical innovations to prevent, to detect early, to treat, to halt and ultimately to cure Alzheimer’s. There are exciting signs of early progress in labs in innovation-based biopharmaceutical and diagnostics companies and at the National Institutes of Health (NIH). We can take practical steps to fast-track the science. We can also accelerate the regulatory processes that develop information on groups at higher risk, that develop early warning diagnostics and that move molecules into new medicines for this disease.

For example, as we are now doing with some other chronic diseases, if we could identify people who are most at risk and who then suffer from Alzheimer’s, and treat these patients early, we would have a huge win. Early detection, and early intervention, could generate enormous health rewards, while saving families from ruinous costs and heartache.

With existing clinical trial methods, this could take decades. But there is a tremendous opportunity for the NIH, the FDA and the
biopharmaceutical and diagnostics companies to collaborate on creating new models of innovation and clinical trials. We need new approaches that allow us to test potential new Alzheimer therapies in people at risk or with early stages of the disease, see what has promise, and zero in on the best bets for prevention. In this way we could hope to move the horizon for breakthroughs from decades to years. And by succeeding with Alzheimer’s we would have a new model for faster, more cost-effective work on other chronic and preventable diseases.

That’s just one idea for accelerating the science. We need lots more. But no matter how fast we can advance science to stop Alzheimer’s, we have millions of people in our country suffering from this disease today and millions more who will develop it before we have effective new treatments.

So our second priority must be to respond with courage and compassion to the human and societal crisis. There is an impulse to keep the sufferers out of sight and off our conscience. We must not let this happen. To echo Franklin D Roosevelt, a great society is judged by how well it helps the most defenseless among its citizens.

Virtually everything we should be doing for the victims of Alzheimer’s – and their families – has lessons for a better, more efficient health-care system for all of us. Unlike today, routine checkups for people over 60 should include simple tests, including biomarkers from blood tests and metrics of mental functioning. Medicare should reimburse doctors for such primary prevention tests. Unlike today, we should intervene early with simple therapies for stimulation and social interaction to help delay and lessen the effects of the disease.

Unlike today, physicians need to have the quality time with the patients to monitor them and individualize their treatment. Unlike today, we should put in place cost-effective support mechanisms such as home care help and counseling for family members – so that they can keep those affected with Alzheimer’s in a home environment as long as possible while continuing to work themselves, and avoiding where possible the huge costs and impersonal environments of institutional care. This will involve training more people – doctors, nurses, social workers, and other caregivers to deliver this level of care.

Does this sound a lot like what we know we need to do in other areas, to make health care better and more cost effective? Surely it does.

We must begin somewhere to turn health care reform from ideas into good policies and actions. Through a national crusade on Alzheimer’s, we can rally as Americans around our biggest long-term health-care challenge. What we learn from that can help us get other things right. And when we look in the mirror as a nation that wants to care for its weakest citizens, we will like what we see.

Read more at: http://www.huffingtonpost.com/fred-hassan/alzheimers-disease-our-bi_b_287044.html
Perceptions about the impact of global medical travel on poorer populations in India

BLAIR GIFFORD, PHD
ASSOCIATE PROFESSOR, INTERNATIONAL HEALTH MANAGEMENT BUSINESS/PUBLIC HEALTH THE CENTER FOR GLOBAL HEALTH UNIVERSITY OF COLORADO DENVER (USA)

SINYOUNG PARK
SHARMILA ANAND

ABSTRACT: There is anecdotal evidence that the increasing focus on global medical travel health services for foreigners in India is likely to exacerbate the different levels of access to health services between India’s wealthy and poor populations. However, surveyed physicians (n=177) at three hospitals in New Delhi indicated positive attitudes to global medical travel, especially in regards to global medical travel’s effects on poorer populations. Overall, these results appear to be the result of respondents’ support of the economic development, new medical technologies, and increased medical training that comes from the health infrastructure investments needed to attract foreign patients.

Health care has always been among the most local of all industries: you visit your local doctor and, when you are ill, you go to your local hospital. Historically, most actors in the health care value chain – employers, insurers, payers, providers, suppliers and the government – are local, regional, or at the most removed, national.1 But, in fact, many dimensions of the health care value chain are globalizing, paralleling to some extent the growing internationalization of many other industries.

In recent years, global medical travel (also known as medical tourism) has moved away from an embryonic stage of curiosity and has developed to the point that governments in many developing and transitional nations have developed health centres to lure international patients from developed nations.2 At first glance, this development might be seen as one of the positive benefits of globalization because increased tourism will be good for the economic development of those nations that become the most attractive destinations for international patients. Also, increased choice will ultimately be good for patients seeking high quality, low cost care.

However, concerns have been raised about the ethics of health services globalization. For example, will an emphasis on the development of a global medical travel industry divert a nation’s attention and resources away from poorer populations who can’t afford private-based care? Critics such as Dr Amit Sen ask: “Where is the logic of the government spending energy and effort to attract foreign patients for the private sector when an overwhelming majority of patients in India have inadequate access to health care?”3 There are numerous anecdotal accounts that have brought critical attention to this issue.4 For example, there is evidence that health providers are being drawn largely to private sector health practices which do not serve the majority of populations in their native countries. The result has been heavier workloads and more pressure upon doctors and staff alike at public facilities without any significant increased compensation.5

This research attempts to add to anecdotal accounts by providing the first empirical assessment of global medical travel’s impact on poorer populations. Our analysis is based on a survey of health providers in three hospitals in Delhi, India: a public, university hospital, and two private hospitals, one of which caters to global medical travel patients. The primary research question that was asked of these providers is whether they feel that global medical travel is good for the care of poorer patients in India. This topic is especially salient for India given the nation’s heightened development of global medical travel facilities and the contrasting limited availability of public-based care for poorer populations.

The push and pull of global medical travel
In the past, developed nations, such as the United States and the nations of the European Union, were considered popular medical tourist destinations in the sense that these wealthy nations had the education and technology to provide first class medical services that may have been unavailable in many developing nations. However, the direction of travel for health services has started to go both ways in recent years. Access and cost problems in developed nations in accompaniment with improved quality of care in developing nations has led to an increasing numbers of patients seeking healthcare in developing nations. Deloitte predicts that the number of Americans traveling abroad for treatment will soar from 750,000 in 2008 to six million by 2010 and ten million by 2012.6

Much of this increased demand for health services in developing nations is driven by cost savings. In India, medical treatments may be as low as a tenth of the price of US or UK treatments. For example, a preventive health screen that costs about US$574 in
the UK is US$84 in India. However, costs have long been much higher in America than in poor countries so this alone does not explain the new exodus. Two other factors are now at work. One is that the quality at the best hospitals in Asia and Latin America is now as good as it is at many hospitals in wealthy nations as evidenced by the dozens of hospitals around the world that meet the stringent requirements for accreditation by the respected Joint Commission International. Indeed, gaining the Commission’s seal of approval has become a price of entry into the serious market for global medical travel.

The second factor is that health insurance safety net in the US continues to fray. Over 45 million Americans are uninsured, and many millions are severely underinsured. Also, insured Americans might find it cheaper to fly abroad and pay for an operation out of their own pockets than to find the money for deductibles or co-payments for the same procedure at home. For example, Hannaford, a grocery chain based in New England, now offers its 27,000 employees the option of getting a number of medical procedures done in Singapore at a saving to the employee of US$2,500 – US$3,000 in co-payments and deductibles.

Possible benefits to host nations from global medical travel
In order to lure patients from industrialized nations, medical facilities and infrastructure in developing nations are being upgraded to world-class standards. Health-care organizations are recognizing that every point along the patient care continuum is interrelated. To truly maximize customer service, global medical travel hospitals need to integrate the entire process and information flow across the enterprise. Many hospitals in India today have the infrastructure and equipment that match with the best centres in the world, be it transplants, cancer treatment, neurosurgery, angioplasty and cardiac surgery. Besides, most global medical travel hospitals offer specially designed packages for patients that not only include treatment, but also their stay during the pre- and post-hospitalization stage.

Global medical travel has also been praised by some as reversing or, at least slowing, “brain drain” from poorer to wealthier nations that can offer physicians more income and better working conditions. The argument is that development of a global medical travel industry in a host nation will lessen the propensity of local health providers to emigrate elsewhere, and that in some cases health providers who have emigrated to wealthier environments might return back to their native homes to work. It needs to be emphasized, however, that these health providers are being drawn largely to private sector health practices which do not serve the majority of populations in their native countries. For example, with in-country physicians seeking paying patients and moving away from public facilities, understaffing of public facilities has resulted. The result has been heavier workloads and more pressure upon doctors and staff alike without any significant increased compensation. In India, the number of non-resident Indian physicians returning to India has been increasing in recent years with the development of the global medical travel industry. Mullan argues that the vigor of India’s medical marketplace holds great promise for the nation and raises the possibility of keeping more Indian graduates at home to better the health of all of India’s people.

The effects of global medical travel in India
Private care predominates in the Indian health system. At least two-thirds of Indians rely on private care, and 80 to 85% of health care expenditures are borne by the patient. The remainder is covered by the government (12% to 15%) and a mere 2% to 3% is covered by the insurance sector. Overall, only 0.9% of the country’s GDP is spent on public-sector health programmes, whereas 4.2% is spent on private care. Accordingly, India ranks 171st out of 175 countries in percentage of GDP spent in the public sector on health and 17th in private sector spending.

Health services are in short supply in India. There are an average of four doctors for every 10,000 people. In Britain, by contrast, there are 18 per 10,000. Also, India has less than one hospital bed for every 1,000 people. In rural India, state hospitals have little money for basic medical equipment or for maintenance of buildings, which are often filthy and overcrowded. In 2008, the Planning Commission of India found that in government-run health centres, 45% of gynecologist posts and 53% of pediatric posts went unfulfilled.

The marked under-investment of the Indian government at the national and state levels contributes to poor staffing and morale at government hospitals and clinics. Increased investment and modernization initiatives would create opportunities and momentum toward re-balancing the system and offering more career options for allopathic physicians to remain in India and engage in private and public-sector work. Although there has been increased government support of the health system in recent years (eg, a 21% increase in government funds for health care in 2007), the base which they are starting is very small.

The vacuum in service provision for poor and rural people in India is generally filled by non-allopathic private practitioners from a variety of indigenous systems of medicine (ISM). These are practitioners of Ayurvedic medicine (Hindu), Unani (Muslim), homeopathy, and Siddha (Tamil). In addition, there are numbers of “nonqualified” doctors in practice – people with no medical training of any sort. The presence of a large overall number of doctors (allopathics and ISM) as well as a relative shortage of nurses has led to a generally non-receptive environment to the training of new clinicians, such as nurse practitioners and physician assistants.

The National Health Policy of India declares that the medical treatment of foreign patients is legally an “export” and therefore eligible for all fiscal incentives extended to export earnings. Also, the Indian government has devised a policy that combines both interests by having private revenues partially reverted back to the public sector. However, there is evidence that many global medical travel hospitals in India have not honored this policy. Still there are some successful uses of this policy. For example, Narayana Hrudayalaya Heart Hospital in Bangalore attracts patients due to an excellent reputation for quality care and then uses the fees from medical tourists and high income private patients to offset the costs of treating poorer people for free.

Methods
A survey of health providers was conducted at three hospitals in the Delhi area of India. As the capital city of India, Delhi is a major tourist destination and has a mature global medical travel industry. The three hospitals that participated in this study were Santosh University Hospital, Paras Hospital and Escorts Hospital. Santosh University Hospital is a 250 bed, non-profit hospital located in Gazipur. Paras is a new 100 bed private hospital that is not involved in global medical travel. Escorts Hospital has 150 beds and is a private hospital with a focused global medical travel
strategy. We assessed providers’ overall perception of global medical travel. In particular, we assessed whether providers were concerned about the effects of global medical travel relative to the care of poorer populations. Since Santosh University is a public hospital and serves poor populations by definition, we expected that providers there would be more critical of global medical travel’s effects on poorer populations.

The survey was approved for use by the Institutional Review Board of the University of Colorado Denver, and each participating hospital approved the survey prior to its distribution to their physician providers. The survey data were collected in 2008; participation in the survey was voluntary and the collected data were confidential. Data were analyzed with SAS software (version 9.1, SAS). Overall, 177 providers responded to the survey for an overall response rate of 32.9%. The response rate was 23.6% at Paras Hospital, 32.7% at Santosh University Hospital and 43.6% at Escorts Hospital (Table 1). Of all respondents, about 58% were male and 42% female. Also, about 24% of respondents indicated that they see no global medical travel patients. Of those providers that see medical tourist patients (76%), these patients comprise less than 5% of all patients for 46% of the respondents, and more than 5% for 30% of the respondents.

**Results**

**a. Attitudes toward global medical travel**

Based on anecdotal information that has been gleaned from various media accounts,18 we expected that Indian health providers would be critical of global medical travel, especially the impact of global medical travel on the care of poorer populations. However, our findings indicate the opposite (Table 1). That is, health providers are both generally favorable of global medical travel, and health providers do not think that global medical travel will decrease care for poorer populations. These results are further corroborated by looking at the results between hospitals. We expected the health providers at the public hospital (Santosh) to be especially critical of global medical travel and its impact on poorer populations, but our findings show that these public providers actually have a more favorable opinion of global medical travel’s impact than providers at one of the two private hospitals.

This contrary result suggests the need to further explore what might be driving providers’ concerns for the care of poorer populations in India. Although such an exploration was not the focus of this study, we believe that we have a finding that might suggest providers’ concerns in future research. As shown in Table 1, providers are less receptive of health privatization’s impact on the care of poorer populations than the impact of global medical travel at all three surveyed hospitals. Privatization suggests that no charitable patients will be seen at a privatized facility. Public hospitals, alternatively, will see private patients and charity patients, using the revenues from the former to offset costs from the latter. The findings from our study suggest that national policies that allow for an increasing privatization of health in India might be more of a concern regarding poorer populations’ access to health care than global medical travel.

**b. The benefits of global medical travel**

Our findings above in Table 1 suggest the need to further explore why health providers in India are favorably disposed toward global medical travel. As shown in Table 2, we find that providers believe that global medical travel is bringing advantages to India through at least four different developments. The most prominent of these is that global medical travel is enhancing the economic growth of India. Foreigners coming to India for medical care often come with a family member or two and spend considerable time and money outside of the health care arena, touring the nation. This result is not unexpected. There is considerable evidence of the indirect economic benefits that derive from global medical travel in other nations.19

Table 2 also indicates that global medical travel has had positive impacts on the medical industry of India. To attract foreign patients, Indian hospitals and providers have had to invest in new medical technologies and additional medical education. Being part of the global market for health services is forcing India to move beyond competition locally to understand what is needed to compete globally for patients; providers perceive that such global competition is having positive benefits for the nation. This finding does not suggest that there aren't concerns about how the growth of global medical travel might divert resources from the care of poorer populations in India. Although such an exploration was not the focus of this study, we believe that we have a finding that might suggest providers’ concerns in future research. As shown in Table 1, providers are less receptive of health privatization’s impact on the care of poorer populations than the impact of global medical travel at all three surveyed hospitals. Privatization suggests that no charitable patients will be seen at a privatized facility. Public hospitals, alternatively, will see private patients and charity patients, using the revenues from the former to offset costs from the latter. The findings from our study suggest that national policies that allow for an increasing privatization of health in India might be more of a concern regarding poorer populations’ access to health care than global medical travel.

**Table 1: Physicians’ perceptions of the impact of global medical travel on poorer populations**

<table>
<thead>
<tr>
<th>Organization</th>
<th>Public Hospital (n=51)</th>
<th>Private Hospital, With Global Medical Travel (n=78)</th>
<th>Private Hospital, No Global Medical Travel (n=48)</th>
<th>Average for all categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global medical travel has been good for India</td>
<td>4.38</td>
<td>4.52</td>
<td>3.34</td>
<td>4.16</td>
</tr>
<tr>
<td>Global medical travel decreases care for poorer populations</td>
<td>2.48</td>
<td>2.29</td>
<td>3.16</td>
<td>2.86</td>
</tr>
<tr>
<td>Privatization of health care is bad for poorer populations</td>
<td>3.02</td>
<td>2.86</td>
<td>3.43</td>
<td>3.06</td>
</tr>
</tbody>
</table>

*The survey questions are based on a Likert scale of 1 to 5 with 5 being “strongly agree.”*
poorer populations. Instead, this finding suggests that the benefits from increased investment in medical technologies and education outweigh concerns for poorer populations’ health needs.

Further, providers believe that the development of health infrastructure in India as a result of global medical travel will have positive benefits on the brain drain of health professionals away from India. Foreign medical graduates (FMGs) comprise about one quarter of all physicians in the United States, and Indians, by far, are the most highly represented group within the US FMG population. Although there is little evidence at this point to suggest that Indian FMGs in America are starting to migrate back to India to work, this finding does suggest that Indian health professionals might be less likely to leave to work in foreign locations as the result of the growth of global medical travel. More generally, this finding suggests that one way for nations to offset the difficulties of brain drain of health professionals from their country is to further invest in health infrastructure development aimed at a growing trade in global medical travel.

c. The impact of medical travel on physicians’ practice environment

Table 2 provides direct evidence of how global medical travel will do more than provide benefit to the nation of India (as shown in Table 3 provides direct evidence of how global medical travel will do more than provide benefit to the nation of India (as shown in Table 2), but also provide benefits to participating physicians. As illustrated, physicians believe that global medical travel will increase physicians’ incomes and help build physicians’ professional reputations. Thus, involvement in global medical travel appears to be something that Indian physicians are striving for in their daily practices. What is of further interest is the perception of benefits for global medical travel involvement by physicians. For example, those physicians who do not see medical tourist patients have a much higher perception of the benefits of global medical travel for higher income and reputation than those physicians who participate in global medical travel. This finding suggests that the newness of the global medical travel development is still riding a wave of excitement and that the realities of global medical travel patient care, although positive, do not appear to live up to the expectations that many physicians attribute to this trend.

India has become a major destination for global medical travel in recent years and, within India, New Delhi has been a primary destination for global medical travel. Although the national government generally welcomes this development, many Indians have expressed concern that poorer populations will be left even further behind. Health services in India are in very short supply and poorer populations often have to rely on non-allopathic providers with limited training. As such, sensitivities towards a national emphasis on developing global medical travel at the cost of providing care to poorer populations are especially high in India.

We expected to find empirical results that corroborated and added more substance to critiques of global medical travel. However, our results indicate the opposite. That is, from the perspectives of physicians, global medical travel is good for a nation and good for poorer populations. To better understand these contrary results, we investigated further and found that physicians’ believe that global medical travel enhances a nation’s economy and leads to health infrastructure development through investments in new medical technologies and medical education as the host nation strives to meet the expectations of global health consumers. Also, surveyed physicians believe that global medical travel adds to physicians’ income and helps them gain recognition among their peers. Further, a nation’s development of global medical travel might be a strategy that counters the effects of health professional brain drain as fewer health professionals seek opportunities in other nations and some health professionals who have previously emigrated come back to their native land.

There are shortcomings to this study that hopefully can be overcome in future research. First, it would be helpful to do a cross-national comparison of the effects of global medical travel. India has bright prospects to emerge as the global destination for medical tourists due to the availability of world-class quality healthcare facilities, well-trained physicians, and a tremendous savings in the costs of health services for westerners. It is quite possible that India is a unique case and that concerns about global medical travel are much more salient in other nations.

Table 3: Global medical travel’s effect on physicians’ income and reputation

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>No global medical travel patients (n=26)</th>
<th>&lt;5% Global medical travel (n=47)</th>
<th>≥5% Global medical travel (n=33)</th>
<th>Average all categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians who treat medical tourists have higher incomes</td>
<td>4.26</td>
<td>4.00</td>
<td>3.54</td>
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<td>Physicians gain in reputation for treating medical tourists</td>
<td>3.33</td>
<td>3.26</td>
<td>3.05</td>
<td>3.26</td>
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Note that 71 physicians did not respond to this survey question.
research describes the perceptions of global medical travel's benefits, and these perceptions are only those of health providers. It would be very helpful if a financial accounting of the benefits and costs of global medical travel for a nation were done. Also, it is necessary to triangulate our research results by finding out the perceptions of others besides physicians with knowledge of global medical travel's impacts.

In sum, the positive benefits of global medical travel for India do not rule out the need to be concerned regarding access to care for poorer populations. This research merely suggests that the benefits might outweigh the concerns, at least from health providers' vantage point.

If these results are supported by future research, one might expect that policies that limit the globalization of health services might be relaxed in coming years.

References

Trends in green hospital engineering

WALTER N VERNON
PE, LEED, PRINCIPAL, ELECTRICAL ENGINEER, APMAZZETTI NASH LIPSEY BURCH

ABSTRACT: When health-care facilities do pursue green initiatives, it’s often because there is some incentive available to them that buys down the cost. When hospitals make claims that green does not cost more, generally, these claims are based on strategies that simply cost less, and would therefore be pursued regardless of green goals, and/or strategies implemented because of a one-time opportunity to buy-down the cost through some kind of incentive programme. Engineers who design health-care facilities are often cast as being “nay-sayers”; we can't find ways to do better systems because we are too constrained. Behind the voluminous green smoke that surrounds healthcare building, there is some real green fire.

The whole world seems to be exploding in green fireworks these days, and prominent among them is the world of new healthcare buildings. As an increasingly curmudgeonly old engineer, my impression is that these new hospital designs are often much more green smoke than green fire. Nonetheless, that people care, and are trying to do better is important, and it is true that the state of the art and the standard of care continues to advance in a positive way. In the end, we will all need to continue to push the envelope and to do better, especially in the re-use of our existing building stock.

Every project we do starts with lofty, but vague, green goals. Probably the most important thing a project could do with respect to its green goals, and what few projects have ever done well, is to better define its green goals, and to quantify them, and to rank them against other goals and constraints, and to do so early. That is, if it costs more in first cost to do something green, will it be a feasible solution? If it will require more maintenance, will it be a feasible solution? If it requires time to research, will it be a feasible solution? If it causes the experience of the user to change, will it be a feasible solution? Usually, too, these ideas are not considered until the project is already chasing points in the ever-present LEED checklist. All too often, creative ideas run into roadblocks such as these, and, supported only on a foundation of sand, die a miserable death, leaving the project relatively unchanged from what have been designed if the project were NOT green. To truly achieve something remarkable, something that is more than a lot of green smoke, the project conception (I’m not talking integrated design, I am talking integrated conception) should include a clear articulation of the goals for environmental impact, and the relative value of these goals as compared to other project goals. On this foundation of stone, initial solutions that meet the project criteria can arise, and a successful project built.

The big four barriers are codes, fear, cost, and resistance to change. While each of these is potent by itself, fear is the most deadly. Many a good idea has gone down before the bulldozer of fear. Fear raises barriers to good ideas that cannot usually be overcome in the context of the schedule and resources of a particular project, but are only susceptible to the most rigorous research regimens. This kind of research is never within the grasp of a particular project, but must be performed either by an organization dedicated to making change happen, or by a group of organizations who pool their resources, or by a foundation or government who funds the necessary research for the good of the community.

The point of all this is, it is not easy to make significant progress in improving the engineering performance of healthcare buildings. Many people talk about how good they do, but often, these accomplishments, while real, are not repeatable; they depend on getting grants or incentive money to do something special, or they depend on having a utility build a cogeneration plant for you, or they depend on having a bad performance baseline against which to assess your performance. Real, repeatable, significant improvements in engineering system performance are hard to come by, especially given the capital constraints under which most hospitals operate.

Despite these difficulties, however, there are efforts underway in various organizations to move the science forward, and to allow the adoption of new engineering solutions to the tough healthcare tradeoffs of patient safety and comfort, first cost challenges, maintenance requirements, and ever more sustainable approaches. Some of the new ideas are:

Lawrence Berkeley National Labs (LBNL) is involved with a number of health-care energy-related research projects, following on similar work they have done for data centres and laboratories. In particular, they are completing a project now proposing a new benchmarking standard for health-care
energy consumption. The goal of the standard will be to provide better benchmarking ability to health-care facilities to allow facility operators to better target their energy reduction efforts. In addition, the enhanced metering will facility operators to better understand and control the energy consumption of their facility. On the heels of this work, LBNL is now starting a project to develop a commercially-friendly specification for such an energy metering system, as well as guidance for design of the various energy distribution systems to facilitate better monitoring and control.

Several studies are either recently completed or underway concerning the energy consumption of Medical Equipment. The California Energy Commission recently completed such a study that concluded that simple changes to the power supplies of many pieces of medical equipment could provide relatively easy energy reduction. ASHRAE is currently completing a study whose purpose was to propose a metering and reporting system whereby manufacturers of large, diagnostic imaging equipment could provide better data for the heat rejection of their equipment (and, therefore, of the cooling required for that equipment).

Again, LBNL, with funding from the California Energy Commission, is beginning work on much more detailed look at the energy consumption of medical equipment. This study aims to:

- Provide data to Environmental Protection Agency for consideration in whether to create an Energy Star programme for medical equipment.
- Provide data necessary to develop better demand factors for sizing components of energy distribution system (especially electrical distribution systems), allowing for downsized systems.
- Provide better understanding of the actual energy consumed by medical equipment both at the individual equipment level, the department level, and the overall building level.

This study will do the following:

- Using a database of recently designed hospitals, create an inventory of the frequency of various pieces of medical equipment in a hospital.
- Gather manufacturer's data on the energy consumption of the various pieces of medical equipment, and use it to populate a database which will allow users to use energy consumption as one element of their selection between various competing pieces of equipment.
- Using the above information, extrapolate the energy consumption per square foot of each kind of equipment in a typical hospital. From that data, extrapolate the total annual energy consumption of each kind of equipment for the entire country.
- Perform sufficient empirical measurements of actual, installed, working pieces of each kind of equipment to be able to compare the actuals vs. the manufacturer's data; to provide a more realistic view of total annual national energy consumption for each piece of equipment; to serve as inputs to various energy modeling softwares.
- Use the data from the above to develop better demand factors for electrical distribution systems.
- Hopefully, by drawing attention to the issue, begin to see suppliers of medical equipment start to improve the performance of their products.

A collaboration of various professional services firms calling themselves the “Healthcare Ventilation Research Committee” is working on a scientific study of the use of Displacement ventilation solutions in healthcare settings. Initial work from this group seems to indicate that displacement can be used in various kinds of rooms and provide equivalent or better air quality performance and particle control at lower air changes than currently required by code. On paper, this solution can reduce first cost and ongoing energy consumption (and cost). There is a working example of this system installed in a Kaiser Permanente hospital. This system has been operational for almost one year, and has experienced no problems. The current phase of research is focusing on changes to air flows (people walking, nurses flapping sheets) and how much those changes might disrupt the “good” performance of the system, as well as defining the necessary parameters for implementing a successful system (window treatments, ceiling heights, locations of diffusers, etc.). The final results of this work should be available at the end of 2009.

Over time, the trend in design of HVAC (heating, ventilation, and air conditioning) systems for healthcare facilities has been to use Constant Volume systems with terminal reheat, in order to obtain, with certainty, the required pressurization and environmental performance requirements of the various codes. However, a number of healthcare facilities are moving towards Variable Air Volume Systems. Such systems generally require a steep first cost addition, but offer a much improved energy consumption performance. El Camino Hospital in Mountain View, California was recently completed project with this feature. El Camino enhanced their system by linking it to their Building Automation System and their Electronic Health Records System so that the patient room systems turn down when patients are discharged, and turn back to code required levels when patients are admitted. These systems have already saved a tremendous amount of energy for the facility.

As a result of California’s Global Warming Solutions Act of 2006 and its imminent adoption of a cap and trade system of its own, several California hospitals and healthcare systems have begun to undertake greenhouse gas inventories. These inventories have allowed them to start to see how their energy reduction projects operate in a larger context, and serve as a baseline for planning improved performance. They have allowed them to look at their performance on average (for systems such as St Joseph’s Health System) versus individual facilities. They have allowed them to look at their performance versus other healthcare systems in the same state, in a much more holistic way than that allowed by other available measures. It has started them thinking about how to start to shift towards a more sustainable future.

These measurements have revealed the previously concealed greenhouse gas impact of the waste anesthetic gasses emitted by hospitals. These gasses are IPCC recognized Greenhouse Gasses, but are not covered by Kyoto, and are exempted from virtually every regulatory scheme so far proposed. According to the Kaiser Permanente study, these gasses can contribute as much as 10% of the global warming impact of a hospital, even though they constitute a tiny fraction.
Obviously, in an increasingly “wireless” environment, there are likely to be concerns that deployment of such things as wireless light switches and wireless controls might create opportunities for interference with clinically critical data flow of the energy consumed. This awareness has created a strong interest in very many healthcare organizations to find ways to eliminate these emissions. Two emerging technologies offer different ways to accomplish this task. Both have been piloted in very small ways, and both are poised to provide further greening opportunities for health-care facilities.

+ Kaiser Permanente is interested in deploying wireless light switches and controls at several of its medical centers. Obviously, in an increasingly “wireless” environment, there are likely to be concerns that deployment of such things as wireless light switches and wireless controls might create opportunities for interference with clinically critical data flow. Accordingly, Kaiser’s IT department is in the process of validating the safety of such devices, prior to deploying them in a pilot project. These devices offer the ability to perform much less costly installations, with much fewer materials (wire, conduit, and boxes). They will make renovations much easier to perform, and consume far fewer resources to perform, as they eliminate the need for expensive cutting and patching of walls to get the switches in.

+ Indeed, lighting technologies appear to be about to take a great leap forward with the first spring shoots of commercial LED (Light emitting diode) technology. Already, many facilities including the Mountain View Regional Hospital in Casper, WY have deployed LED fixtures for surgical lights. These fixtures emit less heat and consume less energy, while providing superior light to conventional fixtures. And the lamps last much longer, providing a far superior environmental performance.

+ In addition to the technological developments, more and more tools are emerging to help designers implement higher performing buildings. In particular, the Department of Energy is funding the development of an Advanced Energy Design Guide (AEDG) for small hospitals, now being prepared by ASHRAE (American Society for Heating, Refrigeration, and Air conditioning Engineers). This document, one of a series of AEDGs and scheduled for completion in the fall of this year, will provide a prescriptive path to allow smaller hospitals to achieve a 30% energy consumption reduction as compared to an ASHRAE 90.1-1994 baseline. The intent of this document is to provide an automatic way to receive a certain number of LEED points without other documentation and verification. (Other partners include ASHE (American Society for Healthcare Engineering) and IESNA (Illuminating Engineering Society of North America). In addition to the imminent AEDG for small hospitals and healthcare facilities, DOE is working now to envision the creation of an Advanced Energy Design Guide for Large Healthcare Facilities. This document is likely to be very different from the AEDG for small hospitals, in that it will be much more difficult to provide prescriptive requirements for larger hospitals which are subject to many more variables. Instead, it will likely be a manual of best practices targeted at producing significant energy reductions for these buildings.

+ The AEDG will become more relevant with the Fall, 2009 release of LEED for Healthcare. This document largely built on the foundation of the Green Guide for Healthcare (GGHC), will finally provide a healthcare targeted certification tool. A number of health-care buildings, including hospitals, have already been able to successfully apply the LEED framework and to achieve often quite remarkable levels of achievement. However, the LEED for HC will provide better tailored opportunities and should incent even higher performing health care buildings.

+ Since LEED was based on the GGHC, the people responsible for that green health care building rating system needed to ask themselves what relevance the GGHC would have in a world with LEED for health-care. They answered that question by producing, first, an Operations Section for healthcare facilities. This document, the GGHC Operations Section, has already had large numbers of hospitals implement them in order to help them operate their buildings at the highest possible level, regardless of their initial design parameters.

The second effort of the GGHC will be to create a new version of the system. This tool, currently being called V3.0, intends to be something more than a point-based system. Instead, it will be a system that works as a continuous improvement tool, connecting design and construction and operation, and doing so at various scales. Like the current version of the GGHC, it will be voluntary and self-certifying and free. This effort will also attempt to build on lessons learned from international projects, and, to the extent possible, to be internationally relevant.

Finally, the GGHC is considering implementing one or more international versions of its current point-based system so as to create movement towards higher performance in healthcare buildings around the world.

In the May/June 2009 issue of Healthcare Executive, Hospital CEOs were surveyed as to the kinds of green building measure

Finally, the GGHC is considering implementing one or more international versions of its current point-based system so as to create movement towards higher performance in healthcare buildings around the world.
they had chosen to pursue and the reasons why they don’t choose to pursue such measures. In general, very few hospitals choose to pursue Energy Star, or LEED, or any other systematic, outside certification of their performance. Instead, they have opted for low-cost things they could do, and have overwhelmingly reported that they would like to pursue greener facilities, but that they don’t have the capital to invest in doing it.

Indeed, when health-care facilities actually do pursue green initiatives, it is often because there is some incentive available to them that buys down the cost. One of the more interesting of such alternatives is the so-called Power Purchase Agreement, or PPA. This vehicle is commonly used by many organizations both inside and outside of health-care, to finance the purchase of renewable energy generation. In this model, the energy consumer (here, the hospital) agrees to allow a third party to install a renewable energy source onto its property, and to connect it to supply only the hospital. The hospital then agrees to purchase the energy from this source for a long period of time; long enough to allow the third party to recover the cost of his investment. The investor will typically take any available incentives that buy down the initial cost of the system, and often, in the case of renewables, tax credits. Even with such incentives, the cost of the renewable energy produced may exceed the cost already being paid by the hospital, but it allows the hospital to lock in the energy cost for a long time, instead of being victim to fluctuations in the marketplace (we know for sure that when the economy picks back up, and China’s demand grows, and carbon legislation comes into effect, energy prices will go up). It also allows the hospital to showcase its community its commitment to a healthier world, and all without paying for low-cost things they could do, and have overwhelmingly reported that they would like to pursue greener facilities, but that they don’t have the capital to invest in doing it.

Indeed, when health-care facilities actually do pursue green initiatives, it is often because there is some incentive available to them that buys down the cost. One of the more interesting of such alternatives is the so-called Power Purchase Agreement, or PPA. This vehicle is commonly used by many organizations both inside and outside of health-care, to finance the purchase of renewable energy generation. In this model, the energy consumer (here, the hospital) agrees to allow a third party to install a renewable energy source onto its property, and to connect it to supply only the hospital. The hospital then agrees to purchase the energy from this source for a long period of time; long enough to allow the third party to recover the cost of his investment. The investor will typically take any available incentives that buy down the initial cost of the system, and often, in the case of renewables, tax credits. Even with such incentives, the cost of the renewable energy produced may exceed the cost already being paid by the hospital, but it allows the hospital to lock in the energy cost for a long time, instead of being victim to fluctuations in the marketplace (we know for sure that when the economy picks back up, and China’s demand grows, and carbon legislation comes into effect, energy prices will go up). It also allows the hospital to showcase its community its commitment to a healthier world, and all without investing of one cent of capital.

The CEO survey, and the interest of hospitals in alternative financing vehicles is consistent, in some ways, with one of the recommendations made by Dr Bjorn Lomborg. Dr Lomborg, author of The Skeptical Environmentalist, is generally seen, by environmentalists, as being anathema. One of his points, though, is hard to anyone to disagree with. Dr Lomborg looks at the complexity of dealing with such regimes as Cap and Trade, or other regulatory schemes. He argues that, instead of investing in lots of complicated rule-making and market-based systems, society would be much better off making massive investment into developing new technologies that would allow the improved results we want in a way that is cost effective, and which, therefore, will be adopted as a matter of course rather than as a matter of force. Experience to date validates that indeed, when greener measures are first cost competitive, health-care executives adopt them, and of course, why wouldn’t they?

There does appear to be a rising awareness amongst the health-care community that health care must be part of the solution. This awareness appears to be higher in some parts of the country than in others. Rationale for it varies, too. Many practitioners see it as more of a responsibility for protecting health. Many executives see it as an opportunity to engage staff, to display good citizenship, and, in some cases such as saving energy, to save small amounts of operational cost.

At the end of the day, we all want a better world. Engineers who design health-care facilities are often cast as being nay-sayers; people who say no, we can’t find ways to do better engineered systems, because we are too constrained by first cost, regulations, and infection controls. What is needed are relentless efforts to do better, and to do the research to find better ways to do these buildings. We may not be able to make the ten-fold increase in research spending that Dr Lomborg suggests, but, as described above, many people around the country are working very hard, to make these advances nonetheless.

Walter Vernon, PE, LEED® AP is an electrical engineer licensed to practice in 42 states. He has 25 years of experience in the design and construction of healthcare facilities across the country. He chairs the Electrical Technical Committee for NFPA 99 and co-chaired the ANSI/IEEE White Book, the national standard for the design of electrical systems in healthcare buildings. Walt is an electrical engineer on the AIA Guidelines Revision committee, and serves as the electrical engineer for the California Hospital Safety Board (HBSB). He has provided leadership for sustainable healthcare facilities at both the state and national levels serving as one of three Co-Coordinators for the Green Guide for Healthcare (GGHC). Walt is now helping to lead the effort to move the GGHC in a new direction in a world that contains a LEED for Healthcare. He is also on a California HBSB committee established to create the country’s first Green Hospital Building Code. He serves on the committed to develop the ASHRAE Advanced Energy Design Guide for Small Hospitals, and he on the ASHRAE 189.2 committee, which is working to develop a model Green Hospitals Code. Walt holds a BE and BS in Electrical Engineering and Mathematics/Philosophy, respectively, from Vanderbilt University, an MBA from the University of California, Berkeley, and a JD from the University of San Francisco.

References and learning resources


Learning Resources:

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Lawrence Berkeley National Labs (LBNL) www.lbl.gov
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Electronic health records

JOHN M BUELL
WRITER, AMERICAN COLLEGE OF HEALTHCARE EXECUTIVES (ACHE)

ABSTRACT: Health systems are demonstrating that electronic health records (EHRs) offer significant benefits, as evidenced by impressive outcomes from organizations successfully using the technology. Some of those leading these organizations outline their experiences and make recommendations for implementing this new technology.

While only 1.5% of nonfederal hospitals in the United States have a comprehensive electronic record system, according to a study that appeared in the 16 April, 2009, issue of the New England Journal of Medicine, interest in EHRs is gaining. Healthcare Information and Management Systems Society (HIMSS) reports 0.3% of hospitals in 2008, compared to none in 2005, reached Stage 7, the final stage on HIMSS’ EMR Adoption Model. (Medical record is fully electronic and health systems contribute to EHR as a by-product of electronic medical record (EMR).)

Some health-care executives say an EHR is part of their strategic plan. For others it's the right thing to do to improve patient safety. One factor that may push health-care organizations to install more information technology (IT) is the US$19 billion programme in the American Recovery and Reinvestment Act to promote the adoption and use of EHRs. Incentives will be offered for meaningful use by 2011. Penalties for non-adoption are slated for 2015.

Many organizations understand the benefits of an EHR and are using some form of electronic record keeping. Making the leap to implement an EHR requires first spending tens of millions of dollars. But just as important is answering this question: once we find a way to pay for it, how do we ensure success in implementation?

The answer, according to organizations that have successfully implemented an EHR, is a great deal of planning that includes significant input from users of the system: clinicians.

Planning

When planning to launch an EHR across an integrated health-care system, most organizations have the same goal: a unified patient record across all components (hospitals, medical groups and ambulatory settings) within the system. This, say experts, will lead to improved patient care.

To achieve this goal requires months of planning, which involves selecting an EHR vendor, redesigning workflows, training staff, identifying risks and addressing them.

In some instances, health systems spend years thinking about and planning an EHR, as was the case with NorthShore University HealthSystem, Evanston, Ill., one of the first health-care organizations in the nation to implement an EHR.

NorthShore has used health-care IT in one form or another for decades, but in 2000 senior leaders were moved to use even more when they read the Institute of Medicine’s (IOM’s) landmark report, To Err Is Human: Building a Safer Health System. The report concluded that errors are commonly caused by “faulty systems, processes and conditions that lead people to make mistakes or fail to prevent them...Thus, mistakes can best be prevented by designing the health system at all levels to make it safer—to make it harder for people to do something wrong and easier for them to do it right.”

NorthShore’s leaders, led by CEO Mark R Neaman, FACHE, made the decision in 2001 to pursue a fully automated system that connected physicians’ offices—and the more than 1,200 physicians—associated with the organization’s then three hospitals (see C-level involvement sidebar). When the EHR was implemented in 2003, NorthShore’s operations were totally paperless.

In 2004, NorthShore, then called Evanston Northwestern Healthcare, won the Davies Organizational Award. Given by HIMSS, the Davies Award recognizes excellence in the implementation of and value from healthcare information technology, specifically EHRs.

“Our organization took a big step,” says Tom Smith, FACHE, NorthShore’s CIO. “The IOM studies didn’t say computers would solve everything, but we knew that errors caused by not being able to read a physician’s handwriting, not knowing all the patient’s medications or not having complete access to all the patient data would not happen in an automated system.”

Selecting the system

A first step in planning for an EHR is choosing a technology provider. The selection process shouldn’t be difficult, say experts, as most organizations that implement an EHR already use a
variety of IT and are familiar with the key players in the market.

An important aspect in the selection process is for staff members who will use the technology to evaluate it because they also will reengineer workflows supported by the EHR. Staff involvement gives them a sense of ownership in the project and the understanding that it’s not just another IT-driven initiative but a strategic one.

“We involved hundreds of physicians and 1,000 staff members, weighing one product over another,” says Elizabeth J Lindsay-Wood, vice president, Information Technologies, Sentara Healthcare, Norfolk, Va., and project director, eCare Health Network. “When we started preparing for implementation of the EHR at our first hospital, the project team within the IT department was sort of driving the implementation efforts at the site. But we changed the structure so that the people using the system were the owners. They had to decide on the devices they were going to use and make decisions on training, support structure and policies and procedures. They also ran their preimplementation meetings and were responsible for reporting readiness status to the senior executives twice a month.”

In addition, process of elimination is often used to determine if the EHR will fit an organization’s needs. Sentara staff used key criteria to whittle its choices down to two.

“We looked at several vendors and realized there were only a couple that were strong in both the physician practice setting and hospital setting and that also could offer a suite of products beyond our initial goal of a unified record,” says Lindsay-Wood.

A key selling point for NorthShore was for the EHR to interface with the organization’s other IT systems. This would give physicians a single access point to all patient information.

NorthShore’s EHR seamlessly connects to its picture archiving and communication system (PACS)—which stores X-ray images as digital files on a computer network—and to the system that stores X-ray reports. Using the EHR, physicians view X-rays by clicking on a hyperlink at the bottom of the X-ray report, instead of accessing PACS separately.

“All those records and images from different systems can be accessed by physicians from one location,” explains Smith. “The information can be accessed anywhere there is an Internet connection. It’s secure, and physicians can do all the same things remotely as they can do at the hospital except touch the patient. An EHR saves physicians time because they can make their hospital rounds in the morning, but they don’t have to call the nurse in the afternoon or at night to see how a particular patient is doing. They can look it up themselves on the computer and see the current patient data.”

**Redesigning workflows**

Implementing an EHR means a single point of access to patient records, which requires reengineered workflows throughout the health system to make them uniform. Bed management and claims processing workflows, for instance, should be the same at the main tertiary hospital as they are at a smaller facility.

BayCare Health System, Clearwater, Fla., which is in the process of implementing an EHR across its 10 hospitals, is standardizing clinical workflows across all facilities. More than 150 BayCare front-line staff and physicians are involved in designing future workflows. During a four-month period prior to activation, BayCare’s team maps each key current clinical process against the future state of workflow to identify differences. Once this analysis is complete, the manager of the unit signs off that she understands the upcoming changes. This demonstrates understanding and support for the new process. The department director, facility senior executive and key health systemwide governance groups also sign off, indicating they understand and support the change.

“The benefit of the process is it helps take ownership and allows them to understand and ask important questions on how everything will work,” says Cynthia K Davis, FACHE, vice president, Clinical Transformation, BayCare Health System.

BayCare completed Phase I implementation in 2008 and is preparing to launch activation of Phase II in the fall of 2009. Phase II will bring computerized physician order entry (CPOE) and physician documentation into the emergency departments (EDs), and systemwide online nursing documentation, electronic medication administration record (eMAR), device integration (ventilators and heart monitors) and orders management to all of its hospitals. Phase III will involve systemwide CPOE, physician documentation, nursing care plans and anesthesia. The journey is a US$228 million, seven-year programme initiated in December 2005.

NorthShore conducted workflow analysis for every major activity—from how nurses give medications to how receptionists take messages. Current workflows were compared against future workflows. “It’s the best way to get users involved,” says Smith.

BayCare went a step further with its planning. It also adopted a robust change-management philosophy to get all employees within the system thinking and working uniformly to make standardization across all hospitals feasible. The change-management approach allowed leadership to evaluate the organization’s readiness across different peer groups, create a sense of urgency, remove obstacles, provide support and sustain momentum. A two-person team surveyed team members and physicians, helped answer questions, addressed any issues and identified areas of resistance, says Davis.

“Helping people change is always a challenge,” she says. “Employees at one facility may not want to do things the way they are done at another facility. But our change-management philosophy – designed and approved by our senior leadership – was that decisions would be made across all of our facilities as a group.”

**Mitigating challenges/risks**

To identify challenges and risks during the planning process, many organizations follow their own risk-mitigation process and review the risks identified by the Joint Commission. A common downfall is having too few people using the system, particularly clinicians. The system’s full potential can only be achieved when all key personnel are using it. Getting the main users of an EHR – physicians and other clinicians – on board takes planning, says Davis.

“You have to think ahead and have the right incentives and training in place for clinicians, especially physicians,” she says. (See physician adoption sidebar.)

BayCare trained 10,000 clinicians in the first phase and will train another 15,000 in the second phase, in which nurses will receive three days of Web-based training and two days of day-in-the-life classroom training. They will sign in to the system as though they
C-level participation essential in EHR implementation

A common theme among organizations that have successfully implemented or are undergoing an EHR implementation is the importance of C-level involvement, particularly the CEO. For many of the hospital officials interviewed for this article, it was the CEO’s and board’s vision that made investing in an EHR possible. It was the leadership of Eastern Maine Medical Center President and CEO Deborah Carey Johnson, RN, and its board that led to the medical staff voting to make computerized physician order entry (CPOE) mandatory. “That took a lot of leadership from upper management to educate the medical staff to vote and accept the vision of an EHR and how it would improve patient safety,” says Catherine Bruno, FACHE, vice president and CIO, Eastern Maine Healthcare Systems in Brewer.

C-level involvement is a necessity because dozens of high-level decisions must be made, according to Elizabeth J Lindsay-Wood, vice president, Information Technologies, Sentara Healthcare, Norfolk, Va. Each senior executive at Sentara had goals to meet during the implementation process, and they were required to be actively involved and not just read a report in order to make a decision.

“Every Thursday morning we blocked off time on their calendars,” she says. “Any questions we had for them, or barriers we were running up against, we had them in the room to make decisions. The CEO (David L Bernd, FACHE) was always in this meeting, as was the president/COO, the CFO and the chief medical officer along with many others. This was a meeting they could not delegate to a subordinate. They had to make the decisions. We told them what the burn rate on the project was each month so they understood the cost of delaying a decision.”

At BayCare Health System, Clearwater, Fla., photos were taken of executives raising their hands as they voted on EHR-related items. The photos were included in various communication vehicles for all staff to see. “This shows leadership is in sync with the project,” says Cynthia K Davis, FACHE, vice president, Clinical Transformation.

are beginning their shift, take new admissions and perform other tasks as though they are actually using the system to care for patients.

“They get to practice like it’s a regular day,” says Davis. “It better prepares them for when the system goes live. This is the way training needs to happen.”

Another area of risk is with certain EHR functionality, mainly CPOE because many organizations don’t implement it properly, says Catherine Bruno, FACHE, vice president and CIO, Eastern Maine Healthcare Systems in Brewer.

“The risk is that moving to an automated system from a paper-based one for everything a physician orders requires a complete change in workflows for how orders are written, processed and communicated,” she says.

Eastern Maine redesigned more than 100 workflows as part of its CPOE implementation at its flagship tertiary referral hospital, Eastern Maine Medical Center, which won the 2008 Davies Organizational Award.

“Whenever you change workflow significantly, the risk is you are going to miss something when it’s time to go live with the system. And we did miss something,” says Bruno.

Bruno cites an instance where a physician group didn’t have time to help design the CPOE workflows for its unit and left it up to the nurses. When the system went live, these physicians said it wasn’t workable for them. “We ended up having to undergo a six-month rapid redesign,” she says.

To increase the likelihood of a successful implementation it is helpful to conduct research such as visiting other facilities to learn what went right for them and what went wrong.

“There are plenty of horror stories out there,” says Sentara’s Lindsay-Wood. “We saw what other organizations had done and learned from them.”

For Sentara officials, one takeaway from site visits was the idea of using an integrated team approach to build its EHR system between the physician offices and the hospitals. Most hospitals use one team to build the IT environment for physician practices and another team to build the inpatient IT setting. An integrated team approach resulted in fewer workflow modifications after the system went live, says Lindsay-Wood.

“We wanted to be sure that the way physicians used the EHR was similar in the inpatient and practice setting,” she says. “Physicians want the manner in which they enter an order to be the same at their office and at the hospital. This benefits not just the doctors but other care providers and helps with clinical reporting on the back-end.”

When staff members are fully trained and have designed their workflows, more attention is still required when providers first use the system. “The major way we reduced risk during the go-live stage was to have constant at-the-elbow support,” explains Eastern Maine’s Bruno. “We provided a significant volume of technical support for the first month. We planned for two weeks of at-the-elbow support but instead made support staff available 24/7 for one month.”

Going live with the system

There are many ways to go live with an EHR. Some do it as quickly as they can – sort of a big-bang approach, where all hospitals and physician offices go live at the same time. Another approach is to use one hospital and a few physician offices as pilot projects and then slowly bring all other facilities online. A third approach is a combination of both: going live slowly at one hospital and then quickly with the rest. The method to use depends on the needs and capabilities of your organization.

“We tried hard to do it quickly,” says NorthShore’s Smith. “We didn’t want people working out of two different systems – paper and electronic. We wanted users focused on using the system right away so we could begin seeing the benefits sooner.”

NorthShore was successful in implementing in the time frame it wanted and getting as many users on the system as possible. One of the benefits patients were able to experience was same-day
office visits. “They may not be able to see their regular doctor, but if they want to get in to see a doctor today, one of the doctors in the medical group will see them and have access to all of their records,” says Smith.

Sentara approached going live similarly to NorthShore. It built the system once and rolled it out to multiple hospitals quickly, achieving its stretch goal to accelerate the implementation schedule from a hospital every six months to bringing seven hospitals live within a year and a half. It now has four of its seven hospitals using the EHR with 90% physician adoption and no paper medical record. It also brings a practice live every seven days with 300 physicians planned to be up on the system by the end of the year.

“We are ahead of schedule in achieving benefits and are under budget,” says Lindsay-Wood.

BayCare has seen medication cycle times – the time it takes for an order to be filled and administered to the patient – reduced to 11 minutes in one department from 74 minutes. In addition, Eastern Maine decreased the average time for pharmacist review by 52% to 24.3 minutes from 50.8 minutes. At Sentara’s three hospitals in the first quarter of 2009, more than 20,000 potential medication errors were avoided when nurses canceled medication administrations due to bar-coding alerts. In addition, inpatient lab tests have been reduced by 5% due to elimination of duplicate orders, and the time to assign a bed has decreased by 90 minutes. Its health plan achieved US$2.8 million in benefits the past 12 months due to reduction in severity adjusted length of stay for members admitted to the hospital.

Implementing an EHR across an integrated health system is a big step that carries with it a high level of expectation for improvement in many areas, from patient safety to streamlined operations. It is important that everyone involved understands the importance of the project and the results expected.

Acknowledgment
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Note
For purposes of this article, Healthcare Information and Management Systems Society’s (HIMSS’) definition of an electronic medical record (EMR) and an electronic health record (EHR) is used. An EMR is the legal record created in hospitals and ambulatory environments that is the source of data for the EHR system. Hospitals should have effectively implemented EMRs before attempting an EHR. The EHR represents the ability to easily share medical information among stakeholders and to have a patient’s information follow him or her through the various modalities of care engaged by that individual.

Making the EHR Case to physicians
Everyone interviewed for this article agreed that getting physicians to use an EHR is a key aspect of how successful the system will be. “If you can demonstrate that an EHR improves patient care, physicians will use it,” says Arnold Wagner, MD, medical director, Informatics, NorthShore University HealthSystem, Evanston, Ill.

“If an EHR is cast as a tool to meet regulatory requirements, physicians won’t be interested,” he says.

In 2004, NorthShore became one of the first organizations in the nation to implement an EHR across an integrated health system – both hospitals and physician offices. It began serious efforts to implement an EHR three years earlier, and it was at this time that Wagner served as president of the health system’s medical staff. He had already experienced some of the benefits that IT can bring to the delivery of patient care. He wrote a primitive computer program in the early 1980s to automate a quality – reporting process, and in the early 1990s he helped test an EMR that was ahead of its time but proved economically unviable. Wagner was anxious to serve as the clinician champion to promote the advantages of an EHR to the rest of the medical staff.

Getting physicians at NorthShore to agree to use an EHR wasn’t difficult, says Wagner, though the medical staff, which consists of more than 1,200 physicians, has a provision in its bylaws that requires all physicians to use the EHR in the hospitals.

Wagner says an important step in ensuring physician adoption is involving them early in the planning process. They are the ones who will use the EHR, and it makes sense for physicians to have a major say in the system’s functionality.

Elizabeth J Lindsay-Wood, vice president, Information Technologies, and Sentara Healthcare, Norfolk, Va., project director, eCare Health Network, agrees. She reports that physician adoption rates are close to 90% at the health system, achieving at least 80% adoption at the sites by the second day.

“Much of our success was because we had the physicians’ support for this effort,” she says. “Involving physicians in the selection, key implementation decisions and the system design on the front end made a difference in getting their endorsement. We put a good structure in place to ensure their involvement all the way through the project.”

With physicians on board, the next step is to train them on how to use the system. Every physician associated with NorthShore was required to complete 16 hours of in-class training to be eligible to take the EHR competency exam. Physicians needed a score of 85% or better on the exam to receive a password and access to the system. Department chairman were the first physicians to undergo training at NorthShore. “They completed it and did so successfully,” says Tom Smith, FACHE, NorthShore’s CIO. “It was pretty hard for anybody on the medical staff after that to say they didn’t have the time or couldn’t pass the test.”

Using an EHR requires a fundamental change in how physicians practice medicine, says Wagner, because it means electronically documenting every interaction with the patient. “The reality is it is more work. The new mantra is to assemble a cloud of information that follows the patient wherever he goes. I didn’t do this kind of work before, but it allows me to better do the job I signed up for as a physician.”

Another important change to the way physicians work as a result of an EHR is that the patient’s medical record is no longer driven by the physician’s needs. The patient – and how the physician uses the EHR to maximize benefit to the patient – is the focus.

“Today, the EHR is my way of life – it’s in my office, the hospital, everywhere I go,” says Wagner. “And now I can practice medicine with complete information about the patient all the time.”
Medication events: the experience of the Taiwan patient-safety reporting system (TPR)

LI-JUNG HUANG
CONSULTANT, FAR EASTERN MEMORIAL HOSPITAL, TAIWAN

CATHY WUNG
CEO, TAIWAN JOINT COMMISSION ON HOSPITAL ACCREDITATION

CHUNG-LIANG SHIH
DIRECTOR-GENERAL, BUREAU OF MEDICAL AFFAIRS, DEPARTMENT OF HEALTH, THE EXECUTIVE YUAN

ABSTRACT: Since the IOM's report “To err is human” in 1999, patient safety has become an important issue internationally. Many countries have established reporting systems for patient safety. Department of Health, Executive Yuan, ROC (Taiwan) introduced a nationwide reporting system, “Taiwan Patient-safety Reporting system (TPR)” in December 2003. This study analyzes the 4-year data (2005–2008) of medication events from TPR.

Since the report “To err is human: building a safer system” by the Institute of Medicine (USA) in 1999, encouraging voluntary external reporting system, many countries in the world have established reporting systems for patient safety and quality in health care. It was regarded as one of the fundamental and important measures to improve patient safety. Department of Health, Executive Yuan, ROC (Taiwan) introduced the Taiwan Patient-safety Reporting system (TPR) in December 2003. Clinically, TPR stands for body temperature, pulse and respiration, which are the key vital signs. Therefore, TPR represents the indispensability of the reporting system for patient safety. TPR follows five principles: anonymous, voluntary, non-punitive, confidential and mutual learning, and encourages health-care organizations (HCO) and health-care workers (HCW) to provide truthful information on abnormal medical events.

Figure 1: Number of events per year and percentage of medication events in 2005-2008

Table 1: Analysis of patients involved in events by service category in 2005–2008

<table>
<thead>
<tr>
<th></th>
<th>Inpatient</th>
<th>Outpatient</th>
<th>ED</th>
<th>Nursing home</th>
<th>Unknown</th>
<th>Non-fill</th>
<th>Total</th>
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<tbody>
<tr>
<td>Total events</td>
<td>35,638</td>
<td>4,400</td>
<td>2,869</td>
<td>790</td>
<td>190</td>
<td>4,584</td>
<td>48,494</td>
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<tr>
<td>Percentage (%)</td>
<td>(73.5)*</td>
<td>(9.1)</td>
<td>(5.9)</td>
<td>(1.6)</td>
<td>(0.4)</td>
<td>(9.5)</td>
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<tr>
<td>Medication events</td>
<td>7,494</td>
<td>2,853</td>
<td>994</td>
<td>40</td>
<td>39</td>
<td>2,114</td>
<td>13,534</td>
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<tr>
<td>Percentage (%)</td>
<td>(55.4)*</td>
<td>(21.1)</td>
<td>(7.3)</td>
<td>(0.3)</td>
<td>(0.3)</td>
<td>(15.6)</td>
<td></td>
</tr>
<tr>
<td>Medication events (%)</td>
<td>21.0%</td>
<td>64.8%</td>
<td>34.7%</td>
<td>5.06%</td>
<td>20.5%</td>
<td>46.1%</td>
<td>27.9%</td>
</tr>
</tbody>
</table>
This report mainly analyzes the medication events received by TPR from 2005 to 2008 for learning.

**Analysis of medication events**

According to the TPR data analysis, the increase of medication events is the most significant among all reporting events. In 2008, the number of medication events ranked the first, amounting to 7,954 (31.46%), increased by almost 2.6 times from 3,054 in 2007. (Figure 1).

Medication events account for 27.9% of all events. Analysis of all medication events showed that, patients involved in such events by service category are inpatient 55.4%, outpatient 21.1%, emergency department (ED) 7.3%. (Table 1).

For medication events, reporters are mainly personnel in charge of giving medicine. In outpatient services and ED, reporters are usually pharmacists in outpatient 77.2% and ED 54.7%, while nursing personnel in inpatient services 54.7%.

The age of patients affected by medication events indicated relatively high percentage in patients under 18 years old. For patients aged 4-12, medication events account for more than 60% of all the events. Hence, medication safety for children should be of main concern (Figure 2).

By analyzing the medical service category and degrees of harm for patients affected by medication events, most medication events are near-misses, accounting for 64.1% of the total. In outpatient, near-misses events account for 81.7%, and in ED 64.3% (Table 2).

Most events which have occurred, 23.2% of such events did no harm and only 8.5% caused harm. Among all events that harmed the patients, those events of low and moderate harm account for 3.9% and 3.7% respectively.

As suggested by the data, the percentage of near-misses of medication events has been increasing by year. It accounts for 69.1% (Figure 3) of medication events in 2008, indicating the rising concern of patient safety by HCOs and more attention to near-misses after the promotion of the reporting system and mutual learning.

Most medication events occur at the prescribing stage, accounting for the highest percentage (Table 3). As far as outpatients are concerned, prescribing errors account for 61.6%, order entry errors account for 24.1%, pharmacy dispensing errors...
Management: patient safety reporting

Errors account for 15.2% and medication administration errors account for 10.8%. Analysis on the relationship between harm to patients and the error occurrence stage suggested that events harming patients mostly occur at the medication administration stage, which has been the final stage of the process and the probability to prevent the error is lower. Therefore, probability of harming patients is higher at this stage. As a result, HCOs should pay more attention to the impact of medication errors (Figure 4).

As for errors of the administration stage, 25.0% of events involve wrong drug, improper dose/quantity 23.5%, omission error 12.6%, patient identification errors 10.9%, and medications not given on time 10.7% (Figure 5).

The analysis of data involving children under 18 showed that most the events are near-misses with errors taking place mainly at the stage of prescribing. Most of the errors at this stage involve medication dosage (Figure 6).

Overall, over 75% of medication events are regarded as related to “personal factors” as one of the main causes of errors. Although the reporting institutions regard personal factors as the main cause of events, such events may be prevented by improving system or process (system aspect) (Figure 7).

The occurrence of medication events may have multiple causes. Those caused by personal factors account for 80.2% of all the reported events, followed by systematic “working conditions/process design” factors 31.7% with “nonconforming to standard operational process” (SOP) and “without double checking” as main factors. TPR reports list “nonconforming to SOP” and “without double checking” as “staff negligence”, expecting mainly to highlight problems of the implementation aspects. Overall, over 75% of medication events are regarded as related to “personal factors” as one of the main causes of errors. Although the reporting institutions regard personal factors as the main cause of events, such events may be prevented by improving system or process (system aspect) (Figure 7). It is suggested to strengthen the training of HCWs, implement the SOP while establish measures to lower patient identification errors. Moreover, attention should be paid to problems such as the complexity of operational process, staff overload and the failure of effective implementation of automation system.
Learning objectives
This study analyzes the medication events reported over the past four years (2005-2008) since the establishment of TPR. Supported by the Department of Health, ROC (Taiwan), the number of participating HCOs and reporting cases has been growing rapidly, making the system one of the few nationwide and continuously developing reporting systems in the world. By 2008, there have been more than 400 participating HCOs. With the increasing number of cases year by year, it indicates that positive patient safety culture has been significantly promoted. The events received by TPR may be patient safety-related events already screened by HCOs. However, as participating HCOs come from all levels of the health-care system, the cases collected may partially reflect the patient safety issues relating to Taiwan’s HCOs and medication1.

The majority of medical errors are medication errors because there are many steps in the medication process, including prescribing, order entry, medication dispensing, medication administration as well as taking the medication. Negligence may occur in any step, resulting in occurrence of errors.4 McCarter et al. proposed measures including education, systems approaches, new technology, and clinical pharmacist intervention to reduce2 medication errors. In education, the focus is not only on the continuous education of professionals about medication safety, but also the strengthening of clinical education of medication safety and adverse drug reaction. In systems approaches, it is believed that the problems should not be overly attributed to individuals when reviewing the medication events. Instead, the medical operational process should be reviewed from the perspective of systems, and various “safety projects” should be developed to improve the systems problems that may lead to errors while introducing new technology to improve operations prone to human errors. Some literature pointed out that clinical pharmacist intervention can reduce the occurrence of “preventable Adverse Drug Reaction (ADR) events” in ICU. Clinical pharmacist intervention definitely has positive effects on the improvement of medication safety. Thus, how to introduce new technology to reduce labour-intensive work to allow hospital pharmacists more time in clinical work will be a great challenge5.

Research shows that the adverse drug events in the pediatric inpatient population is about three times as high as those in adults6. Despite the different definitions of medication negligence, a study of epidemiological systematic review of medication negligence in pediatric care7 suggested, in general, the negligence types were distributed as follows: prescribing 3-37%; medication dispensing 5-58%; medication administration 72-75%; medical record 17-21%. Analysis of medication events data involving children under 18 years old in Taiwan (Figure 6), that most errors occur at the prescribing stage, and most of them are involved with dosage, indicating the issue of children medication safety is worth further discussion.

Conclusions
Based on the analysis of medication events data collected by TPR from 2005 to 2008, the majority of patient safety related events are medication events. This study finds that over 80% medication events are related to errors of individuals. Hence, effective personnel training is important. In addition, systems problems, such as complex operational process, staff overload, and inability to effectively promote automation system, should also be taken into consideration8.

Acknowledgments
The authors would like to thank Department of Health, Executive Yuan, ROC (Taiwan), for the funding to the development of TPR and support for this study.
LJ Huang served as director of the Department of Pharmacy at Far Eastern Memorial Hospital for 28 years, specializing in medical quality management, medication safety improvement, clinical pharmacy and education. She is a member of Patient Safety Task Force of Taiwan Joint Commission on Hospital Accreditation. She received BS degree in Science of Pharmacy from National Taiwan University and PhD degree in Business Administration from Pacific Western University.

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African partnerships for patient safety: a vehicle for enhancing patient safety across two continents

ABSTRACT: African Partnerships for Patient Safety (APPS) aims to develop sustainable partnerships between hospitals in Africa and Europe to create a network of beacon hospitals for patient safety. The three core APPS objectives are focused on building strong patient safety partnerships between hospitals in Africa and Europe, implementing patient safety improvements in each partnership hospital on 12 patient safety action areas, and facilitating spread of patient safety improvements. APPS is working with six first wave hospital partnerships and will capture and report learning from implementation. A range of APPS resources will shortly be available to hospitals working on patient safety systems.

Across the world, health systems and delivery of health care are becoming increasingly complex, necessitating creative and dynamic methods of approaching and solving health system problems. Patient safety, which is at the core of an effective high quality health system irrespective of location, can be defined as “the avoidance, prevention and amelioration of adverse outcomes or injuries stemming from the process of healthcare.”

No one country has all the answers to patient safety issues, making it a matter requiring global attention.

Patient safety has multiple dimensions, each with its unique attributes. Prevention of health care-associated infections (HAI) is one such dimension of patient safety, which has a clear, simple, low cost and effective intervention – hand hygiene improvement. The World Health Organization (WHO) has highlighted the critical importance of HAI prevention through the implementation of strategies to maximize hand hygiene compliance at the point of care. Tested and evaluated hand hygiene implementation methods that can be utilized in diverse resource settings are now available.

Many patient safety issues, like HAI prevention, are common across continents, making cross-continental implementation and learning a potential reality. Traditionally, this type of cross-continental learning has occurred in similar resource settings. There is however, potential to simultaneously enhance patient safety in health systems in high and low resource settings utilizing common solutions.

Patient safety momentum in Africa

Patient safety is receiving increasing attention in Africa. In 2005, the Kenya Ministry of Health launched regional efforts to tackle the issue through WHO Patient Safety. The first joint WHO AFRO and WHO Patient Safety Workshop was held in Rwanda in 2007, which developed recommendations for national policies and strategies to improve patient safety. HAI prevention was considered a priority for patient safety action.

African governmental commitment to patient safety, and in particular HAI, was prominent at the 58th Session of the WHO

<table>
<thead>
<tr>
<th>Table 1: Twelve patient safety action areas</th>
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<tr>
<td>1. Develop and implement national policy for patient safety</td>
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<td>2. Improve knowledge and learning in patient safety</td>
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<td>3. Raise awareness among patients and health-care workers</td>
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<td>4. Address the context in which health services and systems are developed</td>
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<td>5. Minimize healthcare-associated infection</td>
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<td>6. Protect health-care workers</td>
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<td>7. Ensure health-care waste management</td>
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<td>8. Ensure safe surgical care</td>
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<tr>
<td>9. Ensure appropriate use, quality and safety of medicines</td>
</tr>
<tr>
<td>10. Promote partnerships between patients, family members, health professionals and policy makers</td>
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<tr>
<td>11. Provide adequate funding</td>
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<td>12. Strengthen surveillance and capacity for research</td>
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AFRO Regional Committee for Africa held in Yaoundé, Cameroon, in September 2008. The Regional Committee considered a technical report outlining the major challenges in patient safety in Africa. This included mention of HAI prevalence studies in hospitals from some African countries, highlighting a high burden of disease. The report also proposed 12 patient safety action areas for Africa, endorsed by all 46 countries in the WHO African Region. At a special Ministerial Signing Ceremony, WHO African Member States signed a pledge outlining their intention to take action on HAI prevention.

**Twelve patient safety action areas**

The twelve patient safety action areas provide an agreed framework for working on multiple dimensions of patient safety in the continent. The spectrum of proposed actions is wide, and clearly challenging (Table 1). None of the action areas are uniquely applicable to African countries; European countries have not been able to fully solve problems in any of these areas. There is thus a clear opportunity to work across continents, and in partnership, to achieve a common vision of safe effective health care.

**Vision and objectives**

The vision of African Partnerships for Patient Safety (APPS) is deliberately ambitious, and provides a clear and concrete picture of the future.

“One or more hospitals in each of the 46 countries of WHO’s African Region, has a close and sustainable partnership with a hospital in Europe to create a network of beacon hospitals for patient safety.”

APPS has worked closely with WHO AFRO and other partners to develop this vision. It recognizes the regional momentum for patient safety endorsed by all 46 countries.

Five critical components feed into the vision. First, each APPS hospital will have a cadre of trained individuals focused on patient safety, to function as national resource for spread of patient safety systems. Second, each APPS hospital will have close linkages with government, academia, patients and communities and other institutions in relation to patient safety and act as “amplification points” for patient safety. Third, participating European APPS hospitals will actively participate in bidirectional knowledge transfer with African hospital partners. Fourth, partnership work will contribute to national and regional health priorities. Finally, multiple patient safety initiatives will be implemented within partnership hospitals, demonstrating significant improvements in health outcomes for individuals and populations in both Africa and Europe.

APPS has three core objectives: 1. To build and strengthen partnerships between hospitals in Africa and Europe, focusing on patient safety; 2. To implement patient safety improvements in each partnership hospital; and 3. To facilitate the spread of patient safety improvements across each country.

Evaluation is central to the programme, and focuses on each of these core aims. Data generated through evaluation will be used to understand the benefits of partnership working and to iteratively improve the effectiveness of implementation strategies. It will also provide the evidence necessary to engage other stakeholders during the amplification process, and to inform national and regional health policy.

**Building and strengthening hospital partnerships**

Strong and effective intercontinental partnerships between institutions is at the core of the APPS model. The meaning of partnership is thus critical to the programme - this is not straightforward. The word partnership is typically used interchangeably with collaboration, coalition and joint working, and several attributes of an effective partnership are postulated in the literature. These include interdependence, trust, mutuality, accountability and commitment. These key attributes, along with perspectives from the APPS network, are the basis upon which an APPS partnership definition has been developed.

APPS therefore defines an effective partnership as a collaborative relationship between two or more parties based on trust, equality and mutual understanding for the achievement of a jointly agreed goal. APPS acknowledges that partnerships involve risks as well as benefits, making shared accountability critical. Building on these principles, APPS utilizes a range of methods to enhance partnership strength. These include participation in joint technical workshops, facilitating joint action planning between partnership hospitals, supporting front line health care professional exchange visits to meet clear objectives and utilizing virtual methods of knowledge transfer.

APPS asserts that knowledge transfer can and should be bidirectional, basing this assertion on a steadily growing literature on how tangible lessons can be learned from developing countries. The programme intends to work with hospital partnerships and partnership focused organizations, such as THET to add to the global knowledge pool in this area.

**Hospital patient safety improvements**

The twelve patient safety action areas, emanating from Africa, are fundamental to APPS activities aimed at hospital patient safety improvements. The initial focus common to all APPS partnerships will be HAI prevention starting with improved hand hygiene as an entry point for action. Other patient safety activities will be simultaneously developed by each partnership based on the 12
patient safety priority action areas. Successful implementation will require managing change at multiple levels: individual; team; organization; health system; and national government.

APPS bases its activities on clearly understanding the unique needs of each hospital partnership. A patient safety situational analysis guide has been developed by APPS to provide a systematic approach to collecting information. The guide has been utilized by APPS hospitals (both in Africa and Europe) to provide a baseline snapshot of patient safety. Once refined (following use by first wave APPS partnerships) the guide will be made available to any hospital wishing to understand patient safety issues in their institution.

A number of other resources are being simultaneously developed by APPS. One such resource is the APPS Resource Map, which outlines relevant safety resources (e.g. guidelines/manuals, tools/toolkits, training resources, alerts, case studies, policies) available in each of the 12 patient safety action areas, providing a centralized and readily accessible source for patient safety improvement.

APPS is facilitating a structured and standardized approach across partnerships. Each of the six first wave partnerships have developed realistic action plans based on front line realities to be implemented over the next 2 years.

National patient safety spread
Spread of patient safety improvements from partnership hospitals across nations is central to APPS. Health benefits from patient safety innovations can potentially have a huge impact on population health if effective “scaling up” and “amplification” occurs to the entire health system. Patient safety interventions are relatively new to most health systems making such planning critical.

APPS intends to build on global knowledge to facilitate effective spread. As a starting point, APPS emphasizes the utility of using a systematic approach to scaling up. The programme highlights the necessity of strengthening the interface between patient safety evidence and policy through utilizing tested methods of in-country working. The community is seen as integral to developing effective national health systems. Further, APPS recognizes effective spread is dependant on effective communication at the local, national, regional and global levels. APPS is working with each partnership (as well as key partners) to facilitate such spread.

Each APPS beacon hospital will play a key role in spreading exemplar patient safety systems within a country, thus amplying the hospital specific patient safety improvements. The hospitals will work through existing (and in some cases new) networks to stimulate patient safety improvement at every level of the system.

APPS will align activities with WHO Country Cooperation Strategies (CCS) in African countries. Ministries of Health – integral to joint CCS development – are natural partners, recognizing the need to embed activities into long-term sustainable country engagement. For example, it will be essential to align APPS activities with MDG progress. Hospital patient safety improvements stimulated by APPS will need to relate to health systems development in general, in particular primary care.

Six first wave APPS hospital partnerships
The six first wave APPS hospital partnerships will support long-term programme development. These first wave hospitals are based on established partnerships. APPS will strengthen and widen the scope of the current links to patient safety. The first wave comprises partnerships between hospitals in: Kisizi (Uganda) and Chester (England); Dakar (Senegal) and Geneva (Switzerland); Lilongwe (Malawi) and Middlesbrough (England); Bamako (Mali) and Geneva (Switzerland); Gondar (Ethiopia) and Leicester (England); and Yaoundé (Cameroon) and Geneva (Switzerland) (See Figure).

Each of these hospital partnerships (as well as some other key partners) first convened in Geneva in May 2009 to lay the foundations of APPS and agree a common framework for action. Following a few months of intense activities related to completing a baseline situational analysis and drafting initial action plans, the partnerships reconvened in October 2009 in Uganda. The Partnership Implementation Workshop in Kampala, Uganda provided a platform to launch implementation activities.

Each APPS hospital is unique in a multitude of factors including size, location, management structure, and contextual needs. However, each APPS hospital has one common factor - the desire, passion and energy to improve patient safety within their institution, their nation and across continents.

Conclusion
APPS can be a substantial part of the WHO response to the global political commitment to patient safety, acting as a catalyst for health systems change. Both African and European institutions will potentially benefit from the programme. APPS provides a channel for the passion and enthusiasm of health workers who are committed to improving the safety of their institutions while acknowledging the importance of influencing all levels of the health care system.

APPS is a future-oriented programme requiring fundamental change in multiple health system processes across continents for its success. It is a collaborative, partnership-based programme focused on improving safety of health systems and health outcomes in the African region, with anticipated mutual enhancements to health systems and outcomes across Europe.

The APPS vision is ambitious and will doubtless take many years to achieve. It will be imperative for APPS to learn continuously throughout implementation and ensure this learning informs the global knowledge pool on patient safety and health system improvement. It will also be critical to widen the partnership in the coming years to develop safe effective health systems across continents.
Management: patient safety

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Résumés en Français

PERCEPTION DES CONSEQUENCES DU TOURISME MEDICAL INTERNATIONAL SUR LES POPULATIONS PAUVRES DE L’INDE (PERCEPTIONS ABOUT THE IMPACT OF GLOBAL MEDICAL TRAVEL ON POORER POPULATIONS IN INDIA)
D’après certains signes, le développement des services médicaux dans le cadre du « tourisme de santé » pour les étrangers en Inde risque d’exacerber les différents niveaux d’accès aux services médicaux entre les populations riches et pauvres de l’Inde. Toutefois, les médecins interviewés (n=177) dans trois hôpitaux de New Delhi indiquaient des attitudes positives à l’égard du tourisme médical mondial, notamment concernant ses effets sur les populations démunies. En général, ces résultats semblent causés par l’appui des répondants au développement économique, aux nouvelles technologies médicales et au développement de la formation médicale provenant des investissements en infrastructures médicales nécessaires pour attirer les patients étrangers.
Mots clef : tourisme médical, voyages internationaux pour la santé, disparités de l’accès aux services de santé, système de santé en Inde

LES TENDANCES DE L’INGÉNIEURIE HOSPITALIÈRE ÉCOLOGIQUE (TRENDS IN GREEN HOSPITAL ENGINEERING)
Lorsque les établissements hospitaliers se lancent dans des initiatives écologiques, c’est souvent parce qu’elles offrent des incitations qui en font baisser le coût. Lorsque les hôpitaux affirment qu’être vert ne coûte pas plus cher, ces affirmations sont généralement fondées sur les stratégies qui sont simplement moins coûteuses, and qui seraient donc adoptées même sans motivation écologique, et/ou des stratégies mises en œuvre parce qu’elles présentent une chance unique d’abaisser les coûts grâce à un programme d’incitation quelconque.
Les ingénieurs qui conçoivent les établissements de santé ont la réputation de dire toujours non ; nous ne pouvons pas trouver les moyens d’améliorer les systèmes parce qu’il y a trop de contraintes. Derrière le gros nuage de fumée écolo qui entoure la construction des établissements de santé, il y a bel et bien un vrai feu écolo.

DOSSIERS MEDICAUX ELECTRONIQUES (ELECTRONIC HEALTH RECORDS)
Les systèmes de santé ont démontré que les dossiers médicaux électroniques (EHRs) présentaient des avantages importants, comme le prouvent les résultats impressionnants obtenus par les organisations qui utilisent cette technologie avec succès.
Bien qu’aux États-Unis, 1,5% seulement des hôpitaux non fédéraux utilisent un système complet de fichiers électroniques, d’après une étude parue dans le numéro du 16 avril 2009 du New England Journal of Medicine, on observe un intérêt croissant pour les EHRs. Healthcare Information and Management Systems Society (HIMSS) rapporte que 0,3% des hôpitaux en 2008, contre zéro en 2005, ont atteint le stade 7, qui est le dernier stade du modèle d’adoption de HIMSS’ EMR.
L’un des facteurs qui peut pousser les organismes de santé à développer leur technologie informatique (IT) est le programme de $19 milliards de l’American Recovery and Reinvestment Act visant à promouvoir l’adoption et l’usage des EHRs. Beaucoup d’organisations comprennent les avantages d’un EHR et utilisent une forme ou une autre de tenue électronique de dossiers. Mais pour faire le saut et mettre en place un EHR, il faut d’abord dépenser des dizaines de millions de dollars. Mais il faut aussi répondre à cette question : une fois que nous aurons trouvé les moyens de financement, comment assurerons-nous le succès de la mise en œuvre ?
D’après les organisations qui ont réussi à implanter un EHR, la solution est une planification très élaborée qui inclut un grand nombre d’entrées émanant des utilisateurs du système : les cliniciens.

EFFETS ADVERSES DES MEDICAMENTS : L’EXPERIENCE DU SYSTEME DE DECLARATION DE SECURITE DES PATIENTS DE TAIWAN (TPR)
Depuis le rapport de l’IOM “L’erreur est humaine” de 1999, la sécurité des patients est devenue une importante question sur le plan international. Beaucoup de pays ont institué des systèmes de rapport de sécurité des patients. En décembre 2003, le Ministère de la santé , Executive Yuan, R. O. C. (Taiwan) a introduit un système national de déclaration, “Taiwan Patient-safety Reporting system (TPR)”. Cet article examine les données sur 4 ans (2005~2008) d’effets adverses de médicaments réunis par TPR.

PARTENARIATS AFRICAINS POUR LA SECURITE DES PATIENTS: UN VEHICULE POUR AMELIORER LA SECURITE DES PATIENTS SUR DEUX CONTINENTS (AFRICAN PARTNERSHIPS FOR PATIENT SAFETY: A VEHICLE FOR ENHANCING PATIENT SAFETY ACROSS TWO CONTINENTS)
Observaciones relativas a las consecuencias de los viajes mundiales por razones médicas en las poblaciones con escasos recursos de la India

(Perceptions about the impact of global medical travel on poorer populations in India)

Existen pruebas anecdóticas de que es posible que el foco de atención cada vez mayor sobre los servicios de salud de los extranjeros que se trasladan por razones médicas en la India agraven todavía más los distintos niveles de acceso a los servicios de salud entre los ciudadanos más acaudalados y los que tienen menos recursos. No obstante, según las encuestas realizadas a los médicos (n=177) de tres hospitales de Nueva Delhi, dieron unos resultados positivos sobre el denominado “turismo por razones médicas”, especialmente en lo que respecta a las consecuencias sobre las poblaciones de escasos recursos. Por regla general, estos hallazgos parecen ser el resultado del apoyo de los entrevistados hacia el desarrollo económico, las nuevas tecnologías médicas y la formación médica, que cada vez es mayor y se debe a las inversiones en la infraestructura de los servicios de salud, necesarias para atraer a pacientes extranjeros.

Palabras clave: turismo por razones médicas, viajes mundiales por razones médicas, disparidad en el acceso al servicio de salud, sistema de salud de la India.

Tendencias en la construcción de hospitales verdes

(Trends in green hospital engineering)

Cuando los servicios de salud ponen en práctica alguna iniciativa verde, suele deberse a algún programa de incentivos que se traduce en una reducción de costos para ellos. Cuando los hospitales declaran que las iniciativas verdes no son más costosas, dichas afirmaciones se basan en estrategias que son sencillamente más económicas y que por lo tanto se hubieran puesto en práctica con o sin un objetivo verde y/o estrategias puestas en marcha debido a una oportunidad única con miras a reducir los gastos mediante algún tipo de programa de incentivos.

A los ingenieros que diseñan instalaciones de salud se les tacha de personas negativas que se quejan de no poder diseñar un sistema mejor por verse demasiado restringidos. En definitiva, detrás de todo el humo verde que rodea a la construcción de las instalaciones sanitarias, lo único que en realidad es verde es la llama.

Registro electrónico de datos clínicos

(Electronic health records)

Los sistemas de salud están demostrando que los datos clínicos electrónicos (en inglés EHR) ofrecen unas ventajas muy considerables, según han demostrado los resultados tan interesantes que han arrojado las organizaciones que utilizan esta tecnología con éxito.

Si bien tan sólo el 1.5 por ciento de los hospitales no federales de los Estados Unidos cuentan con un sistema de datos electrónicos clínicos, según un informe publicado en el número correspondiente al 16 de abril de 2009, de la revista New England Journal of Medicine, el interés demostrado por los EHR va en aumento. La Healthcare Information and Management Systems Society (en inglés HIMSS) comunicó que en el 2008 el 0.3 por ciento de los hospitales alcanzaron el Nivel 7, es decir la fase final del Modelo adoptivo de EHR de la HIMSS, en comparación con el cero por ciento de hospitales en el 2005.

Uno de los factores que puede impulsar a las organizaciones de la salud a instalar más equipamiento de informática es el programa dotado con 19 mil millones de dólares mediante el que la Ley denominada American Recovery and Reinvestment se propone fomentar la adopción y puesta en práctica de los EHR. Muchas de las organizaciones reconocen las ventajas de los EHR y ya hacen uso de algún sistema de archivo electrónico. Para la puesta en servicio de un EHR se requiere una inversión de decenas de millones de dólares, aunque lo que todavía es más importante es la cuestión de si una vez hecha esa inversión se podrá garantizar el éxito del sistema.

Según las organizaciones que han puesto en práctica un sistema EHR con éxito, la respuesta está en una planificación minuciosa, además de un aporte muy considerable de datos por parte de los usuarios del sistema, es decir los médicos.

Acontecimientos relacionados con los medicamentos: la experiencia del sistema de presentación de informes sobre la seguridad del paciente en Taiwán (TPR)

(Medication events: experience of the Taiwan patient-safety reporting system (TPR))

Desde la publicación del informe de la IOM, titulado “De hombres es errar” en 1999, la seguridad del paciente se ha convertido en un asunto de suma importancia a nivel internacional. Así, numerosos países han puesto en marcha un sistema de presentación de informes sobre la seguridad del paciente. En diciembre de 2003, el Director General del Ministerio de Salud, el señor Yuan, R.O.C., puso en práctica un sistema nacional de notificación, titulado “Taiwan Patient-safety Reporting system (TPR). Este artículo examina los datos correspondientes a los cuatro años (2005-2008) relativos a los acontecimientos relacionados con los medicamentos de dicho TPR.

Asociaciones africanas para velar por la seguridad del paciente: la herramienta destinada a mejorar la seguridad a través de dos continentes

(African partnerships for patient safety: a vehicle for enhancing patient safety across two continents)

Las asociaciones africanas en pro de la seguridad del paciente (APPS en sus siglas en inglés) tienen por objetivo crear una sociedad sostenible entre los hospitales de África y Europa con...
el fin de establecer una red de hospitales de baliza que vele por la seguridad del paciente. Los tres objetivos básicos de APPS enfocan su atención en la creación de asociaciones sólidas para la seguridad del paciente entre hospitales de África y Europa, poniendo en práctica mejoras de seguridad del paciente en cada hospital asociado, concentrándose en 12 esferas de actividad relacionadas con la seguridad del paciente y facilitando la expansión de las mejoras en lo que respecta a dicha seguridad. APPS está colaborando con los primeros seis hospitales asociados y recopilará información y dará cuenta de los conocimientos adquiridos gracias a la puesta en práctica de este programa. Dentro de poco, APPS pondrá a disposición de los hospitales que colaboran en este sistema, destinado a velar por la seguridad del paciente, toda una serie de recursos.
## IHF Governing Council 2009-2011

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### Contact Information

- **Dr Juan Carlos Linares**: Representative of CAMARA ARGENTINA DE EMPRESAS DE SALUD (CAES)
  - **Email**: linaresjcarlos@yahoo.com.ar
  - **Website**: [linaresjcarlos@yahoo.com.ar](mailto:linaresjcarlos@yahoo.com.ar)

- **Dr Laurence Lai**: Senior Advisor of HONG KONG HOSPITAL ASSOCIATION
  - **Email**: tlolan@ache.org
  - **Website**: [tlolan@ache.org](mailto:tlolan@ache.org)

- **Prof. Shujo YAMAMOTO**: President of JAPAN HOSPITAL ASSOCIATION
  - **Email**: shujo@yamamoto.jp

- **Dr Tai-Chun Yoo**: President of KOREAN HOSPITAL ASSOCIATION
  - **Email**: intahaffairs@kha.org.kr

- **Dr Delon Wu**: President of TAIWAN HOSPITAL ASSOCIATION
  - **Email**: d.wu@taiwan.org.tw

- **Prof. Stephen Barnett**: Chief Executive of NHS CONFEDERATION
  - **Email**: steve.barnett@nhsconfed.org

- **Dr Gerhard Vincent**: President of FEDERATION HOSPITALIERE DE FRANCE
  - **Email**: g.vincent@fhf.fr

- **Prof. Gerard Vincent**: President of NIGERIAN HOSPITAL & HEALTH SERVICE ASSOCIATION
  - **Email**: g.vincent@fhf.fr

- **Mr Abul Salam Al-Madani**: President of UNITED ARAB EMIRATES HOSPITAL ADMINISTRATORS (UAEHA)
  - **Email**: index@emirates.net.ae

- **Dr Delon Wu**: President of TAIWAN HOSPITAL ASSOCIATION
  - **Email**: d.wu@taiwan.org.tw

- **Prof. Stephen Barnett**: Chief Executive of NHS CONFEDERATION
  - **Email**: steve.barnett@nhsconfed.org
Dates for your diary

2010

**MCC hospital world 2009**
Germany
info@ihf-fih.org / schilart@mcc-seminare.de

2011

29-31 March
37th IHF World Hospital Congress*
Dubai, Unites Arab Emirates
info@ihf-fih.org

IHF NATIONAL HOSPITAL ASSOCIATION MEMBERS EVENTS DIARY:

2010

Argentina
21 October – Camara Argentina de Empresas de Salud (CAES)
International Annual Congress
Health, Crisis and Reform: Equity and Social Exclusion, Hotel Sheraton Libertador, Buenos Aires – Argentina, 20 October – Latin American Hospital Federation, Experts meeting: Latin America and Ibero American Countries, Fundacion Docencia e Investigacion para la Salud, Buenos Aires – Argentina
Tel: + 54 11 4373 2375 / +54 11 4372 5915
larrocani@caes.org.ar / grondonam@caes.org.ar / linarejcarlo@yahoo.com.ar

Australia
22-24 September
Australian Healthcare and Hospitals Association 2010 Congress
Adelaide, South Australia
ahha2010@sapmea.asn.au

France
18 - 21 May
HOPITAL EXPO
“Porte de Versailles” – Paris, France
http://www.hopitalexpo.com/
United Kingdom

23-25 June - The NHS Confederation
Annual Conference
Liverpool, United Kingdom

Tel: +44(0) 20 7931 6115
Clare.ruby@nhsconfed.org

2011

Switzerland
November – H+ Les Hôpitaux de Suisse
National Association congress
Bern, Switzerland
Tel: +41 (0) 31 335 11 33
reinhard.veoegle@hplus.ch

COLLABORATIVE EVENTS:

2010

22-25 March
American College of Healthcare Executives (ACHE)
2010 Congress on Healthcare Leadership
Theme: Renew, Resolve, Reconnect
Hyatt Regency Chicago
Chicago, Illinois, USA
hhorwitz@ache.org

19-21 April
Geneva Health Forum
Globalization, Crisis, and Health Systems: Confronting Regional Perspectives
Geneva, Switzerland
info@ihf-fih.org

Colombia
20 – 24 April
2nd International Health Fair (Meditech 2010)
9th National Congress Meeting of Ibero-American Healthcare leaders Association of Colombian Hospital and Clinics in association with Fair and Exhibition Corporation (CORFERIAS)
Bogota, Colombia
www.feriameditech.com / www.ihf-fih.org

June/July
MDR-TB Training Seminar for Hospital Managers
Rio de Janeiro, Brazil
sheila@ihf-fih.org

Events marked * are interpreted into English, French and Spanish. All other events will be in English/host country language only. IHF members will automatically receive brochures and registration forms on all the above events approximately 6 months before the start date. IHF members will be entitled to a discount on IHF Congresses, pan-regional conferences and field study courses.

For further details contact the: IHF Project & Event Manager, International Hospital Federation, Immeuble JB Say, 13 Chemin du Levant, 01210 Ferney Voltaire, France; E-Mail: dwight@ihf-fih.org Or visit the IHF website: http://www.ihf-fih.org
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