A New International Opportunity: Importing Foreign Experience Back to the United States

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International health-care consulting for American firms has flourished over the past 30 years. The demand for strategic thinkers, planners, and architects to replicate U. S.-style health systems and facilities has been, in large part, a function of America's preeminent status in medical education, research, and technology.

Although the health-care consulting professions' association with U. S. medicine has been helpful in securing work, it is the strength of our progressive ideas and innovative designs that has benefited our international clientele. At the same time, many architects and planners have benefited by the insights they have gained from international experience.

A key task of any foreign assignment is the research and analysis of local health-care statistics and performance data. In our work this has led to an awareness and appreciation for the efficiency of the health-care delivery systems and medical outcomes in several foreign countries. In essence, a number of countries produce better vital statistics at one-third the cost of U. S. spending. The higher levels of performance and the magnitude of difference when compared to U. S. data are stunning.

It occurs to us that the superior performance achieved abroad may well be associated with ideas that could be introduced into the U. S. health-care system. Our purpose here is to share some of our foreign experience, compare certain foreign and U. S. health-care statistics, and set forth an approach for introducing this superior performance into the U. S. health-care system.

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Historic Perspective of International Consulting

Wright's Imperial Hotel in Tokyo (1923) was a rare instance of international work by a U.S. architect during most of the 20th century. It wasn't until the mid seventies that work in the Middle East marked the beginning of numerous overseas design commissions. Most of these opportunities went to either American or British firms.

The majority of work was large-scale commercial/institutional design and urban planning. The most common building types were mass housing, hotels, universities, sports facilities, airports, and hospitals. There were three main drivers behind these projects; a flood of oil money; a desire for western style architecture; and a lack of local technical and design capabilities.

British and U.S. firms dominated the international market. In general work could be characterized as a transplantation of U.S. or British concepts and experience. Modifications of the exported ideas were minimal such as the use of squat blocks in toilets and, according to Islamic tradition, a complete segregation of male and female designated areas.

During the eighties and nineties international opportunities expanded rapidly. This was particularly true in developing countries. Asia took the place of the Middle East as the "hot" area for international consulting.

The strongest demand after the Middle East "gold rush" was for high profile, "signature" architects and expertise in highly specialized facilities such as retail/event malls, clean room design in micro-processing fabrication plants and medical facilities.

With the shift of the architectural market from the Middle East to the Far East, changes came in what services were needed and how they were delivered and marketed. Asian countries for the most part had excellent technical capabilities. The demand for U.S. services became front end planning and the conceptual development of projects. Our work in Hong Kong over the past ten years is a case study of these types of opportunities.

Applying U.S. Technology to Foreign Needs

U.S. healthcare has developed a worldwide reputation for high cost and inefficiency. Paradoxically American healthcare consultants have the somewhat dubious distinction of being the most experienced in wrestling with spiraling costs and developing ideas to improve productivity. Fortunately, American creativity, management processes and leadership in technology still outweigh the negative association we have with a questionable healthcare delivery system.

The hospital functional and space program is an example of our advanced planning processes. However, only the most sophisticated clients will understand its value. The international norm is to simply prepare a "schedule of accommodation" which is a list of rooms with counts and sizes organized by department. This is typically the extent of planning prior to architectural design in developing countries.

In the early 90's the Hong Kong Hospital Authority's head of capital works, Neils Kraunsoe recognized the value of the U.S. emphasis on front-end planning. At the same time he knew there where very limited resources for this type of work. Mr. Kraunsoe's approach was to incrementally systemize the planning and design process and amortize the cost over the organization's 40 facilities and 25,000 beds as projects were implemented over time.

To accomplish these goals Mr. Kraunsoe selected a U.S. team to develop a highly automated, computer driven system. After three iterations of development the Facility Information System's (F.I.S.)[1] main features include:

- a historical statistical database for researching and benchmarking hospital planning and performance data
- departmental functional narratives
- space programming database
- workload analysis
- staffing projections
- databases with standardized architectural elements, furniture and medical equipment
- bi-directional link for updating, in either direction, the various databases and CAD drawings of room standards, project plans and schedules.
- reports for functional brief, space program,
- room data, cost reports, etc.
- data filters, list routines and global editing

North District Hospital was the first hospital developed by the Hong Kong Authority and was also the first application of the F.I.S..

- Figure 2 & 3: First hospital developed by the Hong Kong Hospital Authority and first use of the new F.I.S.

The system is intended to standardize and automate the process of planning, design and facility management of unique customized hospitals. This approach preceded, but is similar to, "mass customization" now touted in the high tech field.

The initial development costs were recouped on the second hospital to utilize the system whereby the normal planning costs were reduced by half due to the inherent production efficiencies.

It is also worth noting the system is enhanced by the strong leadership of Dr. Fung who now heads the Hospital Authority's capital works. His high level of involvement and management of projects is in sharp contrasts to American projects that in recent decades have lost senior level client supervision and direction.

The development of this system is a good example of the Hong Kong Hospital Authority's constant search for ways to reduce healthcare costs by increasing productivity. It is instructive that we have experienced almost no interest by U.S. healthcare providers to invest in such systems that increase efficiency, improve quality control and reduce costs.

The development of custom software for planning, design and facility management was followed by the planning and design of several hospitals in Hong Kong. This provided the opportunity to introduce several new planning and design ideas to Hong Kong that have been shown to be beneficial in the U. S.

Geometry

Hospitals in Hong Kong are similar in geometry to those in Britain and other British colonies and commonwealth countries. Nursing units and even diagnostic and treatment floor plates are usually relatively long narrow rectangles. American innovation in patient unit concentric/radial planning concepts were ultimately accepted after many lively debates. The open plan, triangular ward configuration is now considered highly successful.

- Figure 4: Patient Unit Plan

Circulation

The idea of major circulation spines (hospital "street") and atrium (orientation space) were introduced at North District and Tseung Kwan O Hospitals respectively. These elements create a hierarchy of circulation that improves the understanding and efficiency of way finding. Traditionally Hong Kong hospital organization

and circulation could be likened to a rabbit warren.

- Figure 5 & 6: Patient Orientation Space

The design for Pok Oi Hospital integrated an atrium, hospital "streets," and elevator/lift core. This concept was welcomed as an evolution of proven concepts utilized separately at North District and Tseung Kwan O Hospital.

- Figure 7 & 8: "Wayfinding"

Planning

Historically hospitals in Europe and Asia have been built in one large phase with as many as 2000 beds. There has been a shift to smaller hospitals that are expected to expand over time. Master planning was introduced as a need and response to incremental. phased development.

- Figure 9: Masterplan

Open planning was introduced as an idea that facilitates patient observation, staff supervision and productivity. This planning concept has particular application in nursing unit design as well as other department such as the emergency department, physical therapy and laboratory.

- Figure 10,11, & 12:
  Floor Plan of Patient Unit

Convenience of functional aggregation, patient focused care and centers of excellence led to the development of integrated service levels. A related concept was the idea of departmental consolidation and cross training of staff to improve productivity. For example in patient and out patient registration were planned as a single unit with admitters trained to serve both patient populations; outpatients in the morning and inpatients in the afternoon.

- Figure 13: Integrated Services Level

Structure

Hong Kong hospitals have traditionally related the structural grid with the typical 6 bed ward. This produced a 20' x 20' bay. This small bay size, for the most part, disappeared in the U.S. during the 60's in order to accommodate larger rooms and provide greater planning flexibility. On the Tseung Kwan O Hospital project a 30' x 30' structural bay and planning grid were introduced.

- Figure 14 & 15:
  Large Planning Grid/Structural Bay

Design

The idea of special design areas and focal points were introduced as a measured way of improving design quality. This approach avoided excessive spending that would be viewed as an inappropriate public expenditure. The majority of the project design was developed as a minimalist design statement but articulated with design emphasis at building entries, roof gardens and public lobbies.

- Figure 16, 17, & 18:
  Design Emphasis and Focal Points

Marketing U.S. Healthcare Expertise

America's reputation in medicine stimulated interest in U.S. based healthcare planning and design. However, during the past twenty years the U.S. healthcare industry has evolved, in the minds of our international clientele, from undisputed worldwide leader to a mix of contrasting images. First we remain preeminent in most areas of medical education, research and technology. Conversely, our costly delivery of health-care services is increasingly viewed with skepticism and by some as an outright disaster.

Over the years of producing the above work we have observed some shifting attitudes by our clients. Of particular concern is the potential of a U.S. consultant injecting the problems of excess

facility capacity and designs that are expensive to operate and maintain into their own system.

There is a fundamental understanding overseas that the inequitable provision of patient care in the U.S., at double to triple the cost of other OECD countries results in arguably the lowest value for healthcare spending of any industrialized nation.

When analyzed objectively U. S. healthcare is similar to U. S. education. Studies and student test scores have repeatedly shown that while U.S. graduate education ranks number one in the world our primary and secondary education is at or near bottom among advanced countries.

The same profile holds for healthcare. Preeminent institutions such as the Mayo Clinic, John Hopkins, Sloan Ketering Cancer Center and Massachusetts General, considered among the best hospitals in the world, stand in stark contrast and inaccessible to forty million uninsured Americans. Even the insured middle class, who often receive marginal managed care, seem under served when compared to the indigent population who, in many cases, are over provisioned in publicly funded, luxurious, all private room hospitals. In essence this creates a dichotomy of irrational extremes at ruinous national costs. This has not gone unnoticed in the international healthcare community.

The U. S. failure to provide cost effective quality healthcare is becoming a problem for American consultants. U.S. concepts such as hospitals designed with all private, oversized "universal" patient rooms are increasingly viewed with suspicion. This situation is aggravated where the strengths and values of a foreign country's healthcare system are not recognized and appreciated.

Failure to Appreciate Local Practices and Concerns

The single most important attribute of international consulting is the ability to apply and integrate domestic experience to a unique international setting. There are many examples of failed consulting as well as projects where the approach was to simply transplant an American concept into a foreign country. A recent case in point is the study of Hong Kong's healthcare systems by a team of consultants from the Harvard School of Public Health

The study was prompted by the Hong Kong government's concern over rising healthcare costs. The primary goal of the consultation was to determine the system's financial sustainability and make recommendations for improvements. The report was published in April 1999, titled "Improving Hong Kong's Health Care System: Why and for Whom?" [2] A year later it is fair to say the "Harvard Report" is seen as a failure and largely irrelevant to Hong Kong's efforts to deliver higher quality healthcare at lower costs.

In a nutshell the report glossed over Hong Kong's enviable performance, ridiculed local custom and practice, and focused on promoting systemic American style healthcare strategies. The following is a brief synopsis of these points.

International Healthcare Performance Indicators

For the most part; the study's assessment of Hong Kong's international standing in healthcare documented vital statistics and healthcare spending for eight advanced countries.

Healthcare Spending and Vital Statistics

Country	Spending [1]	Life Expectancy[2]	Infant Mortality[3]
Singapore	3.2	77.1	3.6
Hong Kong	4.6	79.0	4.0
Taiwan	5.2	74.9	6.7
UK	6.9	76.9	5.9
Japan	7.2	80.1	3.8
Australia	8.5	78.1	5.8
Canada	9.6	78.0	6.0
US	14.0	76.0	7.2

1. Healthcare spending as % of GDP
2. Life Expectancy at birth
3. Infant mortality rate/1,000

Unrecognized Performance

While the bottom line results of vital statistics as measured against GDP spending, which parenthetically is the fundamental equation for healthcare value, there was virtually no documentation of what produced Hong Kong's superior performance compared to the rest of the world.

The overwhelming drive behind Hong Kong's low cost of healthcare is staff productivity. It is worth noting that 50 years of declining staff productivity is the primary reason for the high costs of U.S. healthcare.

Measuring productivity requires two data sets e.g. inputs and outputs. Staffing consumes 60% to 65% of a hospital's budget and is the single largest cost input. The single most important indicator of hospital output has changed from patient days to adjusted patient days. Adjusted patient days takes into account both inpatient and outpatient workload.

Comparative Performance Data 1998

Hospital Data	US	Hong Kong
APD/Staff[1]	**78**	**205**
APD/1000 [2]	**1391**	**1652**
Patient Days/1000[2]	**895**	**1262**
Staff Prod. '93-'98[1]	**(6.02%)**	**(4.65%)**
Staff/Bed	**6.18**	**1.85**
Hospital Staff[2]	3,835,000	49,534
Patient Days	192,355,000	7,764,699
Adj.Pat. Days (APD)[1]	299,665,000	10,171,756
Out Patient Work	36%	24%
Beds @ 85%[3]	620,000	26,790

[1] Statistics based on Hong Kong Hospital Authority and American Hospital Association (AHA) non-federal hospitals.

[2] Adjusted to include all APD in both Hong Kong and US Hospital Authority is 95% and private hospitals 5% of total APD. AHA patient days for all US hospitals are extrapolated from non-federal hospitals

[3] US bed count is adjusted to equalize occupancy rate/work load of Hong Kong Hospital Authority

Criticism of Local Practices

In addition to a limited statistical analysis, the Harvard study conducted various interviews, focus groups and telephone surveys. Many of the responses and conclusions seemed to be benchmarked against U. S. practices which were assumed to be beneficial and conducive to cost effective quality healthcare. With no evidence of detrimental effects the following speculations were made:

- "Reduction in LOS (length of stay), is achieved at the expense of premature discharge, leading to medical complications and higher readmission rates"
- "Hong Kong has far less medical litigation than other advanced countries"
- "It seems highly questionable, that good quality medical care can be provided to such a large portion of patients in outpatient clinics in 5 minute visits"

Casting these Hong Kong practices in a negative light seemed odd when keeping in mind the goal of this study was to seek ways of **improving Hong Kong's current level of delivering cost effective quality healthcare.**

Another example of apparent bias is a survey where respondents were asked whether they preferred to go to a public or private provider, **if cost was not a concern**. Not surprisingly, given the caveat of disregarding cost, the majority of respondents chose the private provider. This was to be expected given the fact that private hospitals in particular cater to the wealthiest five percent of the population. At the same time other surveys in the report document the low utilization (35% occupancy) of private hospitals and in a satisfaction survey ranked public hospitals a better value than private hospitals. This preference for the public sector indicates that **cost is fundamental to healthcare decisions in the real world.**

The Harvard Reports superficial evaluation of Hong Kong's healthcare system, the criticism of efficient practices and the general bias of surveys were all symptomatic of a consultation whose conclusions appear predetermined and not responsive to local conditions or the primary goal of the report.

The documentation of so many problems provided a foundation for the reports recommendations for system changes. The preferred schemes were clearly American inspired. "Negotiated Cost" based reimbursement of competing regional providers regulated by the government is a near duplication of current U.S. practice (competing systems) and strategies for implementing universal care.

Refining Hong Kong's Healthcare System

The lifeblood of international consulting is fresh ideas. Past projects, if successful, will quickly be adopted by the local professionals thus rendering the services of outsiders as unnecessary. It is therefore essential to evaluate, refine and improve upon past projects as well as developing altogether new ideas. Such an opportunity presented itself pursuant to the Harvard Report in Hong Kong.

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- Figure 19: Integration of new services.

The single most powerful idea of the Harvard Report and the Hospital Authority's response was the integration of public/private sector roles and primary/specialist medical care. While integration is essential to an ideal system, it will not be easy to achieve. The following quotes from the Hong Kong Hospital Authority's response[3] to the Harvard Report speaks to the challenges and opportunities.

- "A complete structural integration may not be appropriate in view of the need to preserve the dual public and private system. There is still a lot of room for overcoming barriers to achieve better care and better use of resources within the existing system…
- With increased collaboration (integration) in delivery in the two sectors, there will be more choice for patients and more effective use of resources …
- Choice (premium) services can be developed with mixed public and private funding…
- The respective roles of general practitioners (private sector) will need to be re-visited to

enhance the interface of primary and secondary care."

The quotes above imply desirable directions. They don't however describe the organization and structural framework needed to achieve the desired results.

By design, or by accident, the split of public and private healthcare spending in Hong Kong is between the government-operated hospitals (95% of all patient days) along with physician specialists and private primary care. Additionally, private hospitals serve roughly 5% of the population. The result is a highly rational distribution of infrastructure e.g. hospitals with high rates of utilization and staff productivity.

- Figure 20 & 21: The private sector supplies upscale accommodations in excess of the approximate 5% of population demand. As incomes rise and the middle class expands, demand is expected to rise

A New Approach to Public/Private Roles

In an ideal world, the government should regulate all facilities in order to control the supply and distribution of infrastructure with healthcare demand in the most cost-effective way for public good. The following is a global vision of an idealized approach that disregards real world political impediments.

- Nationally, regulate both public and private healthcare financing.
- Nationally, plan the distribution and supply of healthcare services.
- Nationally, regulate all healthcare infrastructure.
- Nationally, manage the privatized and competitively bid support and selected healthcare services.
- Nationally, manage privatized and competitively bid development of all healthcare infrastructure.

Hospitals are Monopolies

Competition between hospitals fails because to a great extent every hospital is a monopoly. Tip O'Neil's famous saying "all politics is local" could be used to explain the hospital business. Every hospital dominates in it's service area and its potential growth is primarily at the margins of geographic reach which in the U.S. is the battlefield for market share and the breeding ground for excess capacity. Therefore, the nationalization of all healthcare infrastructure is essential to the national distribution of healthcare resources . At the same time there must be a mechanism for preventing domination of a geography that leads to monopolistic pricing.

Service Based Competition

The major structural change suggested here is the introduction of privatized competitive outsourcing for developing and operating infrastructure and the delivery of support and selected health services. **Unfettered competition is achieved with flexible and mobile service groups rather than minimal competition between monopolistic infrastructure franchises.**

This is not a particularly new or radical idea. It is very similar to U.S. Representatives Stark and McDermott's House Resolution 1900,[4] which calls for government mandated competitive bidding of hospitals "items and services". In their introduction of the resolution McDermott concluded, "As we search for ways to secure Medicare for the long term, we need to take prudent, incremental steps to improve the efficiency of the program. Competitive bidding is a part of the equation that will enable Medicare to provide cost-effective quality healthcare for seniors in the 21st century."

Actually, competitive bidding and outsourcing of hospital services has preempted this legislation and it is becoming commonplace to outsource hospital services that include environmental

services, food service, off site reference lab services and emergency room physician services. Privatization and competitive bidding is also similar to Britain's privatization scheme with this exception: Outsourcing is organized around services rather than infrastructure.

Such a system maximizes the strengths and appropriate roles of both the private and public sector. The needs and values of society are best protected by government's overall regulatory control which not only regulates a safety net of public services but could also mandate premium services equal to the demand of those who can pay. Conceptually, the safety net would include equity of medical treatment for all citizens. Premium services would include choice of doctor, reduction of waiting time and premium "hotel" accommodations.

The private sector's role in healthcare expands substantially. Professional and business groups would form to bid/tender virtually all aspects of a hospital's development and operations. While private ownership of independently developed healthcare facilities would cease or be "grandfathered", the opportunities for private healthcare infrastructure developers and service providers would grow substantially from the present level.

Opportunities from Lessons Learned

Is there a value in the lessons learned from abroad? If Hong Kong's healthcare system that operates at one third of the cost and produces better vital statistics can be explained and applied in the U.S., the benefits are obvious.

Traditionally, international healthcare consulting has been an export of ideas. However, a new opportunity exists in the consultants' awareness of successful healthcare delivery in foreign countries that has the potential of being applied and benefiting our ailing U.S. system. Hong Kong is a prime example of such an opportunity to import its enviable organizational structure and performance standards.

The Perverse Nature of U.S. Healthcare

Over the past 30 years our predominantly humanitarian, nonprofit healthcare institutions have mutated into one of the most hard-nosed business groups in America. Cut-throat competition, intense advertising to gain market share, consolidations designed to minimize competition and the hiring of specialists to ring out every dollar of reimbursement, with "upcoding" one of the unspoken strategies, characterize the current environment. The transformation began years ago.

Our current twisted and cynical system began in the early 70's when healthcare changed from a largely philanthropic mission to a strategy based on the bottom line and "working" the system. During the energy crisis in the mid-70's hospitals, under cost based reimbursement, found architects' attempts to promote energy conservation quaintly naive and humorous.

When the Federal Government introduced DRG's and prospective capitated reimbursement, the hospitals' response was to simply shift the "losses" to other payors, making hospital finance a morass of illogical accounting practices. The most experienced CFO's have difficulty explaining the "books" in an intelligible way. Parallel to this pattern of thinking was a precipitous decline in productivity. There is now a generation of healthcare managers who are probably oblivious to the fact that productivity has dropped by two thirds as staff has tripled on equivalent work over the past thirty years.

Today, where hospitals in a state like California operate at less than 50% occupancy, they opt to close their doors and go out of business before addressing the issues of overstaffing and excess capacity.

The reasons for this situation have been rationalized in many forums that give a litany of excuses for our high costs of healthcare. Examples are medical malpractice, massive administrative costs, explosive costs for new

technologies and so forth. There is an equally long list of movements to reduce costs. Hospital systems were formed to achieve economies of scale and gain purchasing leverage. Inpatient care was shifted to more economical outpatient treatment, lengths of stay were reduced and many forms of automation such as lab tests were introduced. Sadly, all the savings were shifted to cover increased spending in other areas. Taken together the net results are a perennial loss in productivity.

The performance of our healthcare system is further confused by a variety of opinion and policy makers

Political Leaders

In response to the issue of the anticipated bankruptcy of the Medicare/Medicaid program the liberals support a complete government take over of the healthcare industry ala "Hillary's" plan of universal coverage.

Conservatives support free market solutions stimulated by incentives and minimal government intervention. Senator Bill Frist's response[5] to Clinton's 1999 State of the Union speech rebukes the President for past and current plans that "amount to a federal government takeover of our entire health system".

Frist's interest in limiting government's role in healthcare seems natural given his major stake in Columbia/HCA which is the subject of a massive federal investigation for fraud and R. I. C. O. activities.

The conservative alternative is rooted in maintaining the status quo, as Frist reminds us that "Americans enjoy the best and most advanced healthcare in the world". This is arguable and fails to point out that our costs are almost double the cost of other OECD countries. Frist also conveniently refers to the "rationing" of services in Britain, but fails to address the fact that forty million Americans do not have healthcare insurance which is a far worse form of rationing.

Press

The complexity of health reforms are ill served by the press. Unfortunately, they have an enormous impact on setting the political agenda and influencing the public with their anecdotal and superficial coverage of human-interest stories.
A recent Dan Rather news segment began with the latest medical disaster du jour followed with the obligatory reference to forty million uninsured Americans. He concluded with a call for Washington remedies.

Implicit in virtually every press story is the simple need to spend more money versus reform, which is the complex task of achieving economies in order to afford expanded services.

Academic Policy Initiatives

Alan Entovan's 70's call for competition in the healthcare sector as a way to control costs was a bold new reform idea at the time. The fact that it has taken a quarter century to achieve a small measure of price competition speaks to the glacial pace of change in the industry. Entovan's ideas did raise the visibility of academics in the schools of public health across the nation. This in turn has led to many positions being postulated before congressional committees and government task forces by this group of scholars.

Today clear reform ideas that reduce cost are in short supply. The main issue is expanded coverage and where to find the resources to pay for increased levels of patient care. If the issue of reform is raised many academics will express hopelessness at any attempt to reduce healthcare costs due to entrenched and powerful healthcare special interests and lobbyists.

Pressures for Reform

While the dissonance of competing positions is cause for pessimism there is hope in certain

emerging trends and evidence of rational pressures being applied to healthcare providers. Payors including government, business and consumers are truly fed up with outrageous health costs and are beginning to demand that something be done. For example, some estimates put Medicare fraud at $100 billion which if extrapolated to all healthcare could approach $300 billion.[6]

The government is pushing health costs down by getting tough on fraud and abuse. Recently, Columbia/HCA agreed to pay the government $745 million for systematically defrauding the Medicare program.

A recent Barron's article[7] described various initiatives by corporations to bid and contract directly with doctors and hospitals, with business to business internet solutions playing an increasingly important role. This is a proactive response by business to the failure of third party payors to extract improved productivity and pricing by providers.

Most importantly, consumers are beginning to deliver a message with decisions based on price. The same Barron's article[7] states "Indeed researchers have been astounded as to how price-sensitive consumers become when they are footing even a small part of the bill. In one study, 26% of health plan employees switch to cheaper plans when their premium bill rises by just $10 a month". Finally, due to co-payments there is a change away from consumers feeling completely disconnected from the cost of healthcare.

The above pressures for reform are no doubt timely. We are on the verge of an explosion in medical advancements and longer life expectancy rates which could cause our already high costs to careen out of control with a cataclysmic impact on society.

Irrespective of the debate among experts and the looming problems brought on by economics and medical technology, it is our position that U.S. healthcare reform is inevitable. In fact if Americans could see a direct benefit accruing to them by reducing U.S. healthcare spending from almost 15% of GDP to 5%, they would opt for a Hong Kong style healthcare system without hesitation and be the better for it.

The Way Forward: Reform Based on Superior International Practices

Past experience makes it obvious that real reform cannot occur overnight. However, it might be possible to achieve step by step. Raising awareness of international healthcare performance standards would be a good first step.

It should be noted the Academy could play an important role promulgating these standards. This could be developed as an information website with World Health Organizing, OECD and AHA data. The most receptive audience may very well be the single largest payor of healthcare benefits, the Federal Government. The government might also be the best place to demonstrate cost effective quality healthcare.

As a first step the Veterans Administration (V.A.) system, operated by the Federal Government, could be reorganized along the lines of a high performance international healthcare system such as Hong Kong's or Singapore's. This would include major staff reductions to match staffing patterns in numerous overseas hospitals. The infrastructure would also be modified to significantly reduce critical care beds along with other high cost, over utilized services. To gain efficiencies in nursing unit staffing, multi-bed wards might be reintroduced. Privatization and competitive bidding of outsourced services as cited in the Stark legislation would also play a role.

The next step might be to nationalize all public hospitals which are completely government supported, albeit a mix of federal and local funding. This would be similar to Hong Kong when the government took control of the publicly subsidized private hospitals. The successful practices demonstrated in the V.A. system would be applied to this group of hospitals. With this step political patronage and bloated staffs would be a thing of the past in locally operated public hospitals.

Assuming this process began to demonstrate real savings and productivity increases, these steps would give the federal government credibility and legitimacy as a reformer. The next logical step would be to apply these performance standards to the Medicare/Medicaid services delivered by the private sector. The key would be to set and enforce performance standards. This would require hospitals to deliver care based on certain criteria. Additionally, the practice of cost shifting to cover Medicare/Medicaid expenses exceeding reimbursement would be disallowed.

The final step in this incremental process would be to establish the government in a regulatory role much the same as described in the Hong Kong strategy. The government would balance supply and demand of healthcare infrastructure and services and integrate all aspects of the present public/private delivery of healthcare. This would include both a safety net of entitlements plus premium services on an ability-to-pay basis in response to market/patient demand. The ultimate plan would be a government-regulated system that serves the diverse needs of Americans with a complete privatization of operations based on competitive contracting. With appropriate and significant roles for both the public and private sectors it is an approach that could be embraced by both liberals and conservatives which is essential to any reform.

Conclusion

Regardless of the viability of the above ideas there is a reason to be optimistic about the future of U.S. healthcare. In a global sense it is fair to say that a system as irrational and rife with protected special interests cannot last forever. This is a big picture statement which is a particular strength of architects.

While we are not hospital accountants or management consultants, our unique capacity to see the big picture can be useful in shifting industry positions and points of view in positive ways. Our profession's international perspective could well be a source of ideas for healing our distressed healthcare system.

Credits/References

1. Facility Information System, Hong Kong Hospital Authority, Donald Li, Project Manager; Design by BTA Architects and Planners; Wayne Fishback, Principal in Charge; Kevin Adams, Project Manager; Database Programming; Software-Technologies; Autocad/LISP Programming, Valtterra & Associates

2. The Harvard Team, "Improving Hong Kong's Health Care System: Why and For Whom?" June 1999

3. Health and Welfare Bureau of the Government of Hong Kong SAR, April 1999

4. Stark, P. and McDermott, J. "Reps. Stark, McDermott Introduce Medicare Competitive Bidding Act HR 1900" http://www.house.gov/stark/documents/106th/compbidpress.html

5. Frist, B. "Republican Response to the State of the Union Address" January 27, 2000 http://www.senate.gov/~frist/Information/sotu/Response_Speech/response?speech.html

6. Hiltzik, M. and Rubin, A. "Hospital Chain to Pay $745 Million for Medicare Fraud," *Los Angeles Times*, May 19, 2000

7. Laing, J. "Is Managed Care Dead?" *Barron's,* May 15, 2000

North District Hospital

Figure 2:The concept of a major circulation Spine hospital "streets"(oversized corridors) aligned at all levels was introduced on this project. Planning and concept design by BTA Architects and Planners, Wayne Fishback, Principle in Charge.

North District Hospital

Figure 3: Exterior massing detail.

Tseung Kwan O Hospital

Figure 4: Patient Units derived from concentric/radial planning concepts. Planning and design by Fishback & Associates. Wayne Fishback, Principle In Charge; Kevin Adams, Project Manager; Holly Northrupe, Senior Planner

Tseung Kwan O Hospital

Figure 5: View of six story atrium and entry from adjacent bus terminal.

Tseung Kwan O Hospital

Figure 6: Atrium looking up

Pok Oi Hospital

Figure 7: Design of main entrance lobby for 650 bed hospital. Major circulation concept is an integration of the hospital "street" and entry atrium. At North District Hospital and Tseung Kwan O Hospital respectively.
Design by Wong & Ouyang Architects and Engineers In Association with Wayne Fishback

Pok Oi Hospital

Figure 8: View of hospital "street" at intersection With main entrance lobby.

Tseung Kwan O Hospital

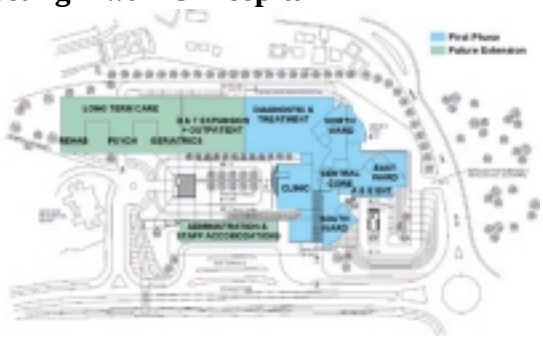

Figure 9: Phased development master plan

Tseung Kwan O Hospital

Figure 10: 32 bed patient unit consisting of five wards, (6 beds each) and two isolation rooms.

Tseung Kwan O Hospital

Figure 11: Open plan patient unit with direct visibility to all patient rooms.

Tseung Kwan O Hospital

Figure 12: Open plan patient unit at reception and unit secretary/ward clerk station.

Tseung Kwan O Hospital

Figure 13: Surgical services floor provides convenient access from atrium to wards, outpatient clinics, day surgery and doctors offices.

Pok Oi Hospital

Figure 14: Master plan with 30' x 30' planning grid

Pok Oi Hospital

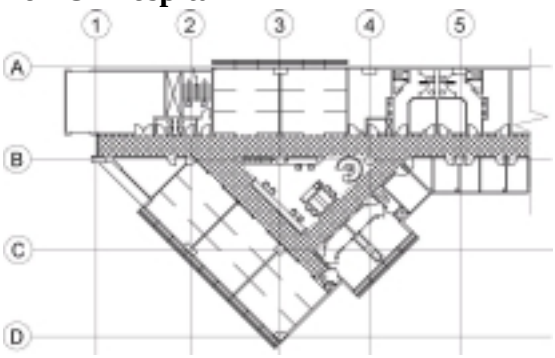

Figure 15: Patient unit with 30' x 30' structural Grid.

Pok Oi Hospital

Figure 16: Glass covered canopy at main vehicular entrance. One of several design focal points.

Tseung Kwan O Hospital

Figure 17: Roof garden for rehabilitation activities. Other roof gardens provide pediatric play area and day hospital outdoor activities.

Tseung Kwan O Hospital

Figure 18: Information center adjacent to five story atrium.

Pok Oi Hospital

Figure 19: Master plan model that incorporates potential macro changes in healthcare delivery. The plan anticipates the integration of new services and activities not presently incorporated into the typical public hospital setting as follows:

1) Designated Bed towers for public and private beds,
2) D&T Services shared by patient's using both public and private bed accommodations,
3) Primary & Specialist Doctor's Offices,
4) Medical Research Tower to support emerging bio-tech industry and medical education.

Hong Kong Sanatorium Hospital

Figure 20: Private hospital planned for 1000 beds.
Designed by Wong and Ouyang Architects and Engineers

Hong Kong Sanatorium Hospital

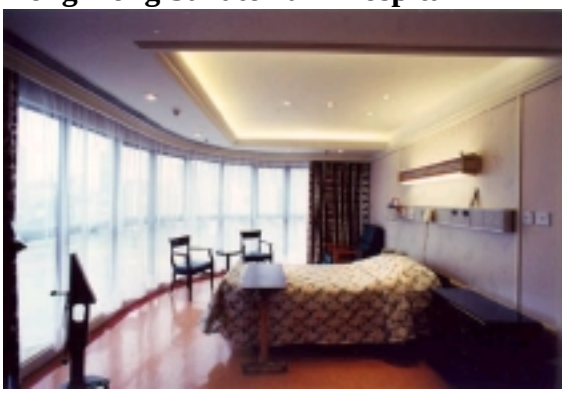

Figure 21: Private room
With rising living standards and the growth of Employer provided healthcare coverage demands for better patient accommodations is expected to increase. Currently about 5% of the population use private hospitals. Designed by Wong and Ouyang Architects and Engineers

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