

**THE GLOBALIZATION
OF HEALTH CARE**

John Wyn Owen, CB

ELAINE R. RUBIN
EDITOR

Mission
Volume 2
Management

A NEW SYNTHESIS

ASSOCIATION OF ACADEMIC HEALTH CENTERS

The Association of Academic Health Centers (AHC) is a national, nonprofit organization comprising more than 100 institutional members in the United States that are the health complexes of the major universities. Academic health centers consist of an allopathic or osteopathic school of medicine, at least one other health professions school or program, and one or more teaching hospitals. These institutions are the nation's primary resources for education in the health professions, biomedical and health services research, and many aspects of patient care.

The AHC seeks to influence public dialogue on significant health and science policy issues, to advance education for health professionals, to promote biomedical and health services research, and to enhance patient care. The AHC is dedicated to improving the health of the people through leadership and cooperative action with others.

The views expressed in this book are those of its authors and do not necessarily represent the views of the Board of Directors of the Association of Academic Health Centers or the membership at large.

Library of Congress Cataloging-in-Publication Data

Mission management: a new synthesis / Elaine R. Rubin, editor.

p. cm.

Includes bibliographical references (p.).

ISBN 1-879694-12-3 (v. 2)

1. Academic medical centers- -United States.

I. Rubin, Elaine R.

RA981. A2M56 1998

362.1' 0973—dc21

98-19149

CIP

Copyright © 1998 by the Association of Academic Health Centers

All rights reserved. Published 1998

Printed in the United States of America

Available from:

Association of Academic Health Centers

1400 Sixteenth Street, N.W. Suite 720

Washington, D. C. 20036

202/265-9600; Fax 202/265-7514

Price: \$30.00 (plus \$5.00 shipping/handling)

Design and production by Fletcher Design, Washington, DC

THE GLOBALIZATION OF HEALTH CARE

John Wyn Owen, CB

A GRADUAL EXPANSION OF HEALTH CARE HAS taken place from the 1960s to the present time. I believe that the first decade of the new century should and will focus on its global aspects. Indeed, a recent study by Moran and Wood (1996) on international political economy states that “if we discover that internationalization is indeed taking place in health care, a policy sphere which hitherto has been parochial, then we have a striking demonstration that the trend toward internationalization is significant.” The authors define internationalization as a process through which the authority and autonomy of the nation state is challenged or supplanted by structures, processes, or policy development that cut across national boundaries.

If the health care scene is being penetrated by a global approach, something fundamental must be afoot. In this paper I sketch out the main features of recent pronouncements by important United States and United Kingdom organizations on involvement of their nations in current health concerns and discuss trends in international health. I then go on to provide an analytical framework for examining globalization; put an American perspective on globalization; and consider some of the specific implications of these international developments for academic health centers. Finally, some personal concerns and issues that need to be explored further and with some urgency are addressed.

John Wyn Owen is secretary of The Nuffield Trust, London.

LOOKING TO THE FUTURE

Why America Must Act

The 1997 Institute of Medicine report, in its discussion on advancing the U.S. international interest, states that “the United States has unique strengths to improve global health yet the potential has not been fulfilled.” The board concludes that, to remain in a position of leadership in global health, the United States must increase investment in biomedical research on major global health problems through expanded partnerships and cost-sharing with other governments and international donors. There must be an investment in the education and training of physicians and researchers from around the world for health leadership.

The United States must also pay its dues to the United Nations; for example, \$145 million is owed to the World Health Organization (WHO). This sum must be repaid if the United States is to regain the influence that it so urgently needs to reform the system. The board also advocated a form of global partnership with governments, private sectors, and other interested parties.

International Partnerships

Although America’s participation in global health is vital, it cannot do the job alone. Global problems are most likely to be solved by global action. The theme of partnership in health also pervades the recent U.K. Technology Foresight Project. The policy initiative embraces the dual themes of partnership and wealth creation, bringing together industrialists and scientists to identify opportunities in markets and technologies likely to emerge during the next ten to twenty years and the investment actions needed to exploit them. The foresight panels, such as the panel on Health and Life Sciences (1997), have generated visions of the future that will lead to more informed decision making in health in both the public and private sectors. Similar initiatives have occurred in other countries, including Australia and the United States.

The U.K. experience provides a useful picture of across-the-board advances in basic knowledge made over the last two decades that are now being translated into new treatments for illness, new products, and new industries. The pace of discovery is accelerating, innovative opportunities are widening, and important new areas of demand, such as those of an aging population, are

emerging. Mark Ferguson, the chairman of the Health and Life Sciences Panel, has said that “a biological science revolution is underway, the impact of which will be greater than the industrial or the atomic revolutions.”

THE WORLD HEALTH SCENE

An Aging Population

The best documented trend in health needs is the aging of the population. In the United Kingdom in 1961, 11.7 percent of the population was more than 65 years old; this figure will rise to 17.5 percent by the year 2015. This situation will increase the prevalence of illness and disability, particularly degenerative conditions such as cataracts, osteoarthritis, neoplasms, and cardiovascular and neurodegenerative diseases.

The future is far from clear; medical need may be affected by further increases in life expectancy or changing health and lifestyles among those currently middle-aged. The impact of this situation on service and products may be magnified by attitudes to elderly people, the increasing political power of the elderly, attitudes to care by caregivers, and the increased affluence of some elderly subgroups, as well as technical opportunity.

Economic and Cultural Change

Long-term changes in economy and social structure, although more difficult to foresee, may have an even greater impact. In the most stable, affluent societies, lifestyle, working environment, family, wealth, and social disparity still have clear effects on health. The effects of unemployment, poverty, overcrowding, drug and alcohol abuse, and violence will become much more marked if current prosperity, social equality, cohesiveness, and human environments cannot be sustained over coming decades.

Cultural change is another variable. Public understanding of science and medicine, and attitudes to individual responsibility, determine to a large extent the effectiveness of preventive medicine. We already have more literate, more aware health consumers with high expectations. If this trend continues, it may have a positive effect on the quality and effectiveness of care and communications and the transparency of decision making.

In developed countries, a high proportion of hospital admissions, prema-

ture deaths, and disability is due to accidents and trauma. Better treatment is important and feasible to ensure the return to a healthy, productive life, but the most obvious need is for more effective preventive and deterrent measures. Cultural, political, and economic forces, however, make accurate predictions impossible.

Worldwide population growth will be concentrated in Africa, Asia, and South America, and the proportion of people living outside the current developed world will reach 83 percent by the year 2020. The health needs of the poorest countries will probably be dictated by congestion, poor nutrition and sanitation, and environmental degradation. Infections will remain a major killer, and the main needs will be for basic preventive measures, such as clean water, health education, and vaccinations. Among the more prosperous developing countries (e.g., Southeast Asia), the median age at death will increase, and diseases of affluence and age will mix with the problems specific to culture, climate, and infrastructure. Markets for high-cost, high-benefit treatments will certainly broaden.

Some needs cannot be predicted or extrapolated from current trends. In the last four decades, we have had to respond to major new or reemergent infections and environmental and iatrogenic diseases during a period marked by greater population diversity and mobility, environmental degradation, and antibiotic resistance. We must assume that new threats will continue to emerge.

Western lifestyles are also invading the developing world, bringing with them an epidemic of chronic disease. Cancer cases are expected to double in developing countries over the next twenty-five years, and there is a similar growth in diabetes. "We are truly messengers of death worldwide," Dr. Paul Kleehouse, a WHO director said when presenting the annual global health report of WHO (1997). "There is a dramatic trend for the globalization of Western lifestyle and a parallel globalization of the associated diseases. We had expected this, but we are nevertheless surprised at the pace at which this is happening. Cancer rates are soaring in countries which hardly knew the disease a few years ago."

Changes in diet and the rise of smoking in Asia and Africa appear to be mostly to blame. "The smoking habit is one of the greatest importance for cancer and the pace this is spreading round the world is remarkable," said

Kleehouse. He blamed Britain, Germany, and the Netherlands for blocking all attempts within the European Union to protect minors from smoking. While the habit has been cut to 25 percent of the population in the United States and 40 percent in Western Europe, the Eastern European and Asian figures have risen to 70 percent.

Dietary changes to typical Western fare—heavy in fats—are changing the kinds of cancer people have. Whereas there was a prevalence of stomach cancers in the developing world, there is now also a surge in breast, prostate, and lower bowel cancers. Heart disease and obesity, also closely linked to diet, are increasing rapidly in developing countries as their populations adopt unhealthy eating habits. Diabetes, also associated with Western-style diets, is showing a rapid increase.

Service Trends

It is not always easy to understand why policy makers feel pressure to restrict spending on health care in the face of continued demand by patients for the provision of such services. One explanation is that the mind-set of policy makers is determined by the values and assumptions that they have about health care expenditure levels. The result is that any general pressure to cut costs is bound to involve health. Since the long boom, all capitalist systems have been under that sort of pressure. National economies have increasingly become enmeshed in this problem.

A number of trends common to developed countries throughout the world are likely to dominate the health care scene over the next decade or two. “Cost containment strategies worldwide are placing increasing emphasis on evaluation of procedures and technologies, improved resource allocation, health promotion, and the prevention and early detection of disease” (Feedbaum and Hughesman 1997).

Improved measures of cost benefits will create some new markets while eroding old ones. Strategies involving shared costs or copayments for patients’ insurers and those based on encouraging competition will change the way demand for technologies will evolve and the way it is met. Australia now requires that drugs on the public benefit reimbursement scheme must meet cost-benefit criteria as well as efficacy and safety (Maynard and Bloor 1997).

A narrowing of the role of the hospital, with shorter-stay surgery, more specialist consultation outside the hospital environment, and greater use of separate centers for convalescent, geriatric, and terminally ill patients all demonstrate the increasing proportion of services now being provided off-site. Such decentralization has acutely increased the need for effective communication and information transfer systems.

People have a desire for care close to home together with greater emphasis on prevention and shorter hospital stays. There is also a recognition of the importance of primary care and the demand for technologies and communication systems that enhance the capability (in advanced diagnostics and telemedicine) of primary care organizations.

The distribution of expertise and information systems seems to be gradually changing with less dependence on medically qualified individuals and greater emphasis on teamwork and expanding roles for different professional groups. Moves toward protocol—based care will contribute to redefining the role of the medical profession.

The key uncertainties with regard to services are the speed of progression and the interaction of current trends with political and sociocultural change nationally and internationally—especially the degree to which society and individuals value health care relative to other areas of public or private expenditure.

Business Trends

The pharmaceutical industry has begun to plan for partnerships at various levels of operation. The last few years have seen several of the largest companies take over or ally with pharmaceutical benefit management firms or other health management business. Particularly in the United States, the trend may produce new types of health care companies with portfolios encompassing insurance, care, health education and prevention, diagnosis, treatment, and rehabilitation. Prescription drugs are now only a part of the product line. Integration not only provides a means to advance sales but also ensures that, within the overall cost of disease management, drug price is not subject to undue pressure. A further benefit is access to high-quality information and disease management, treatment, and outcomes to inform development strategies and evaluation.

Pharmaceutical R&D portfolios are becoming tightly focused, partly to contain costs and partly because success increasingly depends on innovation rather than general developmental work. At the same time, larger businesses are looking at alliances with small biotechnology companies or groups of academics to complement in-house R&D and to improve the rate of innovation, particularly at a time of accelerating advances in biological knowledge and the development of new techniques and new technologies.

Technological Trends

On a broader scale, we expect that the advances made over the last three decades in the science of molecular genetics and information technology will have the greatest effect on the technologies and methods of health care and other life science-based industries over the coming decade.

Developments in information technology will create opportunities for more advanced medical information systems as well as for systems to inform users of services. Key areas are telemedicine, which includes remote monitoring, remote consultation (doctor-to-doctor and patient-to-doctor), remote intervention, and virtual reality. The necessary communications infrastructure is being put into place, although there are legitimate concerns about security and confidentiality.

Some simple applications are already practical and may soon enter use in some specialist areas. Systems with more local intelligence than those currently available will be needed before widespread use is possible. Issues of integration with other health care information systems and with other forms of service provision and training are becoming significant. We can see information technology affecting image and interpretations, supporting clinical decision making, and providing information analysis or options to assist in investigations, diagnoses, therapy, and treatment plans.

There is a close link here with evidence-based medicine. The role of a decision-support system is to provide the clinician and other health care staff with information on history, methods of investigation, diagnosis, and prognosis (including genetic considerations), and trials, studies, and treatment options relevant to a particular patient. Such systems will thus represent an essential complement to other forms of medical information technology.

Meeting this demand will involve long-term research into computational methods and both organizational and behavioral issues. There is also the potential of information systems and technology to enhance interventions, including developments in robot-assisted surgery and image-guided surgery. Mechanical and conventional electronic issues are important, but advanced information technology will enable systems to adapt to individual anatomy and pathology.

The science of molecular genetics has accelerated enormously in its acquisition of human knowledge of animal and plant biology, not the least through genome analysis, and it now forms the basis of much of the biotechnology industry and current trail-blazing work on gene therapy, early detection of cancer pathogens characterization, and prenatal diagnosis of defects. It is also revealing new therapeutic targets and approaches for novel drug creation. In the longer term, understanding the inherited factors that predispose people to common illnesses, such as heart disease, and interaction of these factors with lifestyle and environment, may revolutionize medicine, allowing individual measures of tailored plans, risk, and better-informed choice of treatments.

The International Health Care Industry

The magnitude of world spending on health is huge (World Bank 1993). Public and private health care expenditures in 1990 amounted to \$1,700 billion, 8 percent of the world's product; 41 percent of this amount was consumed in the United States, amounting to 12 percent of its GNP, or about \$1,500 per person. Developing countries spent 4 percent of their GNP on health, or about \$41 per person.

Furthermore, spending has risen rapidly over twenty years. The United Kingdom, the United States, and France have doubled their expenditure in real terms as a result of changing needs and expectations of aging, affluent populations; the uptake of new technology; and inefficiency in current systems. Policies have been dominated by cost-containment using methods of shifting cost closer to the user, increasing competition, limiting activity or spending, or improving utilizations of resources.

Closely related to health care are the pharmaceutical and medical device and diagnostic industries with global sales of \$208 billion and \$75.2 billion, respectively. Despite cost-containment measures, worldwide markets show steady growth.

The pharmaceutical industry is fragmented, with no company accounting for more than 4 percent of the world market. Fourteen of the top thirty companies are European or part-European; the others are based in the United States and Japan. Business success is primarily determined by the ability to innovate and supply new products.

The medical devices and diagnostic industries are less fragmented: a few large manufacturers account for a large percentage of the market, particularly for the most advanced instruments and devices, although there are large numbers of very small businesses in the diagnostic sector and at the low-tech end of the medical devices market. Here, the United States is particularly strong and accounts for two-thirds of the world production.

The biotechnology sector comprises a diverse set of innovative enterprises. Some are medically oriented, developing novel therapeutics and diagnostics based on advances in genetic modification and molecular and cell biology.

Taken together, there are over 1,500 biotech companies worldwide, of which 265 are publicly quoted. More than 70 percent are based in the United States. Of the 25 percent in Europe, the largest percentage is in the United Kingdom. The majority of enterprises are in medical biotechnology: therapeutics, 42 percent; and diagnostics, 26 percent. Most of the companies were set up in the 1980s and are small, with about 100 employees. In many cases, a larger partner is essential to support the commercialization of products and to maintain capital flow. The larger established companies formulate partnerships with small biotechnology companies.

The International Political Environment

Philip Cerny (1996) writes that, in the modern world, international and crossnational economic relations have formed a dense web of power constraining activities and shaping the activities of people and governments. As we approach the next century, security is dependent less on military power and more on economics. Economies are more global, and the politics of states are caught up increasingly in autonomous patterns of trade, international capital flows, global markets, and transnational institutions, both public and private.

Skidelsky (1989) writes that the decade of the 1980s was a watershed. It marked the demise of what, in 1905, Dicey in his book, *Introduction to the*

Study of the Law of the Constitution, called the Age of Collectivism. Collectivism is the doctrine that the state knows best. Dicey described it colorfully as “government for the good of the people by experts and officials,” the antithesis of classical liberalism according to which governments exist for the sole purpose of protecting the life, liberty, and property of its people.

We now live in a postcollectivist age, and the most dramatic evidence of this is the collapse of communism. All over the world, governments, in response to public opinion or mounting complications, have given up shaping the future. Furthermore, we have seen the revival of economic liberty within nations and between them. We now live in a global economy where national frontiers have become increasingly unimportant in determining the flow of money, goods, and services.

There do exist, however, regulators of activities that are no less powerful for being less visible than the national governments and parliaments. We see institutions of transnational governance—the World Trade Organization is an example—and regional groupings, of which the European Union is the most advanced. Private insurance can well take over many of the security functions hitherto provided by welfare states.

A FRAMEWORK FOR EXAMINING GLOBALIZATION IN HEALTH CARE

What is the extent of globalization in health care and how should we look at it? Moran and Wood provide a useful analytical framework. It is based, first, on the structure of policy making; second, on implementation or application of policy on product markets in health; and finally, on an understanding of internationalization in the context of policy making.

Structure of International Policy Making

There are two striking examples of the internationalization of the policy-making process. The first is the network of health policy experts working with each other in professional and other circuits across national boundaries. For example, the American Alain Enthoven (1985), a key figure in health reform in Europe, popularized the idea of internal markets in a number of European states, particularly the United Kingdom, the Netherlands, and Sweden. This sharing of

policy expertise has been further helped by activities of international organizations concerned with the analysis of health care policy such as the Organization for Economic Cooperation and Development (OECD), which has compared inputs and outputs of OECD nations and sponsored a series of comparative policy studies.

As global health needs and opportunities change, the international agencies (in particular, those of the United Nations) are being forced to review their roles to identify how they can best respond within their resource constraints. Because global health policy is likely to be strongly influenced by the shape these organizations take in the future, all countries have a direct interest in their development.

The international health institutions include the UN agencies, programs, funds, development banks, and multilateral development agencies. The lead UN agency in health is WHO, created in 1948 with the objective of guaranteeing the attainment by all people of the highest possible level of health. Another important group is represented by the development assistance agencies of developed countries. Among the more notable nonprofit organizations participating in the world health systems are international foundations, professional bodies, health and medical assistance groups, and consulting agencies. The private sector is also a key player.

The international health agencies have developed a unique set of human resources, organizational abilities, and knowledge that has enabled them to achieve such ambitious goals as the eradication of smallpox and the near-eradication of polio. Over the years, the world's health system has grown in capacity, in the number of participants in the field of international health, and in the complexity of programs. In particular, the World Bank has taken an increasingly influential role.

The bank has encouraged governments to pursue an economic growth policy that will benefit the poor including, where necessary, adjustments to policies that preserve cost-effective health expenditures; expand investment in schooling, particularly for girls; and promote the rights and status of women through political and economic empowerment and legal protection against abuse.

A second change in policy advocated by the World Bank is to improve gov-

ernment spending on health. The challenge for most governments is to concentrate resources on compensating for market failure and efficiently financing services that will particularly benefit the more deprived. There are several policy directions for this, namely the reduction of government expenditure on tertiary facilities, specialist training, and interventions.

A third World Bank policy is that of encouraging diversity and competition. Government finance of public health and of nationally defined packages of essential clinical services would leave the remaining clinical services to be financed privately or by social insurers within the context of a policy framework established by government. Governments can promote diversity and competition in provision of health services and insurance by encouraging social or private insurance and encouraging suppliers to compete both to deliver clinical services and to provide inputs such as drugs. Domestic suppliers should not be protected from international competition. Information on provider performance, essential equipment and drugs, the cost and effectiveness of interventions, and accreditation status of institutions should be generated and disseminated to the public.

In addition to the networks and the enforcement of agencies such as WHO, OECD, and the World Bank, another feature affecting policy-making networks is the rise of the European Union. The new Treaty of Union, Maastricht, has significantly expanded the European Union's potential jurisdiction, particularly in public health. And for the first time, a ministerial council for the European community has been established and now meets regularly. In this way, the structure of policy making has the potential of becoming internationalized. The rise of the modern state as a significant actor in health care policy has largely taken place inside national boundaries. The expansion of the state's role in health care has been closely connected to the wider development of the welfare state, and the welfare states have in turn been closely connected with the creation of entitlements based on national citizenship.

The internationalization of these hitherto distinct national policy-making systems in health care occurs in two ways. International networks can develop between policy actors in different systems, leading to the diffusion of policy innovation from one national environment to another. And international or super-national actors can penetrate the policy-making systems of individual nations. It

is not surprising, therefore, that the various reforms in different countries resemble each other.

Internationalization of Health Care Services and Products

Independently of how policy is made, internationalization can take place in the delivery of health care services via the movement of deliverers across national boundaries in search of work or the movement of patients in search of care. Patient travel across the world to the Mayo Clinic is a well-known phenomenon, as has been travel to London. Again there is nothing new here: Spa towns in Europe were favored visiting places. Outside the world of the rich, however, the flow of patients in search of medical treatment is very limited. Transferring citizen entitlements across national boundaries is not easy.

The mobility of providers is different. There is an established history of mobility in the medical professions, particularly in research and education. Furthermore, the European Union directives now require member states to recognize qualifications obtained in other member states. In theory, a single market exists in Europe. In practice, a striking feature of the market for medical professions is the extent to which national or even subnational factors have remained determining forces. Patients rarely cross national boundaries to seek care. When doctors move across boundaries, their movements are shaped by national priorities and national institutions and considerations of language. Thus, whereas the world markets are opening up generally in some sectors, such as medical practitioners, national states still continue to regulate movement strongly and attempt to restrict entry.

Internationalization of Health Products Market

Health care systems involve more than the delivery of personal services and the development of personal service markets. They also involve the product markets in health care. The *British Medical Journal* (1996) not too long ago carried an editorial about American companies looking for international markets. A month before, leaders of the U.S. managed health care plans had met in Mexico to look at doing business internationally. Here, workshops looked at market opportunities in Israel, Korea, Venezuela, Canada, Mexico, Russia, France, Singapore, Brazil, New Zealand, Puerto Rico, Australia, South Africa, and Argentina.

Tom Friedman, of the *New York Times* recently said that countries were going to be forced increasingly to open their economies to global competition. The businessmen who run for-profit managed care plans in the United States see no reason why they should not follow the paths of their colleagues in other businesses and compete globally. Indeed they may have to—Wall Street expects them to keep growing which means signing more people to their plans. As one chief executive put it, “We are soon going to run out of people in the United States.” Managed health care plans already cover 100 million people. The *BMJ* questioned whether the world needs what these managed care plans have to offer. The World Bank clearly thinks that the world does and that the opportunities are greatest in the developing countries.

In the past ten to fifteen years, development has come to be seen as a matter for the private sector rather than for governments, and health services are a key part of development. The economies of most developing countries are growing faster than those of developed countries primarily because of private investment. In most developing countries the private sector is proportionately much larger than in developed countries and in many of these countries, for example Malaysia, Indonesia, and Bangladesh, the private sector is expanding. The old reason was said to be equity, but in most public health systems inequity remains a problem. Particularly because health spending has been concentrated in city hospitals, the rural poor have been subsidizing the urban wealthy.

The World Bank is now concentrating on public and primary health care for the poor. It believes in increased private health care for the wealthy in order to release public money for the poor and to raise the efficiency and quality in the private sector: “Managed care holds the biggest hope for developing health services in the developing world.” Health care systems are even more than the delivery of personal services, however organized. They also involve the creation, marketing, and consumption of a wide range of products. These products include hospitals, medical equipment (from syringes through to the complex scanners) and the pharmaceutical products that can amount to one-sixth of the total spend of any health care system. The internationalization of markets in health care products can in turn mean one of two things: the organization of production and supply on a scale that transcends the boundaries of individual nation states or the regulation of those markets and products by institutions other than the nation state.

THE CONTEXT FOR INTERNATIONALIZATION OF POLICY

Another way of thinking about internationalization focuses on the health care system itself, that is, the context in which health policy making takes place. The issue of cost-containment has dominated health care debates in recent years. Moran and Wood (1996) maintain that the desire to contain costs continues to be the most important driver of policy innovation, with respect both to system organization and delivery and to innovations designed to restrict entitlements to care and oblige patients to contribute more.

Success or failure in the international market depends on maintaining competitive advantage. Policy is driven not by what happens in health care institutions but by the wider context of economic policy; no national economy can insulate itself from wider economic global forces. In the United States, there is a growing conviction among the economic elite that American noncompetitiveness lies in the high cost of health care and the way much of that cost is shouldered by large enterprises. Research suggests that this assumption is debatable.

AMERICAN CONTRIBUTIONS TO GLOBAL HEALTH

All nations, whether rich or poor, are struggling to contain spiraling health care costs as people live longer and demand for medical care rises. All countries need strong international health organizations to provide leadership and set standards. Yet the bodies currently engaged in international health (e.g., those in the UN system) are widely seen to be inadequate to the new challenges they face.

Without the active engagement of the United States, the global health gains of the twentieth century threaten to falter and Americans' own health, wealth, and security will suffer. But American investment in international health has been falling. By 1995, only 0.1 percent of the nation's GNP was being spent on global health assistance.

According to the 1997 Institute of Medicine report, the United States should increase its involvement in global health for a number of reasons.

1. *To protect the American people.* Preventing illness saves money as well as lives. American investment in the eradication of smallpox, for example, has saved an estimated \$1 billion annually in vaccination costs. The IOM board con-

cluded that the United States should work with its partners to build an effective surveillance network for monitoring infectious disease and to guard against bioterrorism. Also, since certain diseases such as AIDS are much more prevalent outside the United States, drugs and vaccines against these diseases may be tested and developed only in collaboration with other countries. United States citizens have much to gain from such collaboration.

2. *To enhance the American economy.* Healthy populations abroad make healthy, growing markets for U.S. business. For example, if the United States invests in improving the health of other populations by studying and developing treatments for their major illnesses, its economic returns will be enhanced. The IOM board concluded, in particular, that the American pharmaceutical, vaccine, and medical product manufacturers could contribute more to global health than they are doing now.

Currently some two billion people worldwide have no access to essential drugs. To help U.S. industry meet global needs without suffering losses, the government should act to reduce regulatory barriers to product development, allow multitiered pricing, safeguard intellectual property rights, increase incentives for development (e.g., by extending certain patents and, where necessary, forge private-public sector partnerships to ensure the development of certain essential products).

U.S. responsibility for health concerns rests with a large number of Federal agencies, including the Department of Health and Human Services, the Department of Agriculture, and the Agency for International Development. Fragmentation and lack of coordination are keeping each agency from contributing to its full potential. The IOM board recommends that an interagency task force on global health within the U.S. government be established to anticipate and address global health needs and to take advantage of opportunities in a coordinated and strategic fashion.

IMPLICATIONS OF GLOBAL TRENDS FOR ACADEMIC HEALTH CENTERS

The first priority for academic health centers must be to adopt the recommendations of the Institute of Medicine. They must also maintain an overview of what is happening internationally, particularly because biology is the science

for the new century. The centers should be encouraging a collaborative approach to research and to new knowledge, such as research integrating molecular biology and genetics with cell and tissue biology and whole-organism studies to accelerate progress in basic research.

Second, academic health centers should sponsor research in neuroscience and the cognitive sciences, particularly research into progressive degenerative diseases and nonspecific, age-related cognitive decline. They should further encourage an assessment of genetics in risk evaluation and patient management. They should be enhancing drug creation and delivery based on biological, molecular, and chemical science that support new classes of therapeutic agents; supporting recombinant technology, research into key metabolic pathways, metabolic engineering, and sciences relevant to biological manufacture and industrial products; diagnostic applications of molecular biology by applying research into disease at genetic, molecular, and cellular levels to develop new generations of diagnostics; immune manipulations including research into the control of the immune system and applications in specific interventions in inflammatory and immune disease, vaccines, transplant, and other areas.

Another important consideration for the academic health centers is supporting basic research into aging and disabling degenerative diseases, coupled with technologies for sustaining a reasonable quality of life for the elderly infirm.

Academic health centers should also be assessing the health service and care opportunities offered by human animal and plant genome projects and other advances in molecular genetics and informing the public in the United States and internationally. They should contribute to the development of relevant and informed health care policies and health service organizations. They should seek to achieve local patterns of vertical and horizontal integration in health-related industries. Considerable opportunities lie in recognizing the importance of information technology and communications in medicine and the life sciences, particularly telemedicine, which extends services beyond the institution and internationally.

Academic health centers must also be responsive to and support industries that typically congregate around them. They should promote cooperative programs. They should link to technology incubators. They should ensure the maintenance of investment in physical infrastructure of life science research. They

should maintain a strong clinical research base that underpins the development and evaluation of new products and methods and support for basic research. In particular, the academic health centers must appreciate community needs and how they can best help meet these needs.

The centers must also appreciate the way in which business organizations are readjusting themselves to cope with global markets. One of the key themes in documents issued on international health has been the importance of collaboration and partnerships. Academic health centers in the United States have a key part to play in fostering collaboration that will erase or, at least, greatly reduce the global divide in health research and also help provide answers relevant to both developing and developed countries. These countries are often viewed separately in terms of their health problems and health services research. Thus, although more than 90 percent of the lost years of potential life belong to the developing world, only 5 percent of global research funds are devoted to world health problems.

Chronic diseases—cancer, heart disease, and mental illness—are problems of equal significance to the developing world. Morbidity and mortality from communicable disease are now problems of the developing world and, with the exception of AIDS, the solutions are all the same for many health care problems. But developing countries have two further constraints: 1) the task of introducing the interventions within existing health services and 2) cultural sensitivity.

Further high-quality collaborative research performed in developing countries can provide evidence of relevance and value to the developed world. U.S. academic health centers may, therefore, see many advantages to conducting research in developing countries. The advantages include the availability of significant cases, the existence of well-trained investigators, lower costs, and benefit to health systems and health institutions from financial involvement. Many of the trials of international relevance could be carried out in developing countries; indeed, the number of international publications on health services research from developing countries has increased steadily over the last few years (PAHO 1992).

Multinational collaboration is the surest way to answer questions of global relevance. Medical opinion in the United Kingdom also suggests that academic health centers might consider franchising their operational activities in other countries. For example, St. Thomas's Hospital in London now provides medical

services for the armed services in Germany. There is no reason why academic health centers should not be competing in this type of market.

Then there are the prospects of twinning, a concept promoted by the Commonwealth Secretariat in 1992. At the beginning of the decade, the Commonwealth Health Development Programme saw human resource development as a key strategy to be pursued in strengthening health services. Human resource development could be assisted by the twinning, or linking, of institutions in developing countries with similar but more mature organizations in other parts of the world. The arrangement should be used to promote specific objectives. It should represent the desire of the institutions to share research, learning, and teaching experiences, enhance management and organizational capability, exchange ideas, and collaborate in the solution of common problems.

ISSUES FOR FURTHER DEBATE

I believe that mining the many international opportunities in the field of health and health care must be based on relevance, cultural appropriateness, and ethical considerations. In the United Kingdom, our foreign policy now has a strong ethical dimension, particularly in the area of defense sales.

In the early 1980s, during my private-sector days at the British Association for the Advancement of Science, I spoke on the theme, "Are we selling the right things to the right people?" I emphasized then, as I do now, the importance of appropriate technology, that is, technology that is relevant to the given technosocio-economic framework at a given point in time. This was very much the policy advocated by WHO when it recommended that, in meeting health needs, technology must be geared both to the problems to be solved and to the local conditions; that it should be significantly sound and acceptable to those who apply it and to those for whom it is used; and that it should be affordable to the nation. The IOM endorses this stance by stating that scientific advances from the United States must be relevant to the country.

With the benefit of hindsight and recent experience, I would add a further requirement, namely, the key messages of the World Bank to which I have already referred and the recent Ljubljana (Yugoslavia) Charter that says that the European health care system should be:

- i. driven by values of human dignity, equity, solidarity and professional ethics,

- ii. targeted to protect and promote health,
- iii. centered on people, allowing citizens to influence health services and take responsibility for their own health,
- iv. focused on quality, including cost-effectiveness, and
- v. based on sustainable finances to allow universal coverage and equitable access oriented towards primary care.

The charter also identifies principles for managing change, namely the development of health policy. Health care reforms should be a coherent part of overall policy for health for all that is consistent with the socioeconomic conditions of each country. Major policy and managerial and technical decisions on development should be based on evidence; governments must raise value-related issues for public debate and ensure equitable distribution of resources and access of the entire population to health services. The governments should also take facilitating legislative and regulatory initiatives and, whenever market mechanisms are appropriate, they should favor competition to ensure quality and use of scarce resources.

The charter advocates listening to the citizen's voices and choices; governments reshaping the health care system based on self-care, family care, and informal care; and working with a variety of social institutions. It also advocates well-designed strategies to shift working capacity from hospital care to primary health care, community care, day care, and home care; regional health service networks; a policy of continuous quality development, reorientation of relevant human resources for health care, strengthened managerial capability, and the importance of learning from experience. There is a need to promote the national and international exchange of experience with the implementation of health care reforms and support of reform agendas. The support must be founded on a well-validated knowledge base with regard to health care reforms and proper understanding of cultural differences in health care, and must be appropriately valued.

CONCLUSION

In their discussion of global health, Moran and Wood conclude their analysis of internationalization as a case "not proven," although there are plainly powerful international forces at work: We can see the policy advocate net-

works, powerful supply and national actors in the field of health care policy, significant movement of health professionals in search of work, all taking place across national boundaries. The pharmaceutical and medical goods industries are organized on a global scale. Above all, the sheer size of health care systems means that in the advanced capitalist nations, world health care policy is shaped by national policy makers and their belief about the wider needs of national economic competitiveness—needs that in turn are the result of forces created by independent global economies.

Changes in health services and patterns of health care across the world seem both inevitable and desirable to meet the changing needs of the twenty-first century. Among the strongest influences in this context is the international development of genomics, which will lead within the next few years to the ability to produce a genetic blueprint of each human life. This will enable earlier and more accurate diagnosis or prediction of major diseases and new opportunities for prevention and treatment.

In countries at all levels of development, practitioners will have access to global information on diagnosis, treatment, and outcomes as well as information about disease outbreaks. Taken together within the global system of communication created by the World Wide Web, the implications for patterns of clinical care and the expectations and demands of patients and medical ethics around the world will be enormous.

WORK CITED

- British Medical Journal*. 1996. Global competition in health care—American managed care companies begin to look for international markets. (Editorial). Vol. 13 (September).
- Cerny, P.G. 1996. International finance and the erosion of state policy capacity. In *Globalization and Public Policy*, Phillip Gummett, ed. Cheltenham, U.K. and Brookfield, U.S.: Edward Elger.
- Enthoven, A.C. 1985. *Reflections on the Management of the National Health Service*. London: Nuffield Provincial Hospital Trust.
- Feedbaum, E., and M. Hughesman. 1997. Health care systems: Cost containment versus quality. *Financial Times*. London.
- Health and Life Sciences Panel, Technology Foresight Project. 1997. *Progress Through Partnership*. Her Majesty's Stationery Office: London.
- IOM (Institute of Medicine). 1997. *America's Vital Interest in Global Health: Protecting Our People, Enhancing Our Economy and Advancing Our International Interests*.

- Washington: National Academy of Sciences.
- Maynard, A. and K. Bloor. 1997. Regulating the pharmaceutical industry. *British Medical Journal*. 315: 26 July.
- Moran, M., and B. Wood. 1996. In *The Globalization of Health Care*, Phillip Gummett, ed. Cheltenham, U.K., and Brookfield, U.S.: Edward Elger.
- PAHO (Pan American Health Organization). 1992. *La investigacion en America Latina. Estudio de paises seleccionadas*. Washington: World Health Organization.
- Skidelsky, R. 1989. *The Social Market Economy*. London: Social Market Foundation.
- WHO (World Health Organization). 1997. *Conquering Suffering, Enriching Humanity*. WHO: Geneva.
- World Bank. 1993. *Investing in Health: World Development Indicators*. Washington: World Bank.