

#### The Next 100 Years

The months leading up to the centennial of the Pan American Health Organization (PAHO) have offered an extraordinary opportunity for reflection, for examining the deep public service roots of what is today the oldest ongoing international public health agency in the world. We know well how, at the turn of the last century, the nations of the Americas faced plague, yellow fever, malaria and cholera. We are awed by and salute those who fought back and made a difference. In founding PAHO in 1902, these Pan American health pioneers saw, in the words of World Health Organization Director-General Gro Harlem Brundtland, "that no country—not even the strongest among them—will benefit from standing alone."

Throughout the past century, public health workers across the continent joined forces in a grand venture to make the Americas a better place to live. They healed the sick and halted epidemics, traveling by horse, boat or foot, delivering vaccines, looking for signs of new diseases, cleaning up pestilent swamps, teaching the poor how to avoid disease and assessing health conditions. Their successes were legion even as their challenges mounted. They fought to reduce the pernicious inequalities that resulted in unacceptable numbers of children and mothers dying, and they lobbied to underscore the links between health and development.

The century of important achievements in health in the Americas is worthy of celebration, but we must continue to look ahead to the daunting challenges we still face. In this special issue of *Perspectives in Health*, the focus shifts to the future, honoring PAHO's centennial by looking at the future of public health. These glimpses of the future are imaginative and authoritative, written by distinguished authors who have agreed to share not only their knowledge but also their bold willingness to prophesy developments that might affect the future of public health.

The tone of this special centennial edition is set by PAHO Director George Alleyne, who assesses the prospects for another century of Pan American cooperation in health by first surveying the current state of public health in the Americas. Far from predicting Armageddon, Dr. Alleyne's analysis leads him to conclude that "the trends we have observed in the recent past can be used as portents of a much rosier health future" for the Region.

Sir Gustav Nossal, Australia's eminent vaccinologist, draws on the nearly two centuries of efforts to develop vaccines against all manner of disease, the most notable being smallpox globally and polio in the Americas. In forming predictions, Dr. Nossal points to promising new alliances, particularly the public–private philanthropic partnerships for vaccine research and development that have taken root in the last several years. He discusses the importance and likelihood of developing and delivering new vaccines, especially for HIV/AIDS, malaria and tuberculosis.

Following the ebola outbreaks in Africa several years back, the world seemed consumed by fears of hemorrhagic fevers and other emerging and reemerging diseases. Dr. C.J. Peters, the "virus hunter" who was called on to confirm those outbreaks, makes no effort to quiet our fears in predicting a future full of "microbial surprises." His essay highlights the critical links between health and the environment and the pressing need to bolster public health infrastructure.

The burgeoning field of genomics, perhaps as no other, allows us to see today some of the marvelous possibilities of the future. Juan Enríquez and Rodrigo Martínez, of Harvard Business School's Life Sciences Project, point out that DNA-embedded silicon biochips can already screen for individual genetic defects, while in the near future the antigens in mosquito saliva could deliver vaccines instead of disease. Yet availing ourselves of the marvels of the so-called life sciences revolution, they warn, will require major investments in science, technology and research.

Dr. Ilona Kickbusch, a leader in the field of health promotion, notes that in the late 20th century, public health increasingly turned its focus toward prevention of disease and promotion of healthy lifestyles. Building on its successes, health promotion in the new century will incorporate community participation, individual and social empowerment, and the actions of diverse stakeholders in a reoriented health system. Dr. Kickbusch questions where our health choices might take us and just how far the search for better health should go. Asking, "How do we want to live?" she poses perhaps *the* question for the future, not just for public health, but for humanity.

The authors in this issue lay a solid foundation for further discussion by posing questions, posturing predictions and offering suggestions about the paths we might take to the future. But in describing new visions, their words also recall those who came before us: the men and women who strove to make sure that children would not be scarred by smallpox, who set out to vaccinate whole countries on a single day. As we in international public health brave the future, we follow in the footsteps of those pioneers, heeding the words of Winston Churchill: "We shall not fail or falter; we shall not weaken or tire. Neither the sudden shock of battle nor the long-drawn trials of vigilance and exertion will wear us down. Give us the tools, and we will finish the job."

Bryna Brennan
Executive Editor





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## A New Guard, a Second Century

by Sir George Alleyne

The Pan American Health Organization's 100th anniversary in 2002 is an occasion for celebrating its past achievements. But it is also a time for taking stock of the present and looking forward to future challenges to Pan American public health.

## Protecting Our Progeny: The Future of Vaccines

by Sir Gustav Nossal

Immunization has proven to be public health's most costeffective tool, helping us to conquer some of humanity's worst scourges. How will future progress in vaccines affect global health during the next 100 years?

## Hurrying Toward Disaster?

by C. J. Peters

As population growth and globalization rapidly change the earth's ecology, the threat of emerging and reemerging diseases is growing. How can we prepare ourselves to deal with dangerous new surprises from the microbial world?

## The Next Revolution: Who's Ready, Who's Not?

by Juan Enríquez and Rodrigo Martínez

Progress in the life sciences is opening up vast new opportunities for improving health and quality of life. But Latin America and the Caribbean will benefit only if they first make a major commitment to invest in scientific research.

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by Ilona Kickbusch

Health is emerging as one of the most sought-after resources of the 21st century. But which vision of health holds the most promise for promoting equity and empowerment in the future pursuit of this basic human right?



#### Front cover:

The Pan American Health Organization celebrates its 100th anniversary in 2002. This special centennial issue honors that anniversary by looking forward to PAHO's next 100 years and to future developments in immunization, emerging diseases, the life sciences, health promotion and international cooperation in public health.

Illustration by Gilles Collette.

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# The Future Value of Health by Ilona Kickbusch

In the 21st century,
health promotion will
find new allies among
consumers, communities,
even industry. But how
will health be seen?
As a social resource,
a consumer good or
the ultimate goal of life?



healthy adult in the year 2050? Will he or she live to see the year 2102, when the Pan American Health Organization celebrates its second centennial? What life options and life choices will today's child have in either a resource-poor or a supportive environment? Who decides if he or she will live or die, be healthy or be sick?

It lies in the very nature of health that how we act today defines the future. But what vision of health holds the most promise for the future and should be driving public health actions as we forge ahead?

The answers to these questions are not easy to come by, not only because they entail speculation but also because the context in which we ask them has undergone—and is undergoing—revolutionary change. We can only speculate, for example, on the future impact of the unprecedented progress in

around a much broader question, one that sociologist Ulrich Beck has called the key political question of the 21st century: "How do we want to live?"

The context in which we ponder these and other questions is indeed extraordinary. The changes under way in public health, wellness and biotechnology are all significant enough to warrant the term "revolution." At the same time, the very nature of our underlying social organization is changing as well, as we move from industrial to knowledge-based societies

# Health as a social resource

Revolutions rarely happen overnight; sometimes it is only with hindsight that we realize they have taken place. The two public health revolutions that have changed the face of health and disease in the 19th and 20th centuries are the control of infectious disease through health protective measures and the consequent battle against noncommunicable disease through behavior modification. These have taken place over



health during the 20th century, including extraordinary gains in child survival and life spans. We cannot yet know the health effects of changing family patterns or of the changing nature of work. We cannot fathom the future consequences of the AIDS pandemic, of genetically modified food or of the increasing health gap between countries in different parts of the world.

Yet we can say with certainty that much of future health development will depend on political choices and decisions that reach far beyond the health sector. These choices revolve characterized by increasing global interdependence.

Athough some skepticism is always appropriate when revolutions are declared, it is clear that three seminal social trends will shape the future of health promotion: (1) the epidemiological shift, (2) new economic forces in the health arena and (3) developments in the life sciences. All of these will contribute to a change in our understanding of health and in the strategies we apply to ensure and improve the health of individuals and populations.

several decades. As a result of these revolutions, something momentous has been occurring in many societies: people are living longer and healthier lives, and they are becoming participants in health creation and health decision making. This has led to a new understanding and a new practice of public health.

Today, the Ottawa Charter for Health Promotion, adopted at a conference of the World Health Organization in 1986, is seen as the signal of a third public health revolution. We can now, in the words of social Our future health
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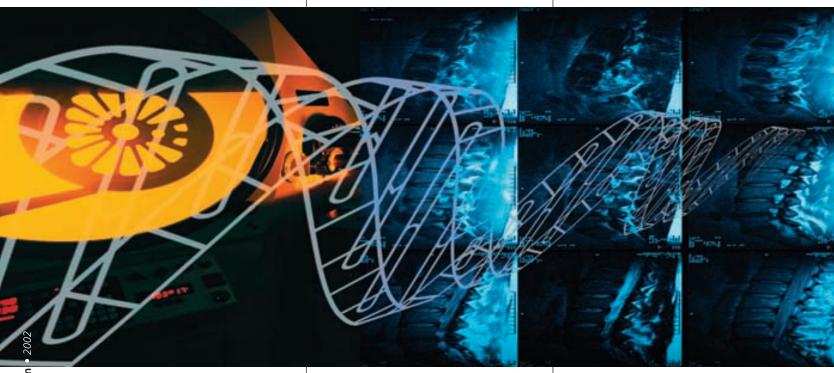
gies have recently been confirmed by two major state-of-the-art reviews on health promotion and health behavior research conducted under the auspices of the U.S. Institute of Medicine in 2000 and 2001. These reports conclude that future action in public health and health promotion must be based on an ecological model and a social environmental approach to health, one that addresses underlying factors that influence susceptibility to a whole range of diseases.

One strategy is to address health

ments now so often required by national and local laws.

A third approach is to recognize that health literacy and social capital are important for societal development and call for investments at the community level. This is reflected in the growing movements for "healthy cities" and "healthy municipalities."

Much of the future of health promotion lies in the systematic application of all three strategies as they gain increasing recognition and are supported by a mounting evidence base.



epidemiologist Lester Breslow, "turn more attention to the nature of health and regard it... as a resource for living." We can now focus health promotion strategies on "capacity building for health." In other words, *empowerment*—of individuals, communities and entire societies—is today the key factor in promoting health.

The Ottawa Charter defines five key action areas: healthy public policy, supportive environments, community action, personal skills and a reoriented health system. Its concepts and strate-

determinants by adding health as a valued resource to existing social organizations through what has been called the "settings approach." This underlies the promotion of healthy workplaces and healthy schools.

A second strategy is the development of tools and methodologies that address the health effects of policies in areas other than health, holding a wide range of public and private actors accountable for the health impacts of their policies. These would include the use of public health impact statements, akin to the environmental impact state-

# Health as an industry

Yet these strategies, like the Ottawa Charter itself, do not take sufficient account of what has become one of today's most significant social trends: the promotion of health as a product in a growing private market of health goods and services. In this arena, change will be spearheaded by the private sector and by large numbers of individual consumers who will embark on a "wellness revolution." Increasing

consumer awareness and an increasingly proactive approach to health will open up opportunities for a new type of health industry that will affect almost every aspect of modern life. Its goal will be to persuade people to voluntarily become consumers of "health" in order to feel better, to reduce the effects of aging and to avoid becoming consumers in the "sickness business."

The goods and services that make up this expanded industry include the fitness market, cosmetic surgery, lifestyle drugs (such as, for some, Viagra) and vitamins, minerals and health foods. They also include new types of health insurance, which would pay for health services instead of sickness services and reimburse the tools and services this new industry has to offer.

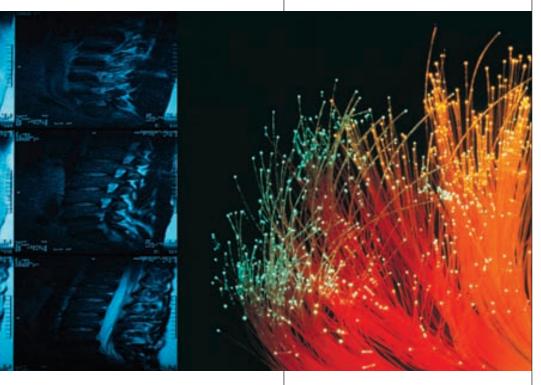
Some U.S. economists already consider the \$1.3 trillion health care industry as one of the few drivers of growth in the years ahead. By 2010, health care is expected to account for 16 percent of U.S. economic output; some say that by 2040, this could grow to 20–30 percent. Calculations

Will the health gap grow, as rich countries embark on a trillion-dollar wellness industry while poorer countries cannot afford basic care?

supplements and product enhancements. In short, health sells. In this perspective, increasing the health literacy of consumers by providing access to information on health and new health products and services lays the foundation for some of the greatest business opportunities of the foreseeable future.

This move toward making health a private, commercial and individual endeavor is an expression of larger trends in modern societies. The wellness revolution places economics as a driving force behind health by making it good business and providing the consumer with products that enhance well-being and quality of life. Unlike industries such as tobacco and alcohol, which require regulation to mitigate their adverse effects on consumers, the new wellness industry fosters a consumer movement toward products and services that create health. As Pilzer suggests, it means we can "fix the problems" using the same entrepreneurial skills that created them.

Yet all this raises serious questions about equity. As the wellness industry booms, the public health sector faces a critical shortage of public funding at the local, national and global levels, and the danger of a widening health gap grows. While the healthy and better off buy an ever-increasing amount of products and services that promote health, cuts in the public sector not only reduce prevention and health education services for the poor (such as



People are increasingly becoming participants in health creation and decision making.
This has led to a new understanding and practice of public health.

indicate that in the United States alone, the sales of the wellness industry have already reached approximately \$200 billion and that it is set to achieve sales of \$1 trillion within 10 years. In his book *The Wellness Revolution*, P. Z. Pilzer defines health as "the next big thing of the 21st century... which promises to revolutionize our lives and offers opportunities for tremendous wealth building over the next 10 years."

For many existing industries, health has become an "active added value" either as a sales pitch or in the form of

nutrition education) but also weaken public safeguards on harmful goods and services (such as access to and advertising of soft drinks and junk food in U.S. schools).

The debates around access to healthy nutrition, on the one hand, and safe food, on the other, in view of rising obesity and increasing foodborne illnesses will be one of the big public health battlegrounds of the future—but these will also provide a unique opportunity for combined public and private sector action on health. A key challenge to the future of health promotion will lie in devising strategies for harnessing the private sector for population health without increasing inequalities by making health a strictly individual concern, defined as a private good with no social dimensions or responsibilities.

# Health: the ultimate value?

As health has become one of the defining dimensions of modern societies, an increasing number of social issues are being defined in health terms and addressed through the health system. In some areas, such as rape and other types of violence, this is a welcome trend, one that can promote a more victim-friendly response.

But in other areas, the trend is more dangerous, leading us to take a standard medical approach to social adjustment and social functioning, often responding with neuropharmacological solutions. Particularly in the broad area of mental health, the line between prevention and treatment, between social norms and medical prescriptions, is ever more difficult to draw. The extensive use of Ritalin to treat U.S. school-children is a case in point.

Even addressing social determinants may take health promotion into the realm of social control. Many public health strategies must constantly strive Health should be seen as a resource for living and a process toward empowerment, not as an ultimate goal in itself.

to achieve a balance between ensuring population health and providing choices. Indeed, the human capabilities approach—as advocated by the philosopher Martha Nussbaum—states explicitly that the individual must have the freedom to choose not to function.

he larger question, both in the domain of public health and in the health marketplace, be what social, political and financial price we will be willing to pay for better health, individually and as a community, at both the local and global levels. Although it may seem benign to buy better health by joining a fitness club or choosing nutritional supplements, can the same be said of buying healthier and better children? Although it seems appropriate to strive for more health, should we not also critically consider the limits of this quest? Pilzer's list of the components of the nascent wellness industry includes genetic engineering, under which he classifies sex selection and fertility enhancement.

In his analysis of the consequences of the biotechnology revolution, Francis Fukuyama points out that genetic engineering presents a challenge not only to our assumptions about human nature but also to democracy, which is premised on the notion that all are created equal. What if, in an unregulated

marketplace, I have the means to buy my (perhaps sex-selected) child more intelligence through genetic engineering, instead of having her coached by expensive consultants for her college admissions tests? What new inequalities will we add to the great health divide as one part of the world embarks on a trillion-dollar wellness industry while the other cannot afford basic primary care?

These examples indicate that the future of health promotion lies in areas of social, economic and scientific development that the Ottawa Charter was not able to consider. But the charter can bring a vision and orientation to these new debates that is deeply humanitarian and equity oriented, and which is firmly rooted in the U.N. Declaration of Human Rights. Health promotion has always maintained that health is a social concept, a process toward empowerment—not an ultimate goal in itself.

The possibilities for improving public health are great as we enter the 21st century. But the task of improving people's control over their health is more difficult and forces us to ask tough ethical questions about health and its role in modern society. The answers will not be obvious or easy under the pressure of new markets and new technologies. Health promotion must be willing to question the value of ultimate health, just as the savage in Aldous Huxley's Brave New World questions the value of a life without disease, death and pain because it would deprive him of compassion, joy and human dignity.

Ilona Kickbusch is professor and head of the Division of Global Health in the Department of Epidemiology and Public Health at the Yale University School of Medicine in New Haven, Connecticut, USA. She was formerly director of health promotion for the World Health Organization and currently serves as distinguished scholar leader for the Fulbright New Century Scholars Program.