

WORLD HEALTH DAY 2007

INTERNATIONAL HEALTH SECURITY

ISSUES PAPER

Invest in Health, Build a Safer Future.



World Health
Organization

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ISSUES PAPER

Invest in Health, Build a Safer Future.



Threats to health know no borders

Globalization has brought the benefits of efficient transport and trade to many people across the world. It has also allowed the rapid spread of diseases that otherwise may have been contained by geographical boundaries, or that in another era may have travelled slowly enough to be brought quickly under control.

In today's world, health security needs to be provided through coordinated action and cooperation between and within governments, the corporate sector, civil society, media and individuals. No single institution or country has all the capacities needed to respond to international public health emergencies caused by epidemics, natural disasters or environmental emergencies, or by new and emerging infectious diseases. Only by detecting and reporting problems in their earliest hours can the most appropriate experts and resources be deployed to prevent or halt the international spread of disease.

World Health Day 2007: Invest in health, build a safer future

The theme of World Health Day and of the World Health Report 2007 is "international health security" – the need to reduce the vulnerability of people around the world to new, acute or rapidly spreading risks to health, particularly those that threaten to cross international borders.

In a globalized world, health issues present new challenges that go far beyond national borders and have an impact on the collective security of people around the world.

Increased collaboration among developed and developing countries will enable the international community to be better prepared to strengthen national capacities to detect and respond to disease outbreaks. This will provide a global safety net to deal with key cross-border public health issues and in turn help to make the world more secure.

This paper introduces key issues of international health security to a global audience in order to provoke debate among governments, community leaders, civil society, the corporate sector and United Nations agencies on how best to protect people from new and acute threats to their health.

The 2007 World Health Report, to be published later this year, will discuss international health security in more detail and offer solutions to reduce our collective vulnerability.

In 2008, the World Health Report and World Health Day will be dedicated to personal health security, focusing on primary health care and the humanitarian response to natural disasters and complex emergencies. Personal health security includes both the care that individuals need and the trust that medicines, vaccines and treatment will be accessible, not only for acute needs but also for entrenched epidemics and chronic diseases. This is an important subject and merits full attention and debate on its own.



Issue 1: Emerging diseases

In January 2004, intensified surveillance detected a cluster of young children with severe respiratory disease at a paediatric hospital in Hanoi, Viet Nam, many of whom had died¹. That event marked the first human cases of H5N1 avian influenza outside of China, Hong Kong Special Administrative Region. Since then, the world has been on constant alert for an influenza pandemic.

Highly contagious, a pandemic of influenza could extend the devastating consequences that had been seen with SARS to every corner of the world within a matter of weeks or months.

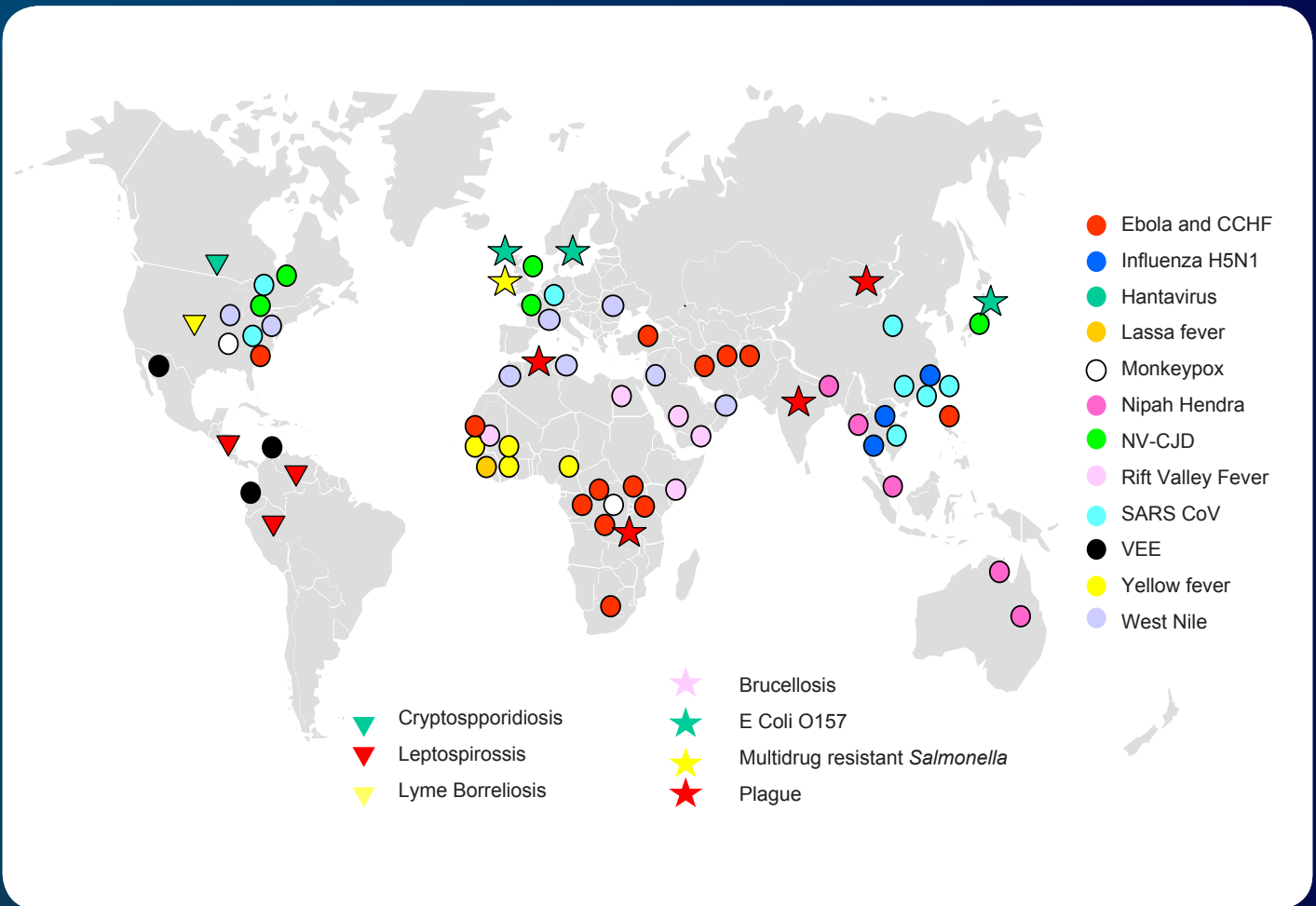
Since new diseases partly arise from fundamental changes in the way humanity inhabits the planet, the emergence of new diseases is likely to continue, if not escalate.

In the last decades of the 20th century, new diseases began emerging at the unprecedented rate of one or more per year. From 1973 to 2000, 39 infectious agents capable of causing human disease were newly identified². Even more worryingly, the rate of drug failure due to the development of microbial resistance outpaced scientific discovery of replacement drugs.

The danger that new diseases to which there is universal vulnerability will cause international harm means that countries can no longer manage certain types of outbreaks as though they were strictly domestic affairs. An absolute concept of national sovereignty has been challenged by these events and by the need to secure collective defence against the emerging disease threat.

The potential inability of affected countries to engage fully in surveillance and sustain an emergency response system over months, if not years in the case of a severe pandemic, is the single most important obstacle to international health security.

Selected emerging and re-emerging infectious diseases: 1996-2004



Key discussion points:

- ▶ *The lessons learned from SARS and other disease outbreaks should be used to strengthen national and global preparedness for the next emergency caused by an infectious disease.*
- ▶ *Capacity-building in developing countries must be practical, based on the needs of the country, and collaborative.*
- ▶ *The strength of multiple stakeholders – governments, international organizations, the corporate sector, civil society – must be leveraged to improve global response capacity.*

RESOURCES FOR MORE INFORMATION:

http://www.who.int/topics/emerging_diseases/en/
<http://www.who.int/csr/disease/influenza/en/>



Issue 2: Economic stability

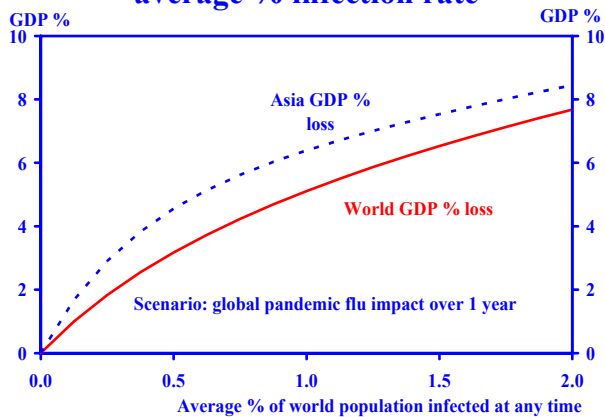
Increasing global economic integration has alleviated poverty significantly in many lower income countries of the world. Yet, along with greater access to commercial and public goods comes exposure to global public “bads”, such as the international transport of tainted food products, black markets, or the spread of disease. Increased and truly open trade and investment need to be accompanied by vigilance and good governance to prevent the adverse health consequences that can be amplified by globalization.

SARS did not become a global pandemic, nonetheless it was responsible for sizeable economic losses and insecurity in markets across Asia and worldwide. With fewer than 10 000 cases, the outbreak cost Asian countries a dramatic US\$ 60 billion of gross expenditure and business losses in the second quarter of 2003 alone³. A virulent pandemic of influenza could see an unpredictable number of deaths and many times more falling ill. Current production rates and stocks of vaccines and medications are not adequate in any country, least of all in developing countries. The potential scale of death and temporary disability would have tremendous impact on international markets, as well as causing a rapid increase in spending on health care and potentially huge losses in worker productivity.

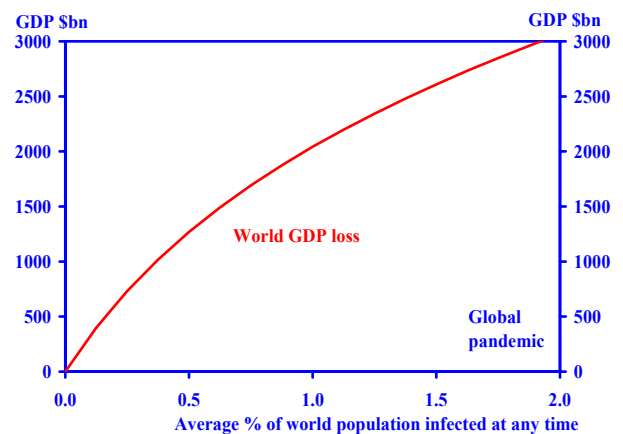
Global public “bads” not only have health consequences; they have economic ones as well. Controlling the international spread of disease is therefore good practice for economies as well as for those whose health is at risk.

Estimated economic impact of pandemic influenza

Pandemic flu: annual economic costs v average % infection rate



Total GDP loss in billions of US dollars



Source: Oxford Economic Forecasting Group.

Key discussion points:

- ▶ *Public health is a global public good.*
- ▶ *Political will and financial commitment are significant determinants of health across the world. Public health must secure greater priority and investment from governments and donors.*
- ▶ *WHO, the World Trade Organization, governments and the private sector must work as partners to ensure that drugs and services are delivered during times of acute threat and need, taking into account international agreements such as TRIPS and GATS.*

RESOURCES FOR MORE INFORMATION:

<http://www.who.int/topics/globalization/en/>
<http://www.who.int/csr/disease/influenza/en/>



Issue 3: International crises and humanitarian emergencies

Humanitarian emergencies arise from the effects of crises such as natural disasters, food and water shortages, and armed conflict. Just as these situations maim individuals, they can maim already stressed health systems that people rely on for maintaining health security.

Indirect effects of such crises include the threat of infectious disease, malnutrition, population displacement, mental illness and the exacerbation of chronic disease, all of which require strong health systems.

In cases of natural disasters, coordinated early warning and response systems, supported by networks able to assemble ranks of public health professionals and volunteers, as well as vaccines, supplies and money, provide effective relief to those worst affected.

In 2006, 134.6 million people were affected, and 21 342 were killed by natural disasters⁴. Yet, with the right policies and preparation, hurricanes, tsunamis and earthquakes are survivable. The root causes of emergencies following natural disasters are often found in land management, infrastructure and development policies. How many residents of New Orleans would have been saved had the levies not been breached during the aftermath of Hurricane Katrina? How many families would not have been searching for lost loved ones in the coastal areas of Sri Lanka had an effective early warning system been activated and people known what to do when they heard it?

Bearing health impact in mind when developing domestic and foreign policy can also be used to solve problems before they even surface. Secure water and sanitation systems, for example, improve the health of communities during times of calm and protect against the potential spread of disease during times of crisis.

Disaster preparedness strategies and humanitarian response operations together can create a balanced approach to alleviating the negative impact of natural disasters. Both rely on planning, collaboration and coordination of roles of the various sectors involved.



Key discussion points:

- ▶ *Infrastructure, land management and development policies that take public health into consideration are a powerful tool in preventing dramatic humanitarian emergencies caused by natural disaster.*
- ▶ *The need to respond to the immediate health and welfare needs of people should not undermine investment in preparedness and risk management for potential future crises, and vice-versa.*
- ▶ *In times of humanitarian response to natural disaster and conflict, donor aid must be coordinated and managed in a way that meets urgent humanitarian needs, as well as longer-term rehabilitation.*

RESOURCES FOR MORE INFORMATION:

http://www.who.int/diseasecontrol_emergencies/en/

<http://www.who.int/hac/crises/en/>

http://www.who.int/water_sanitation_health/hygiene/emergencies/sanitation/en/



Issue 4: Chemical, radioactive and biological terror threats

For much of the world, 21st century life has become greatly dependant on chemical processing and nuclear power. Public health security in turn relies on the safety of these facilities and the appropriate use of their products. The threat of chemical spills, leaks and dumping, nuclear melt-downs, and chemical weaponry invokes the notion of surprise attack or accidents, innocent victims and malicious or negligent perpetrators and causes fears that may be disproportionate to the real risk.

Most countries subscribe to international conventions banning biological and chemical weapons. However, incidents such as anthrax-tainted letters being sent through the United States postal system in 2001 and the release of sarin (the sole purpose of which is as a nerve gas) on the Tokyo subway in 1995 remind us that although chemical and biological attacks are rare, there are individuals and groups who are ready to use this brand of terrorism.

Chemical and radioactive events are routinely included in the daily global surveillance activities undertaken by WHO and are automatically picked up by GPHIN, the electronic intelligence-gathering tool that is a powerful ally in the detection of events not otherwise reported. Global response networks are well placed to respond to the health effects of chemical and radioactive incidents with the same techniques used in any disaster – prompt response, triage and treatment, securing water, food and sanitation systems.

The greater concern lies in what it is that prompts such chemical and radioactive incidents. The word accident implies lack of responsibility, yet on investigation policy, protocol or infrastructure weaknesses are frequently revealed. Attacks are premeditated. That does not have to mean they are not preventable.

BHOPAL
A HORRIFIC INDUSTRIAL DISASTER

**Nuclear Hot Spots
Unsafe Anywhere**

Drill will test region's response to

ANTHRAX ATTACK

**Worries over dumped
chemical waste**

**Filtering out
Bioterrorism**

Key discussion points:

- ▶ *Global surveillance systems must be sensitive to information detecting chemical and radioactive leaks.*
- ▶ *Global partnership is required to minimize the threat of deliberate attacks.*
- ▶ *Techniques used to respond to disease outbreaks and natural disasters can also be used to deal with the health impacts of such incidents.*

RESOURCES FOR MORE INFORMATION:

<http://www.who.int/ipcs/en/>

<http://www.who.int/ifcs/en/>



Issue 5: Environmental change

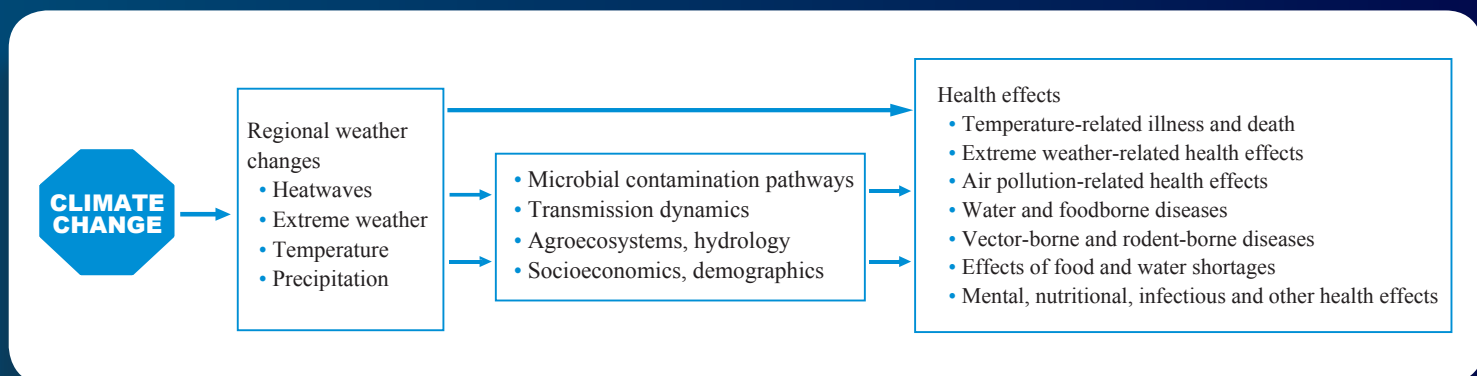
The earth's climate is changing. Temperatures are rising; tropical storms are increasing in frequency and intensity; polar ice caps and permafrost regions are melting⁵. People are dying – upwards of 60 000 in recent years in climate-related natural disasters, mainly in developing countries⁶.

Malaria outbreaks following El Niño weather events are more consistently being recorded in the highlands of Africa⁷. Intensifying heat waves cause persistent droughts that threaten food and cash crops, livestock herds and nomadic lifestyles, and can lead to escalating violence. Floods can lead to contaminated water supplies, force people out of their homes and homelands, and create new breeding ground for disease-carrying vectors. Warmer temperatures influence the migratory patterns of wild birds and hence the potential for more unpredictable spread of viruses, like H5N1, that they carry.

The scientific community has concluded that human activity is part of the problem. The acute impact of climate change-related events may be local, but the cause is global. When floods contaminate international waters, when people migrate across borders to find food and shelter, when disease patterns change due to an altered climate, the impact is felt internationally.

Solutions to the impact of global warming and changes in the environment can only emerge from collaboration and commitment between governments, corporations, foundations and nongovernmental organizations. Combating these changes will require policy decisions that will change the way people and corporations live and work. What, then is the role of public health in improving prevention?

Pathways by which climate change affects human health



Source: Adapted from Patz JA, et al. *Environmental Health Perspectives*, 2000, 108:367-376.

Key discussion points:

- ▶ ***The most dramatic health threats resulting from climate change are occurring in developing countries, that have limited culpability or resources to deal with the health and infrastructure consequences.***
- ▶ ***WHO, ministries of health and the health sector as a whole have distinct roles to play in encouraging countries to adopt environmental conservation policies, such as those in the Kyoto Protocol.***
- ▶ ***Environmental and climate changes have a growing impact on health, but health policies alone cannot prevent these changes.***

RESOURCES FOR MORE INFORMATION:

<http://www.who.int/globalchange/en/>

<http://www.who.int/heli/risks/climate/climatechange/en/index.html>

<http://www.who.int/topics/climate/en/>

A grayscale photograph of a person's hands holding a blister pack of pills. The person is wearing a dark cap and a dark shirt. The blister pack is clear plastic and contains several white, round pills. The background is bright and out of focus.

Issue 6: AIDS – provoking the health and security debate

In January 2000, when the United Nations Security Council devoted a day-long session to HIV/AIDS in Africa, it was the first time that an infectious disease had been discussed in that forum as a threat to international peace and security. It was clear that a broader security agenda had to encompass new pandemics (epidemics which spread globally) as well as the emergence of drug-resistant strains of parasites, viruses and bacteria that pose renewed threat to health globally.

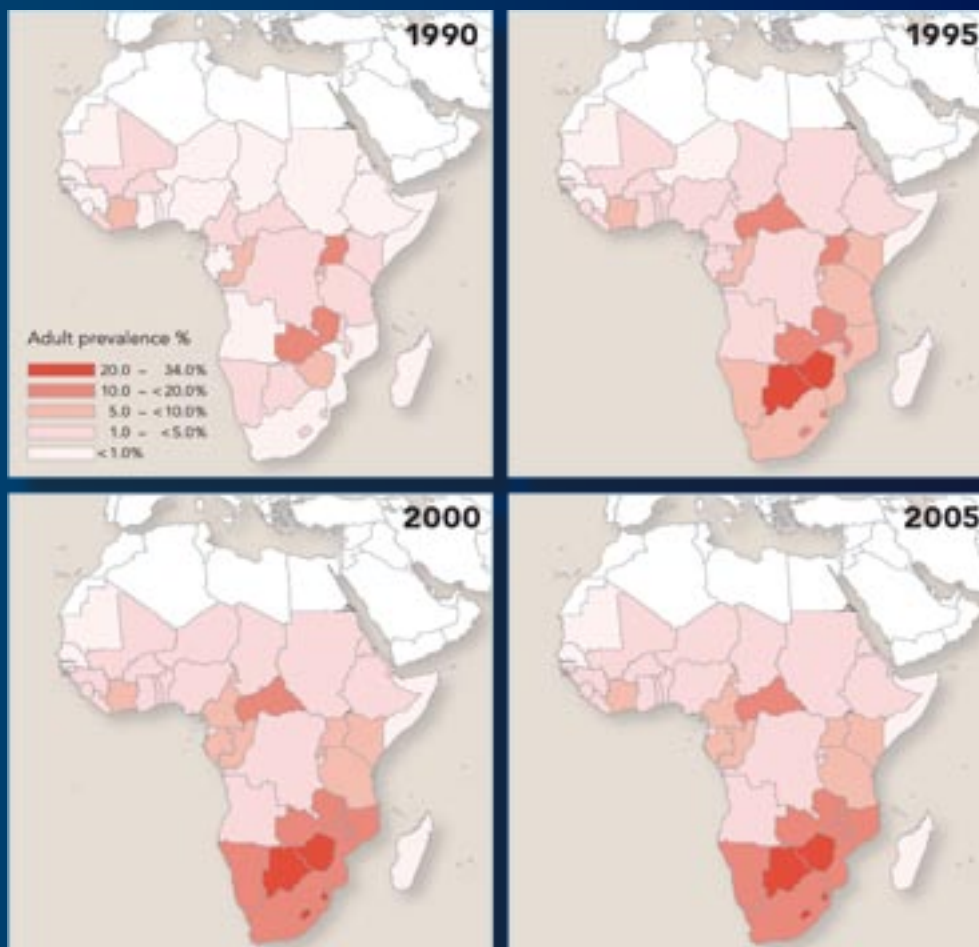
With rates of infection of 15–49 year olds approaching or exceeding 30% of the population in some sub-Saharan African countries at the time⁸, and no end to the epidemic in sight, questions were also raised about whether the disease could push fragile states to the brink of collapse.

The severe social and economic consequences of HIV/AIDS led to concerns about the personal security implications both in countries whose health care systems are struggling to meet this along with other acute and chronic health needs, and to a certain extent in those in which HIV/AIDS has become a manageable illness thanks to dependable and affordable access to treatment.

The fact that the Security Council held such a discussion demonstrates that there is deep political concern that a virus wreaking havoc and causing untold human suffering could threaten international security, perhaps on a par with weapons of mass destruction, foreign armies and militant groups.

This discussion also opened the door for health in general to be looked at through a new lens. Public health was no longer seen as irrelevant to security or as its by-product; it had become an essential ingredient. Today, emerging and newly resistant diseases like avian influenza and extensively drug-resistant tuberculosis emphasize that point as poignantly as HIV/AIDS did seven years ago.

HIV prevalence in adults in sub-Saharan Africa, 1990-2005



Source: Adapted from UNAIDS. 2006 Report on the global epidemic.

Key discussion points:

- ▶ *HIV/AIDS continues to pose personal health security threats in many developing countries striving to provide access to antiretroviral drugs, even though it has become a manageable, chronic epidemic in many other parts of the world.*
- ▶ *Efforts directed at the treatment and prevention of HIV need to be coordinated and streamlined to maximize impact.*
- ▶ *Professionals and policy-makers in the fields of public health, foreign policy and national security should maintain open dialogue on AIDS and other diseases and practices that potentially threaten national and international health security.*

RESOURCES FOR MORE INFORMATION:

http://www.who.int/topics/hiv_infections/en/

<http://www.un.org/News/Press/docs/2000/20000110.sc6781.doc.html>

<http://www.who.int/tb/xdr/en/index.html>



Issue 7: Building health security

In the globalized world in which we live, there is a common interest in preventing the international spread of disease. In recent decades, diseases have spread faster than ever before, aided by high-speed travel and the trade in goods and services between countries and continents. The rapid spread of disease can only be prevented if there is immediate alert and response to disease outbreaks and other incidents that could spark epidemics or spread globally.

The framework of collaboration laid out by the International Health Regulations (IHR) and various existing surveillance networks provide an effective early warning and response system. The IHR aim to achieve maximum protection against the international spread of disease with minimal disruption to trade and travel.

The Regulations work through requiring mandatory reporting by any country of a “public health event of international concern”⁹ that is identified within its national boundaries. The scope and definition of such an event is purposely broad and inclusive so as to allow for identification and reporting of newly emerging as well as existing threats to health.

When WHO receives an official report or rumour of an event, an investigation begins immediately and response teams are deployed as necessary through systems such as the *Global Outbreak Alert and Response Network (GOARN)*. Since its creation in 2000, GOARN partners have provided expertise and technical support for 90 events of international importance, with more than 500 experts providing direct field support to some 40 countries. Among routine successes in preventing widespread outbreaks of diseases such as meningitis, yellow fever and cholera, the network was instrumental in the control of the 2003 SARS outbreak.

Collaboration between states, especially between developed and developing countries, to ensure the availability of technical and other resources is a crucial factor not only in implementing the Regulations, but also in building and strengthening public health capacity and the networks and systems that strengthen international health security.

Strengthening international health security: A network of networks



Key discussion points:

- ▶ *National compliance with the IHR will maximize international health security.*
- ▶ *Disease outbreaks must be reported promptly and without delay.*
- ▶ *Collaboration between countries and through networks should build technical capacity.*

RESOURCES FOR MORE INFORMATION:

<http://www.who.int/csr/ihr/en/>

<http://www.who.int/csr/outbreaknetwork/en/>



Issue 8: Strengthening health systems

Functioning national health systems are the bedrock of international health security. Their objective is to provide the highest level of protection and care possible across the population. They are also the first line of surveillance for diseases, both infectious and chronic. Most diseases do not cause a “public health emergency of *international concern*”. But when a disease emerges which does pose such a threat, the alert and response required to prevent spread depend on an adequately resourced and staffed health system.

In 2003 a new, highly infectious disease took hold in parts of Asia and spread throughout the world in a matter of days. SARS did not gradually fade away. Through vigorous and coordinated public health efforts, it was deliberately driven out of its new human host before it had a chance to become permanently established, an unprecedented achievement for public health on a global scale.

Emerging diseases put great stress on any health system. The response to SARS, including in resource-poor settings, demonstrated how effective public health measures can be in responding to new threats. However, not every country has the resources or the public health system required to mount such an effective response.

Some countries would find it difficult to confront threats to health security effectively. This could be because they lack the resources needed, because their health infrastructure has collapsed as a consequence of under-investment and shortages of trained health workers, or because the infrastructure has been damaged or destroyed by armed conflict or natural disaster.



Key discussion points:

- ▶ *Strong health systems promote international health security.*
- ▶ *The current state of health systems worldwide is inadequate.*
- ▶ *Governments, WHO, international organizations, private industry and civil society are all stakeholders in and have responsibilities for strengthening health systems.*

RESOURCES FOR MORE INFORMATION:

http://www.who.int/topics/health_systems/en/
<http://www.who.int/csr/sars/en/index.html>



Conclusion:

The aim of this paper and of World Health Day itself is to spark global debate around international health security. When health threats become so great that they menace a country's infrastructure and health system, and threaten that of its neighbours, only a global vision of health shared by all countries and promoted by WHO can build trust and improve international health security.

Each nation's capacity to prevent and manage public health emergencies and to take part in joint initiatives with other countries is vital to decreasing vulnerability to health threats, increasing international health security, broadening partnerships and building diplomatic relations. In this way, approaching public health within a context of collective global solidarity enhances the security of all nations.

The way to health is not through building national fortresses. Strengthening health systems globally is an altruistic act directed towards those in need that also serves national interests of reducing domestic vulnerability to international health risks.

If all stakeholders – countries, international organizations, civil society and the private sector – work together effectively to address global public health challenges, whether that means a localized outbreak, the threat of a pandemic, or access to medicines, vaccines and other public health goods, the world can become a safer and healthier place.

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REFERENCES

1. WHO. Avian influenza A(H5N1) in humans and poultry in Viet Nam. Geneva, WHO, 2004 (http://www.who.int/csr/don/2004_01_13/en/index.html).
2. Heymann DL. Emerging infections. In: Schaechter M, ed. *The desk encyclopedia of microbiology*. New York City: Elsevier/Academic Press, 2003.
3. Rossi V, Walker J. *Assessing the Economic Impact and Costs of Flu Pandemics Originating in Asia*. Oxford, Oxford Economic Forecasting, 2005.
4. Centre for Research on the Epidemiological Impact of Disasters. *2006 Disasters in Numbers*. Brussels, Université catholique de Louvain, 2006 (<http://www.em-dat.net/documents/Confpress%202006.pdf>).
5. Intergovernmental Panel on Climate Change. *Climate Change 2007: The Physical Science Basis – Summary for Policy Makers*. Paris, February 2007. (<http://www.ipcc.ch/SPM2feb07.pdf>).
6. McMichael A, Campbell-Lendrum DH, Corvalán C, Ebi K, Githeko A, Scheraga J et al., eds. *Climate Change and Human Health: Risks and Responses*. Geneva, WHO, 2003.
7. Pascual M, Ahumada JA, Chaves LF, Rodo X, Bouma M. Malaria resurgence in the East African highlands: temperature trends revisited. *Proc Natl Acad Sci USA* 2006;103(15):5829-34.
8. UNAIDS. *AIDS in Africa - Country by country*. Geneva, UNAIDS, 2000 (http://data.unaids.org/Publications/IRC-pub05/AIDSAfrica2000_en.pdf).
9. *International Health Regulations 2005*. <http://www.who.int/csr/ihr/en/>

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World Health Day



www.who.int/world-health-day/2007