



The World Bank
Health Nutrition and Population
Public Health Policy Note

Connecting Sectors and Systems for Health Results

Anne Maryse Pierre-Louis, Sameh El-Saharty, Anderson Stanciole, Olga Jonas, F. Brian Pascual,
Robert Oelrichs, Montserrat Meiro Lorenzo, Tonya Villafana, Fernando Lavadenz, Marcia Rock



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December 2012

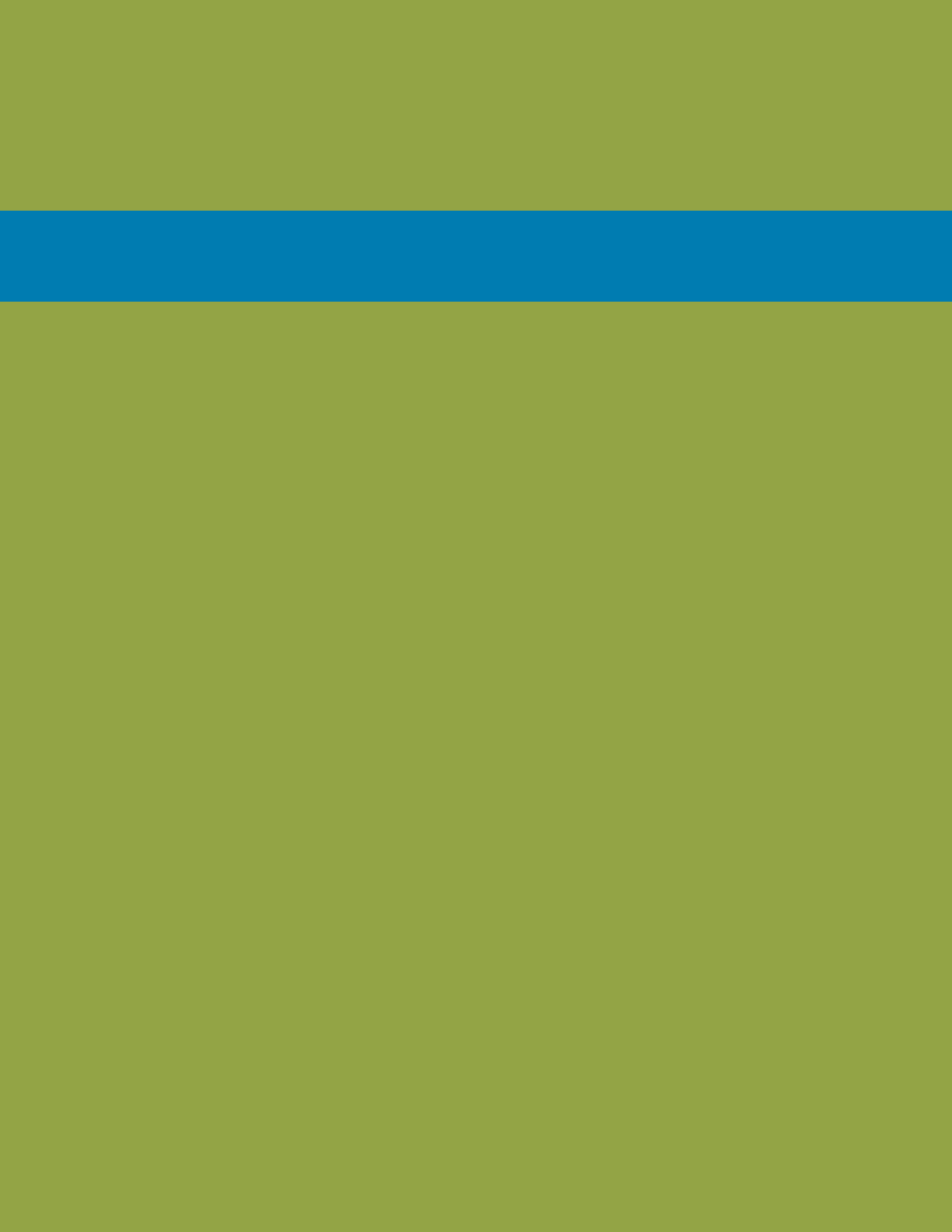


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Preface

Strengthening public health—that is, improving the health of whole populations through action across all relevant sectors—is at the heart of the World Bank’s mission. This Policy Note takes stock of the global progress in public health over the past decade; lays out the challenges that must be addressed for this progress to be sustained and accelerated; and proposes an approach for the Bank to maximize its contribution to public health in the years ahead.

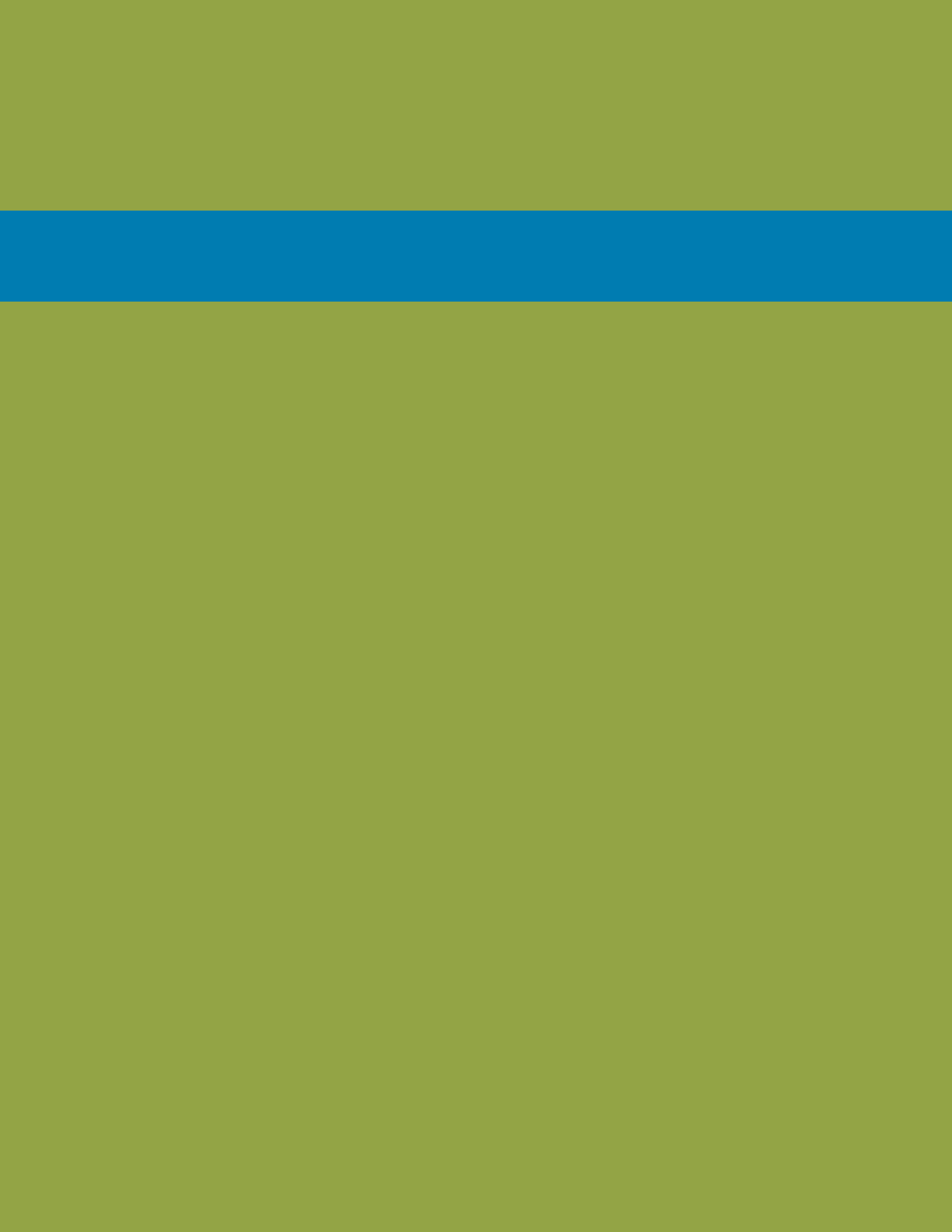
This Note comes at a critical juncture, given the important gains made in public health over the past decade. Key global indicators—including life expectancy at birth, under-five mortality and maternal mortality—have shown steady improvement, while initiatives such as the scale-up of polio vaccination and the distribution of bed nets to combat malaria have saved millions of lives. The Bank is proud to have worked with countries and development partners to contribute to these achievements.

Yet as we prepare to take our efforts to the next level, we must be cognizant of major changes and new challenges emerging in the public health landscape. For the first time in human history, non-communicable diseases (NCDs) have become the leading causes of death—but the battle against communicable diseases is by no means won. At the same time, rapid urbanization, intensive livestock rearing, and the global movement of people and goods hold the potential to spread existing diseases

and heighten the risk of new ones. In this context, health systems are likely to come under significantly greater pressure.

The Note emphasizes that the Bank will need to root its future public health efforts in its areas of comparative advantage—including its capacity to analyze the economic and development impact of health investments, and its extensive experience in working across sectors for health results. The Bank finances investments in all the sectors that impact health—including education, social protection, infrastructure, water and sanitation and transportation, to name a few—and is well placed to help mobilize such sectors through coordinated, population-based interventions to improve health and accelerate development. Given its analytic capability, the Bank has a potentially critical role to play in focusing finite budgets on the most cost-effective actions, particularly in prevention and health promotion.

The dual challenge of meeting the health Millennium Development Goals (MDGs) and stemming the rise of NCDs has been described as a “tiger with two heads”. The public health arena in the years ahead will indeed be a complex one. This Note sets out a clear vision for how the World Bank can navigate the challenges and ensure that its resources, along with the expertise of its staff, deliver the greatest possible contribution to public health in developing countries.



Executive Summary

The world has seen significant advances in public health over the past decade. Key global indicators—including life expectancy at birth, under-five mortality and maternal mortality—have shown steady improvement, in good part thanks to public health interventions by countries and their development partners. These include the unprecedented scale-up of vaccination against preventable diseases, access to safe drinking water, malaria prevention, HIV/AIDS services, tuberculosis control, and tobacco control.

The World Bank has played a major role in many of these efforts, working in strategic partnership with countries and public and private agencies. The Bank's ramp-up of funding for public health—through projects driven by many different sectors—has formed part of the steady growth in Donor Assistance for Health (DAH) over the past twenty years. Just as importantly, the Bank has helped spark a growing realization that the health of a country's people contributes significantly to its economic development. The Bank's efforts have contributed to an increasing global focus on population-based activities, spanning multiple sectors rather than healthcare alone, to improve health outcomes. And World Bank studies have shown how sound economic analysis can help focus limited resources on the most efficient health interventions, particularly prevention.

For the Bank's work in public health, the question is now: what next?

Arriving at the answer is no simple matter, particularly in the context of the current dialogue about global priorities beyond the 2015 Millennium Development

Goals (MDGs). The preparation of the Policy Note is very timely. For one thing, major gaps remain in global public health, particularly in the health indicators of the poorest populations and fragile states—underlining the key role of public health in the Bank's mission to achieve a “World Free of Poverty”. Further, recent pandemic threats create a vivid reminder of the need to strengthen prevention and preparedness efforts.

At the same time, the global landscape is undergoing major shifts including globalization, rapid urbanization, and climate change, all with profound implications for the public health agenda. Perhaps the most far-reaching shift is an epidemiological one, namely the rise of non-communicable diseases (NCDs) as the leading cause of death and disability in almost every region—even as many countries still face significant gaps in meeting the health-related MDGs and addressing major zoonotic diseases. Other developments provide important new opportunities to advance public health, including a revolution in technology; new evidence on the cost-effectiveness of prevention; and expanding DAH contributions from Brazil, Russia, India, China, South Africa (BRICS) and other nations.

In this complex and challenging context, this Policy Note sets out a vision for the Bank's approach to public health over the next five years, formulated by the Bank's Health, Nutrition and Population (HNP) family on the basis of extensive consultations with regions and sectors, analysis of the literature, and assessment of the Bank's current footprint in public health. Although the Policy Note's intended audience is primarily internal, it will also inform collaboration with partners. This Policy Note is not a strategy or action plan, and therefore does

not include a detailed set of actions which those types of documents would be expected to cover. However, it proposes ways to help move toward the vision.

In a nutshell, the vision is to connect sectors and systems for health results—a bold yet achievable outcome. The realization of this vision would see the Bank playing a core role in promoting sustainable goals on healthy living—and helping ensure that high impacts and high returns are delivered against these goals at country level. While building on what has taken place in public health in the Bank, this vision brings new dimensions for future directions. It would catalyze a shift in mindset within the Bank, placing the responsibility for health results not just in the HNP sector, but across multiple sectors, thus empowering other sectors to pay greater attention to the health outcomes of their operations. This is a major departure from past experiences in the Bank when involvement of other sectors in health was mostly accidental as opposed to systematic. Finally, the vision would strongly encourage the use of economic evidence to inform policy decisions and practices, both within the Bank and at country level.

The vision is built on three strategic pillars, each one imperative for advancing and sustaining public health. The first is to galvanize actors outside the health sector to address the key determinants of health outcomes. The second is to assist countries in facing the dual challenge of meeting the MDGs and addressing the rise of

NCDs—a veritable “tiger with two heads”. The third is to help build sufficient and sustainable government stewardship capacity for public health.

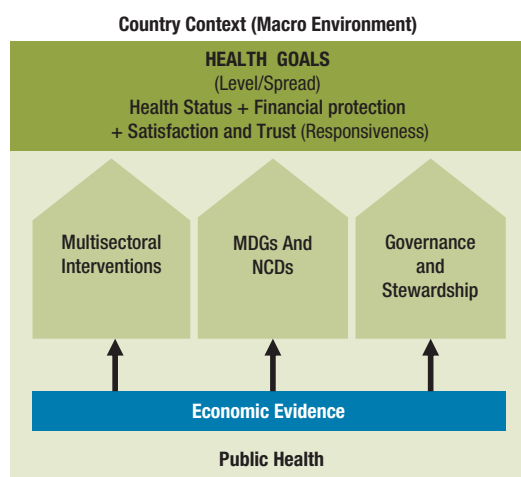
These pillars build on the main areas where the Bank can make a significant difference based on its areas of comparative advantage, namely: the ability to foster actions across sectors for health results; the ability to promote a systems-based approach to address major public health threats; and the capacity to carry out economic analyses to guide evidence-based policies and influence high-level policy dialogue.

The figure shows how these pillars form the basis for an integrated approach by the Bank to strengthen public health. The three pillars are detailed below.

Pillar I: Fostering multisectoral interventions to maximize returns on investments in health. In the changing global context, sustaining ongoing gains and making progress in public health will, in many cases, require mobilizing across sectors, as a substantial part of the work and investment required will be from actors outside the health sector. Building on and strengthening its existing platform of intersectoral work, the Bank will involve non-health sectors in tackling the major socio-economic risk factors to address NCDs, communicable diseases and injuries. In this context, developing a diagnostic tool to leverage investments and policy action in non-health sectors depending on country context, will assist TTLs as well as policy makers to engage in a constructive dialogue and serve as a powerful catalyst for a shift in mindset to improving health outcomes. This approach will be crucial, particularly in developing countries, to maximize returns on investments in health and so prevent premature, avoidable deaths and disability in people in their productive years, and promote healthy aging.

Pillar II: Identifying country-specific, cost-effective actions to help countries face the dual challenge of meeting the MDGs and addressing NCDs. The Bank will place particular emphasis on policy actions and interventions that can build synergies to advance both agendas simultaneously and increase the opportunity set available to countries. At the same time, the Bank will initiate actions to assist countries in undertaking the health systems adaptations required to address the rise

Figure ES • World Bank Integrated Approach to Strengthen Public Health



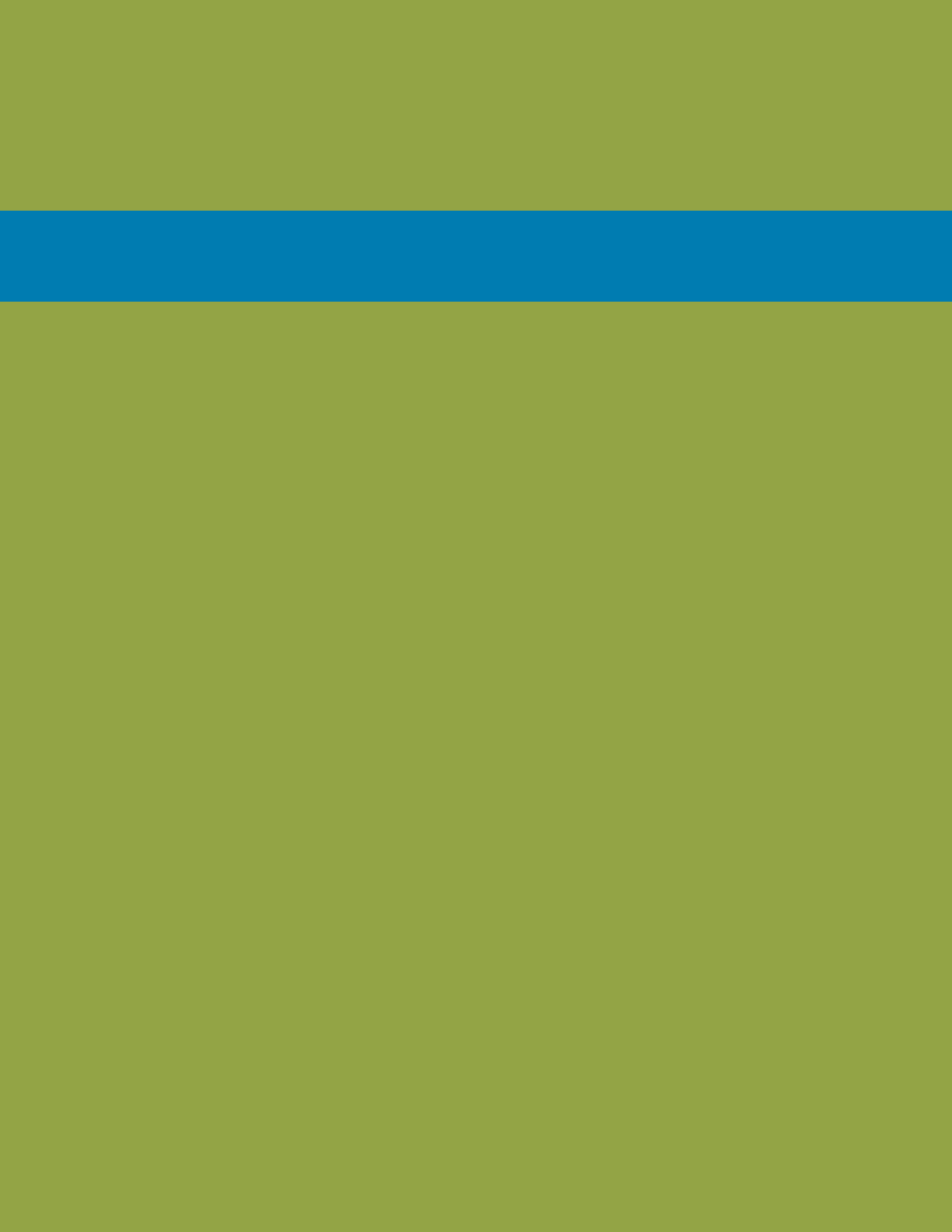
of NCDs, as this will also play an important role in preventing premature death and disability.

Pillar III: Strengthening countries' governance and leadership to anticipate, address and manage public health challenges. Particular emphasis will be placed on enhancing countries' capacity and stewardship role to perform essential public health functions at the national and regional levels, as well as on promoting interfaces across systems (human, animal and ecosystems), professions and disciplines.

The Bank's work under each of the pillars will be supported by vigorous efforts to promote the use of economic evidence to inform the formulation of effective public health policies. The Bank will take the lead in producing the necessary economic analysis, including

the economic impact of NCDs; the economic returns of investments in prevention; and on the impoverishment impact of disease and injury.

Finally, translating the vision and the three strategic pillars into reality in the Bank's operational work will require a strong institutional mandate. The full promise of multisectoral action in health is unlikely to be met until the Bank takes a hard look at its organizational structures and business procedures to break across silos and identify mechanisms to improve health outcomes. Working effectively across sectors will require an enabling environment which provides the right institutional incentives as well as adequate resources for staff across sectors to engage actively in this new way of doing business.



Acknowledgements

The Public Health Cluster of the Human Development Health, Nutrition and Population unit (HDNHE) acknowledges the regions and the sectors of the World Bank and the many staff who provided input to this Public Health Policy Note. Their professional expertise, institutional knowledge and collective vision for public health provided the inspiration for the document's main messages and rich content. The Policy Note was prepared by a team led by Anne Maryse Pierre-Louis (Lead Health Specialist, HDNHE), and composed of Sameh El-Saharty (Senior Health Policy Specialist, SASHN), Anderson Stanciole (Economist, HDNHE), Olga Jonas (Economic Adviser, HDNHE), F. Brian Pascual (Operations Analyst, HDNHE), Robert Oelrichs (Senior Health Specialist, HDNHE), Montserrat Meiro Lorenzo (Senior Health Specialist, HDNHE), Tonya Villafana (Senior Health Specialist, HDNHE), Fernando Lavadenz (Senior Health Specialist, LCSHH) and Marcia Rock (Consultant, HDNHE).

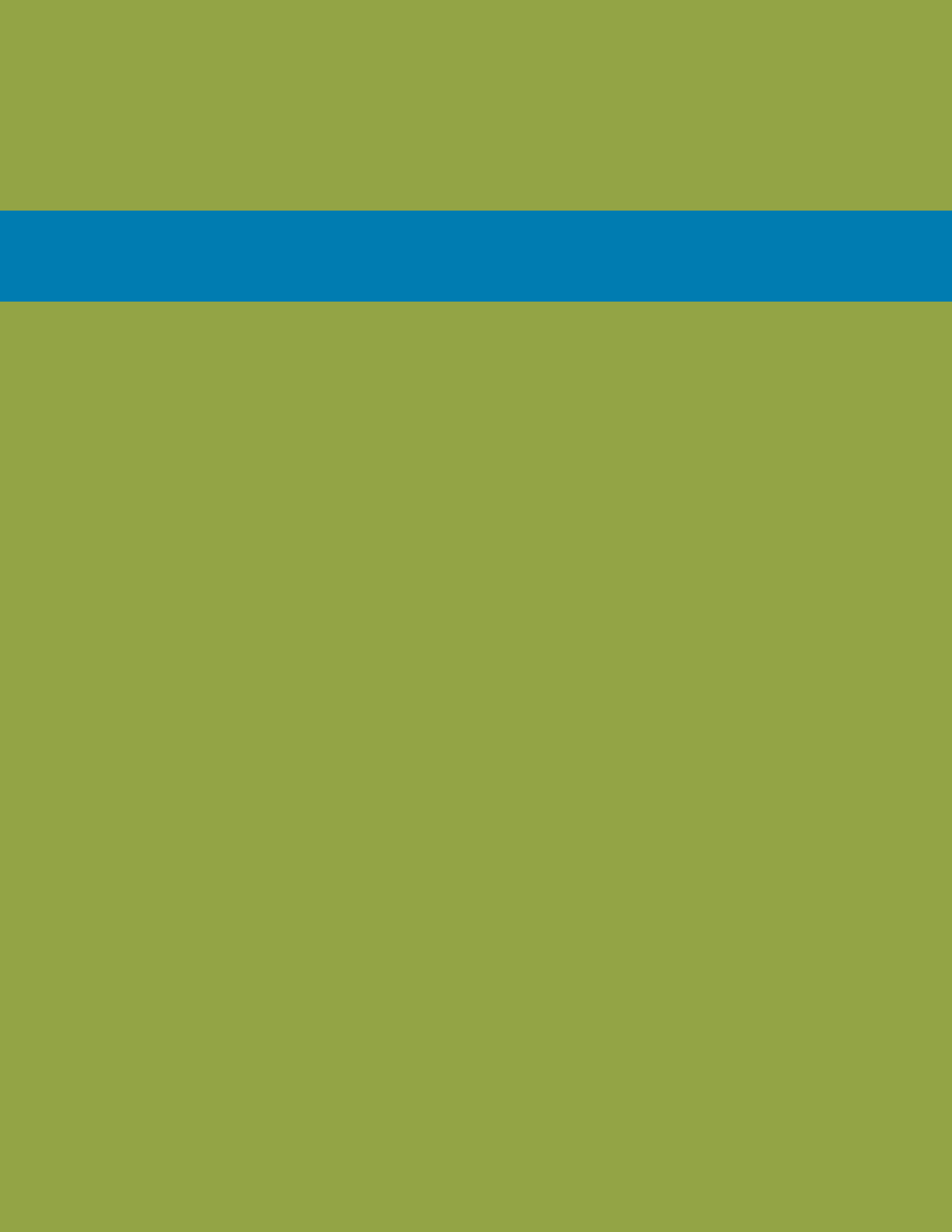
The Team would like to extend its profound gratitude to colleagues who have taken the time to review the document several times during its production and provided detailed comments, particularly Kees Kostermans (Lead Public Health Specialist, SASHN), Son Nam Nguyen (Senior Health Specialist, ECSH1), Irina Nikolic (Health Specialist, HDNHE). The team is also grateful for the support received from Miyuki Parris (Operations Analyst, HDNHE) and Victoriano Arias (Program Assistant, HDNHE).

Overall guidance to the team and strategic input were provided by Joana Godinho (Sector Manager, LCSHH), Julie McLaughlin (Sector Manager, HNP, SASHN), Enis Baris (Sector Manager, MNSHD), Jean J. de St. Antoine

(Lead Operations Officer, AFTHE), Abdo Yazbeck (Lead Economist, Health, AFTHE), Armin Fidler (Lead Adviser, Health Policy and Strategy, HDNHE), the members of the Public Health Community of Practice Executive Committee, particularly Jacqueline Levine (Senior Water & Sanitation Specialist, TWIWP), François Le Gall, (Adviser, AES), Julie Babinard (Environmental and Social Development Specialist, TWITR), Mikul Bhatia (Senior Energy Specialist, SEGEN), Sameer Akbar (Senior Environmental Specialist, ENV), Patricio Marquez (Lead Health Specialist, AFTHE), Leslie Elder (Senior Nutrition Specialist, HDNHE), Tamer Rabie (Senior Health Specialist, MNSHH), as well as John Langenbrunner, (Lead Economist, HDNHE), Brian Bedard (Senior Livestock Specialist, ECSAR), Caroline Plante (Livestock specialist, AES), Shiyong Wang (Senior Health Specialist, EASHH), and Aparnaa Somanathan (Senior Economist, EASHH).

Strong support and guidance were provided to the team by Cristian Baeza, (Former HNP Director,) and Nicole Klingen (Acting HNP Director, HDNHE). Their input was sustained from the genesis through the development and completion of the Policy Note.

Peer reviewers for the Policy Note included: Dominic Haazen (Lead Health Policy Specialist, AFTHE), François Le Gall, (Adviser, AES), Claudia Rokx (Lead Health Specialist, ECSH1), Dr Isabella Danel (Associate Director for Program Development, Center for Global Health CDC), Sir George Alleyne (Director Emeritus, PAHO), Dr Keiji Fukuda (Assistant Director General, Health Security and Environment, WHO). The team would like to express its appreciation for their comments which have contributed to and enriched the document.



Abbreviations and Acronyms

AAAs	Analytical and Advisory Activities	EPHF	Essential Public Health Function
ACT	Artemisinin Combination Therapies	ESW	Economic and Sector Work
AES	Agriculture and Environment Services	EU	European Union
AFR	Sub-Saharan Africa Region	FAO	Food and Agricultural Organization of the United Nations
AHI	Avian and Human Influenza	FCTC	Framework Convention on Tobacco Control
AMFm	Affordable Medicine Facility for malaria	FESP	First Education Sector Project
AMR	Antimicrobial resistance	FMD	Foot and mouth disease
AMRH	East African Medicines Regulatory Harmonization Project	FY	Fiscal Year
BBL	Brown bag lunch	GAVI	Global Alliance for Vaccines and Immunization
BMGF	Bill and Melinda Gates Foundation	GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
BOD	Burden of Disease	GHG	Green House Gas
BRICS	Brazil, Russia, India, China, South Africa	GHSi	Global Health Strategies initiatives
CAS	Country Assistance Strategy	GMAP	Global Malaria Action Plan
CDC	U.S. Centers for Disease Control and Prevention	GMRH	Global Medicines Regulatory Harmonization
CD	Communicable Disease	GPAI	Global Program for Avian Influenza Control and Human Pandemic Preparedness and Response
CHDI	Community Health Data Initiative	GPARG	Global Plan for Artemisinin Resistance Containment
COHRED	Council on Health Research for Development	GPEI	Global Polio Eradication Initiative
DAH	Development Assistance for Health	GPIRM	Global Plan for Insecticide Resistance Management
DALY	Disability Adjusted Life Year	GRSF	Global Road Safety Facility
DEC	The research and data arm of the World Bank	GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (formerly GTZ)
DfID	UK Department for International Development	HDN	Human Development Network of the World Bank
DHS	Demographic and Health Surveys	HDNHE	Human Development Health, Nutrition and Population – Health
DOTS	Direct Observation Treatment		
DPL	Development Policy Lending		
EAC	East African Community		
EACC	Economics of Adaptation to Climate Change		
EAP	East Asia and Pacific Region		
ECA	Europe and Central Asia Region		
EP	Emergency Program		

HDSS	Health and Demographic Surveillance Systems	OIE	World Organisation for Animal Health
HHS	U.S. Department of Health and Human Services	P4R	Program for Results
HIC	High Income Country	PAHO	Pan American Health Organization (WHO Regional Office)
HNP	Health, Nutrition and Population	PEI	Polio Eradication Initiative
HSS	Health Systems Strengthening	PEPFAR	President's Emergency Plan for AIDS Relief
IANPHI	International Association of National Public Health Institutes	PH COP	Public Health Community of Practice
IAP	Indoor Air Pollution	PH	Public Health
IAVI	International AIDS Vaccine Initiative	PHC	Primary Health Care
IBRD	International Bank for Reconstruction and Development	PMI	Presidents Malaria Initiative
IDA	International Development Association	PPP	Public Private Partnership
IHME	Institute for Health Metrics and Evaluation	PREM	Poverty Reduction and Economic Management (Network)
IHP+	International Health Partnership and Related Initiatives	PVS	Performance of Veterinary Services
IHR	International Health Regulations	PWID	People Who Inject Drugs
IMF	International Monetary Fund	RBF	Results Based Financing
JICA	Japanese International Cooperation Agency	RBM	Roll Back Malaria
LAC	Latin America and the Caribbean	RHAP	Reproductive Health Action Plan
LIC	Lower Income Country	SADC	Southern African Development Community
LMICs	Lower and Middle Income Countries	SAR	South Asia Region
MCA	Multisectoral Constraints Assessment	SARS	Severe Acute Respiratory Syndrome
MDG	Millennium Development Goal	SDN	Social Development Network
MDR TB	Multi Drug Resistant Tuberculosis	SIL	Specific Investment Loan
MIC	Middle Income Country	SUN	Scaling-Up Nutrition
MNA	Middle East and North Africa Region	TB	Tuberculosis
MOH	Ministry of Health	TTL	Task Team Leader
MS	Multisectoral	UN	United Nations
MSA	Multisectoral Assessment	UNAIDS	Joint UN Programme on HIV/AIDS
MSM	Men Having Sex with Men	UNFPA	United Nations Population Fund
NCD	Non-Communicable Disease	UNIDO	United Nations Industrial Development Organization
NEPAD	The New Partnership for Africa's Development	USAID	United States Agency for International Development
NGO	Non-Government Organization	USDHHS	United States Department of Health and Human Services
NHA	National Health Accounts	WBG	World Bank Group
NPHI	National Public Health Institute	WBI	World Bank Institute
NTD	Neglected Tropical Disease	WDI	World Development Indicators
ODA	Official Development Assistance	WHO	World Health Organization
OECD	Organization for Economic Co-operation and Development	WSP	Water and Sanitation Program
		XDR TB	Extensively Drug Resistant Tuberculosis

Introduction

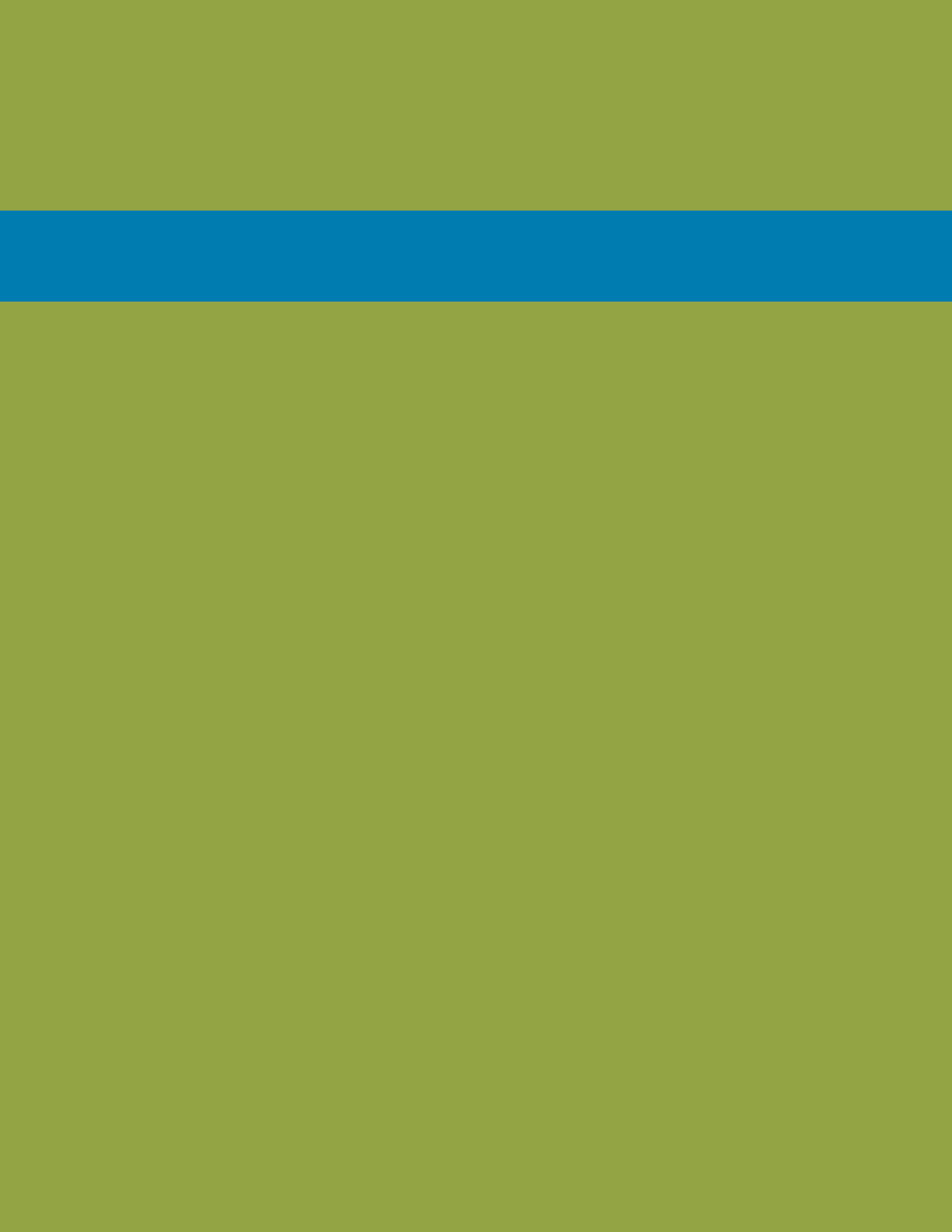
Public health has made great gains over the past decade. Key global indicators—including life expectancy at birth, under-five mortality and maternal mortality—have shown steady improvement in most countries. Initiatives such as the scale-up of polio vaccination and the distribution of bed nets to combat malaria have had dramatic results, saving millions of lives. The substantial investments made by countries and development partners in public health have certainly paid off, and there is every reason to continue and step up these efforts.

Yet the public health landscape is undergoing major change, presenting both a new set of challenges and fresh opportunities to improve health outcomes. For the first time in human history, non-communicable diseases (NCDs) are leading causes of death (WHO 2011a)—but the battle against communicable diseases is by no means won. Rapid urbanization, global movement of people and goods, population encroachment in previously wild areas, and intensive livestock rearing have the potential for spreading existing diseases and heightening the risk of creating new ones, while putting greater pressure on health systems. Recent and ongoing pandemic threats are vivid reminders of the need to increase prevention and preparedness efforts, which will require active management of gaps among systems, institutions and professions. In this changing context, sustaining ongoing gains and making progress in public health will in many cases require mobilizing across sectors, as a substantial part of the work and investment required

will be from actors outside the health sector. It will also mean building solid capacity to help countries perform their governance and stewardship role in public health.

Against this backdrop, the World Bank has a profound opportunity to apply its public health capacity to contribute to improved health results at the country and global level—not by diluting its efforts, but through focusing its energies on a limited set of approaches and actions rooted in its areas of comparative advantage. The purpose of this Public Health Policy Note therefore is to set out a clear approach and roadmap for the Bank's work in public health over the next five years, building on existing work in this area. This approach will place primary emphasis on population-based actions and policies. It will also focus on prevention as the most cost effective way for many countries to address the dual challenge of meeting the health Millennium Development Goals (MDGs) and the rise of NCDs.

The Policy Note has been prepared with the objective of influencing World Bank operations staff whose work relates to public health. It is intended to guide their discussions in the Bank, within country teams and with the Bank's client countries—including how best to mobilize key sectors to improve health outcomes. Although the Policy Note is primarily an internal document, it is also intended to serve as a vehicle for communicating the Bank's vision to enhance its role in public health.



Public Health: Core to Global Development and the World Bank's Mission

This Chapter defines and sets out the key principles of public health, and explains why public health is a “game changer,” fundamental for development and core to delivering on the World Bank’s Mission. It then examines the roles of key players in public health, as well as the World Bank’s own work to date in public health.

What is Public Health? Definition and Principles

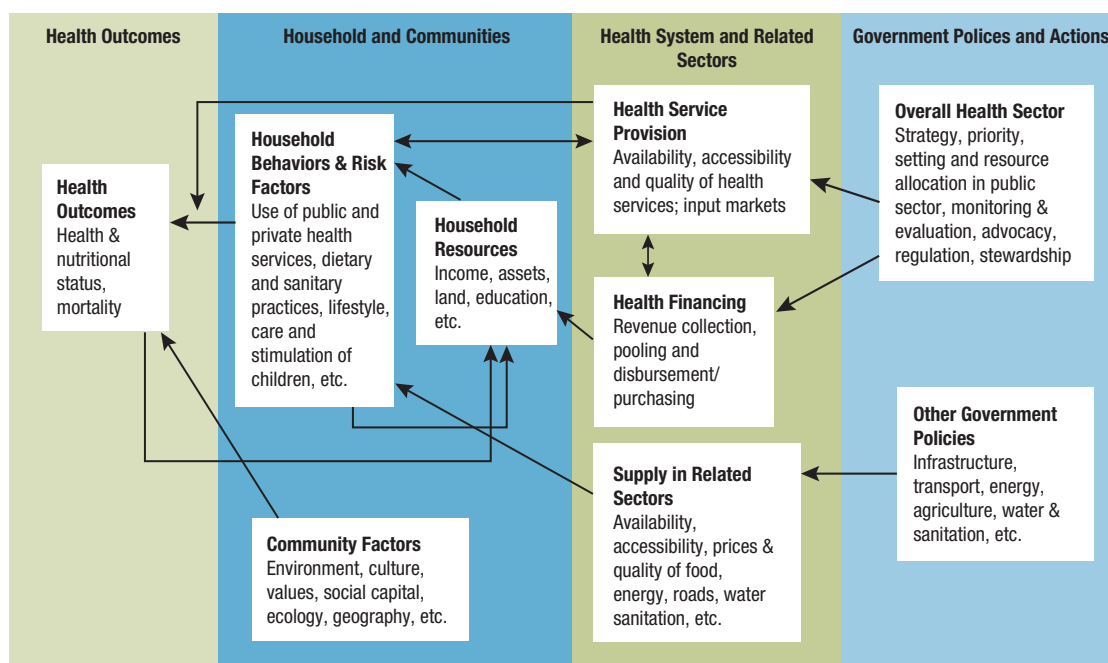
What is public health? A few overarching principles run across the many definitions which exist (Acheson 1988; World Bank 2002;):

- The focus is on the health of whole populations, with equity amongst different segments of society as a basic tenet
- Priority is given to prevention, particularly primary prevention
- The state has primary responsibility for guiding the development of policies and implementation of actions aimed at protecting and promoting the public’s health as this stewardship function cannot be left to the market.
- Society’s collective efforts to improve public health need to be organized around a set of actions that are supported by science, and underpinned by the requisite skills and culture

- Multidisciplinary actions—beyond the health sector alone—are needed to address the risk factors and underlying determinants of health.

Annex 1 defines public health in greater detail; Annex 2 presents a set of essential public health core functions identified by the PAHO, CDC and WHO, which serves to guide governments in playing their stewardship role in public health.

Regardless of the particular country-level configuration of core functions, effective approaches to public health are characterized by sound analysis and a demonstrable understanding of the various socioeconomic determinants of health outcomes. These determinants might be proximal or distal, and include areas ranging from water and sanitation, to food availability, quality, safety, and prices, to household assets (see Figure 1). They point to the need for a “whole of government” or “health in all policies” approach to major public health issues. Although discussions have taken place and are still ongoing on this topic (Rio+20 Conference 2012; WHO 2012c), there has been insufficient emphasis placed on addressing key determinants of health outside of the health sector, which leads to missed opportunities to improve health outcomes. Studies have, however, repeatedly shown the health benefits of policies that are not directly related to the health sector (Baeza et al. 2011). There are mutually reinforcing links among improved health and economic development,

Figure 1 • Determinants of Health Outcomes

Source: Claeson et al. 2001.

labor productivity, and household resilience to shocks. As pointed out in a World Bank technical discussion document, “There is growing evidence on the health impact of non-health sector investments in a number of areas such as environmental pollution, transportation, and indoor air pollution. In some cases, such as in education, the impact is likely to be as great as or greater than for health-sector interventions.” (Baeza et al. 2011).

Public Health – A Game Changer for Development, Equity and Poverty Eradication

The health of the people of a country contributes to that country’s economic growth because disease acts as a tax on labor and gives rise to health care costs. Since healthier workers are more productive, missing fewer days from work, health is both an objective of development and a factor of production. Furthermore, focusing on public health provides more value for money: limited resources are spent on where they are most needed, and where they have the greatest impact.

In this context, public health is a “game changer” for unlocking equitable development, in several important respects. For one thing, public health can guide policies to anticipate and address the most pressing population-wide health problems which affect the poor most, and to allocate resources more efficiently to achieve the greatest feasible reduction in the burden of disease. In so doing, it can contribute significantly to economic growth and poverty reduction over the medium and long-term—making public health fundamental to the World Bank’s mission to achieve a “World Free of Poverty.” The measures promoted by such public health policies will typically emphasize prevention, to avoid unnecessary human, economic, and social costs.

For the poor, there can be a marked difference in socio-economic well-being between good and poor health. Poor populations often lack access to relevant information and preventive services that influence health status. This in turn leads to high incidence of conditions which could have been prevented, and treatments which often impose unaffordable financial burdens on poor households.

Second, well-conceived public health measures can thwart epidemics promptly and effectively at their source, which is typically in livestock. Early detection and control of zoonotic diseases means acting before people become infected, contagion spreads, and costs to human health and to the economy rise rapidly. A severe influenza pandemic (such as may originate in poultry or swine) with 70 million fatalities would have a global economic cost of \$3 trillion, or 4.8% of GDP (Burns et al. 2008). Prompt control of infectious disease outbreaks, requiring collaborative public health action across countries, is a global public good which countries have an interest in acquiring. Public health policies can curb these risks. Finally, increasing drug resistance, as is currently the case for tuberculosis; for malaria in Asia's Sub-Mekong region; and for antimicrobials and counterfeit drugs point to the need for effective cross-border action (WHO 2012a).

Economic arguments for investing in public health include addressing market failures, increasing societal welfare and boosting returns on investment in health and other sectors. The existence of market failures does not automatically point to government provision or financing. However, public health often requires government intervention, for example through regulation, taxation, subsidies and legislation.

Some public health interventions deal with information asymmetries, for instance food labeling or information on health services quality. Others address externalities, such as vaccination and clean water legislation. Finally, some interventions have a public good nature such as clean air laws, as well as disease and risk factors surveillance.

Public health improves social welfare. As stated above, most public health interventions benefit the poor in greater measure because they address risk factors at population level that affect the poor more than the rich, such as lack of healthy sanitation conditions, exposure to rodents, poultry and other livestock, or access to quality health care.

From the public finance point of view, the increase in chronic diseases that is taking place across the world is already straining government budgets. In this context, public health interventions, which emphasize prevention,

provide effective ways to control costs in the medium and long term.

The Role of Development Partners in the Global Public Health Arena

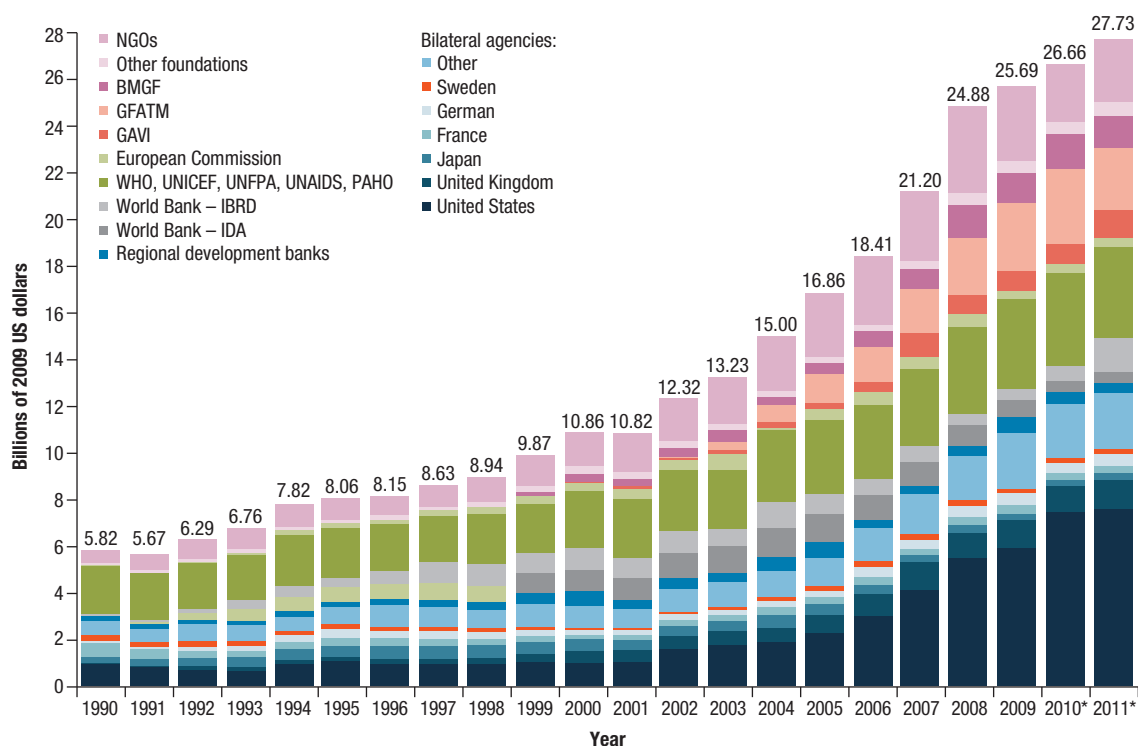
Reflecting widespread recognition of the fundamental importance of health including public health, Donor Assistance for Health (DAH) increased significantly between 1990 and 2010 (Murray et al. 2011). Other key agencies such as the OIE, the reference organization for animal health and zoonoses, are also playing a critical role in public health globally. The number of health initiatives from public as well as private sources has also risen, with such initiatives often becoming more complex. Influenced by these developments, the roles of governments and traditional donors are adjusting. Additionally, many countries, most notably Brazil, Russia, India, China and South Africa (BRICS) have advanced onto the global development stage. These and other developments are changing the way that aid for health is being provided.

Global Initiatives and Developments in Foreign Assistance

As shown in Figure 2, donor assistance more than doubled between 2000 and 2011. However, progress toward the health MDGs remains insufficient to meet many targeted goals in the intended timeline, particularly MDG4 (reduction in under-five mortality rate) and MDG5 (reduction in maternal mortality ratio). This was a leading impetus for the Paris Declaration which led to coordinated efforts such as the International Health Partnership and related initiatives (IHP+).

Organizations, Agencies and Partnerships for Health and Development

DAH has become increasingly broad and complex in the last two decades (Ravishankar et al. 2009; IHME 2011). DAH increased from \$5.82 billion in 1990 to \$27.73 billion in 2011. Assistance has been provided

Figure 2 • Development Assistance for Health

Source: IHME 2011.

*Data are preliminary estimates based on information from above organizations, including budgets, appropriations, and correspondence.

to respond to the HIV/AIDS epidemic, as well as other diseases in particular to respond to those which afflict the world's poor and vulnerable.

Assistance through UN agencies and development banks actually declined slightly between 2007 and 2011, but as support from special efforts became operative, such as from the President's Emergency Plan for AIDS Relief (PEPFAR), the U.S. President's Malaria Initiative, the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), UNAIDS, and private philanthropic organizations, funding levels rose significantly. Figure 2 shows the DAH to combat HIV/AIDS, malaria and other disease areas that afflict the world's poorest populations. While the increase in humanitarian assistance is indeed good news, it brings increased attention to monitoring and effectiveness, and raises questions regarding sustainability, funding gaps, population equity as well as sub-additionality to national health budgets. Annex 3 provides an illustrative overview of relevant donor organizations, agencies and partnerships, listing the purpose or mission statement of each.

BRICS and Beyond

The economies of BRICS have grown substantially (GHSi 2012). Each of these countries has provided foreign assistance for many decades and their contributions have increased between eight percent (South Africa) and 23 percent (China) each year from 2005 to 2010. A significant portion of this assistance is for health, specifically through financing, capacity building, access to affordable medicines and development of new tools and strategies.

In addition to the BRICS, several other countries are also active players in global health and development. These include but are not limited to the Gulf States, Turkey, Indonesia, Mexico and South Korea. Each of these nations has a substantial foreign assistance program and/or affordable health technologies for use in resource-poor settings (GHSi 2012). It can be expected that the expanding contributions of the "BRICS and beyond" will present a significant and beneficial shift in global development.

The World Bank's Key Contributions to Public Health

Health, including public health, represented 7 percent of the World Bank's total lending portfolio during FY02–FY12 (Business Warehouse database, World Bank). Because of its wide-ranging areas in different sectors, the Bank is in a unique position to make a substantial impact in public health—through knowledge, convening and financial services at country, regional and global levels, and in partnership between sectors and with other agencies. In the past decade alone, the Bank's IDA financing provided over 47 million people with access to basic packages of health, nutrition and population services, as well as supporting countries in strengthening health delivery capacity, and improving access to health services (World Bank 2011b).

Since FY02, the Bank has approved \$25.0 billion in health commitments for 785 country-specific projects in 128 countries and 29 globally—or regionally-focused projects across sectors. Of this amount, \$7.1 billion (28.5 percent) was committed for activities focused on public health (Business Warehouse database, World Bank).¹ The Bank has also played an active role in generating and spreading knowledge on key public health issues. In 1999, the World Bank published a landmark study that concluded that tobacco control brings unprecedented health benefits without cost to economies (World Bank 1999). And by engaging in a range of strategic partnerships, the Bank has positioned itself as a key global player in a number of areas. For example, since partnering with WHO, UNICEF and UNDP in 1998 to launch the Roll Back Malaria Partnership, the World Bank has played a role in committing close

Box 1. Illustrative Examples of the World Bank's Role as an Important Global Player in Public Health

As part of its involvement in the global arena on health, the World Bank has maximized the impact of its analytical and operational work. By engaging in a range of strategic partnerships, the Bank has positioned itself as a key global player in a number of areas. Illustrative examples include:

- **Nutrition.** The Scaling Up Nutrition (SUN) Framework for Action, which outlines the principles for scaling up investments in nutrition, was launched at the World Bank in April 2010. Endorsed by more than 100 partner organizations, the SUN global movement has expanded rapidly, gaining momentum at global, regional and national levels.
- **Malaria control.** The Bank is the third largest financier of malaria control efforts globally and is a founding member of the Roll Back Malaria Partnership (RBM), where its role includes assisting in donors' harmonization efforts around national malaria control action plans.
- **HIV/AIDS.** The Bank has been in the vanguard of the global response to the pandemic. The Bank serves as the current Global Coordinator for UNAIDS. In this role, the Bank is responsible for leading and coordinating the ten UNAIDS partners towards the goal of "Getting to Zero", or no new infections, the centerpiece of UNAIDS' strategic plan.
- **Tuberculosis.** The Bank is a member of the STOP TB Board and plays an important role in shaping policies and actions globally to help achieve the objective "zero TB deaths" set forth by the partnership.
- **Food safety.** Food safety is of critical importance to public health, agri-food trade and market access, rural livelihoods, and poverty alleviation. The Bank is playing a leading role in food safety capacity building through the new Global Food Safety Partnership being established and a new multi donor trust fund as part of a collaborative multi stakeholder engagement on food safety.
- **Avian and Human influenza.** Since 2005, the World Bank has committed \$1.3 billion for 72 operations in 60 countries to address AHL.
- **Pharmaceutical governance and regulation.** In 2011, the World Bank established a Multi-Donor Trust Fund for the Global Medicines Regulatory Harmonization (GMRH) project with an initial contribution of \$12.5 million from the Bill and Melinda Gates Foundation. The GMRH project falls under a larger umbrella program in HDNHE focusing on Pharmaceutical Governance and Regulation.
- **Road Safety.** The Global Road Safety Facility was established by the World Bank to generate increased funding and technical assistance to target and overcome country safety management capacity weaknesses, in accordance with agreed principles and good practices. The World Bank supported the launch of this initiative through funding from its Development Grant Facility, in partnership with its founding donors such as the FIA Foundation for the Automobile and Society, the Government of the Netherlands, the Swedish International Development Cooperation Agency (Sida), and the Australian Agency for International Development (AusAID), among others.

¹ In this section the following themes are captured under public health: Nutrition and Food Security; HIV/AIDS; Malaria; TB; other communicable diseases; and injuries and non-communicable diseases. We recognize that there are other projects in the portfolio that address other public health aspects such as public health functions (e.g. surveillance). However, these are not included because a breakdown of projects at that level is currently unavailable.

to \$1 billion since 2005, to greatly increase the reach of protective interventions against malaria, while strengthening health systems. And in response to road deaths and injuries, of which 90 percent occur in developing countries, the World Bank established the Global Road Safety Facility aimed at scaling up global efforts to stop road-related casualties that disproportionately harm the poor. Annex 4 provides further detail on the Bank's public health contribution to date.

Despite its substantial involvement in public health to date, a more selective approach going forward will allow the Bank to capitalize on its comparative advantages in addressing global public health challenges. It will also be important for the Bank's future focus on public health to be cognizant of several key shifts in the global landscape (discussed in the next Chapter) that have will impact on its role.

The Unfinished Revolution in Public Health:

Progress to Date, Shifts in the Landscape, and Remaining Challenges

Before considering the main areas in which the Bank should focus its efforts in public health, it is worth reviewing the context in which these efforts will take place. This chapter therefore highlights the main achievements in global public health over the past decade, assesses several key shifts underway in the global landscape, and identifies the major public health challenges that will need to be tackled in the years ahead.

Progress in Public Health over the Past Decade

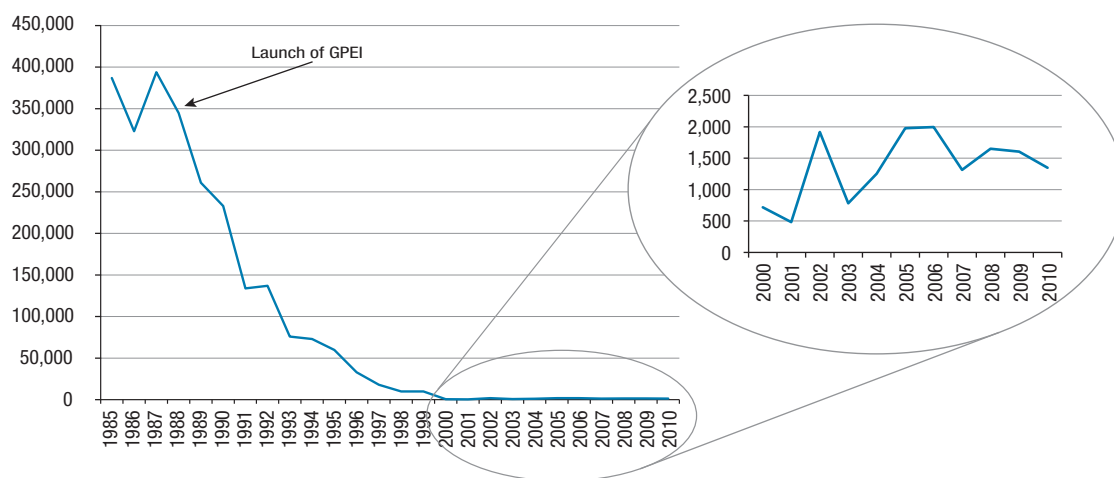
As discussed above, there has been a concerted global effort over the past decade to strengthen public health—an effort in which the World Bank has played a significant part. A review of the main aspects of public health highlights major advances, yet also reveals major remaining gaps, disproportionately affecting the poorest communities and countries.

Key global health indicators—including life expectancy at birth, under-five mortality and maternal mortality—have shown steady improvement over the last decade. While these gains are in part due to improvements in incomes and education, public health interventions have played a major role in many cases. For example,

the scale up of polio vaccination, in part driven by the Global Polio Eradication Initiative (GPEI), was a contributing factor that led to a sharp decline in polio-related mortality and morbidity. Figure 3 shows both the progress and remaining challenge of wiping out the vaccine-preventable disease. Also, the number of children younger than five sleeping under nets treated with insecticides is credited with a significant reduction in under-five mortality (WHO 2011b). Other developments have been more incremental however, and attribution of progress to these in isolation can be difficult.

In an exercise published by the U.S. Centers for Disease Control and Prevention, (CDC 2010) a panel of experts was asked to nominate the most notable achievements of global public health over the first decade of the millennium. While also revealing the gaps that remain, the ten items (considered in more detail in Annex 5) highlight the progress that has been made:

1. Global **childhood mortality** in children less than five years of age has dropped by 40 percent since 1990 from 87 deaths per 1,000 live births to 53 per 1,000 live births in 2010 (WDI dataBank, World Bank), mostly thanks to simple public health interventions and cost-effective therapies such as oral rehydration therapy.

Figure 3 • Global Wild Poliovirus Cases 1985–2010

Source: Global Polio Eradication Initiative.

2. **Immunization** currently averts an estimated two-three million deaths every year in all age groups from diphtheria, tetanus, pertussis (whooping cough) and measles. The number of polio cases has also been reduced.
3. **Access to safe water and sanitation** has virtually eliminated water-borne diseases such as typhoid and cholera in the developed world.
4. Global efforts have led to a 38 percent decline in global **malaria** deaths worldwide, with an estimated 1.1 million children in Sub-Saharan Africa saved over the last decade.
5. The expansion of the global epidemic of **HIV/AIDS** has stabilized and the annual rate of new infections is declining thanks to prevention and treatment measures.
6. The WHO's directly observed short course (DOTS) strategy for **tuberculosis** (TB) control, launched in 1995 and substantially scaled up in the following 15 years, has resulted in substantial progress against the disease. About 46 million people were successfully treated under the DOTS strategy in this period, and nearly 7 million additional lives (as compared with non-DOTS treatment) were saved (WHO).
7. **Neglected Tropical Diseases** (NTD) affect more than one billion of the world's poorest people, yet 90 percent could be treated by administering medicine.
8. **Tobacco**, the largest preventable cause of disease and death, leads to nearly six million deaths annually. International efforts are focused on curbing its use.
9. Each year, 1.3 million people are killed on the world's roads—leading the United Nations to launch a "**Decade of Action for Road Safety**" in 2011.
10. Public health authorities gained a better appreciation of risk communications and of the role of robust veterinary and public health systems as they responded to zoonotic outbreaks such as **SARS and influenza**.

A Shifting Landscape

To sustain and extend public health advances, it will be necessary to be cognizant of a set of major global shifts that are currently underway—economic, social, epidemiological and environmental. Some of these changes present significant new threats to public health, while others present opportunities to improve health outcomes at speed and scale. This section provides an overview of seven key developments in the global landscape: demographic changes and urbanization, globalization, the rise of NCDs, pandemic threats, climate change, new information on preventive health interventions and changes in technology.

Demographic Changes and Urbanization

Globally, populations are changing. Along with declining levels of fertility, population aging worldwide has been well documented. The importance of population aging in low and middle-income countries (LMICs) should be

recognized as in many developing countries, populations are growing old before they are growing prosperous, and this is compounded by the challenges of healthy aging. (Cotlear 2011). The shifting demographic trends have had a significant impact on the geographic concentration of populations in every region. A substantial change in the public health landscape has occurred with the migration to and natural growth of urban areas. For the first time in history, more than half of the human population lives in cities (Figure 4). The vast majority of them are poor. In Africa and Asia, the urban population is expected to increase between 30–50% between 2000 and 2030 (UN 2011b). The challenge for the countries and the global development community is to understand how to take advantage of city growth and to use urban dynamics to improve health and alleviate poverty.

The implications of urbanization are both positive and negative, and profoundly affect health and welfare, food safety and availability, road safety and transportation, environment, energy, education, labor force, fertility rates and virtually every aspect of life. Urban living presents the set of risk factors which amplify the rate of growth of NCDs, the highest cause of death in the 21st century (see below). Protecting the poor is of pre-eminent importance.

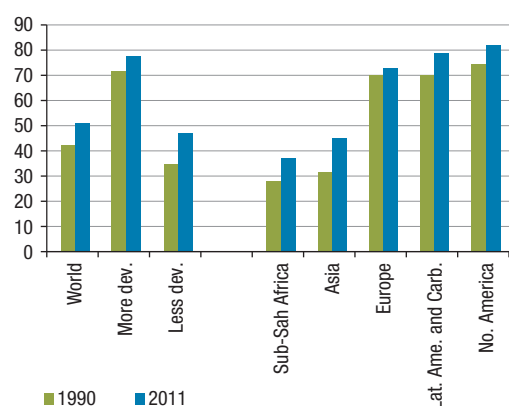
It will be essential to work effectively across sectors to improve health outcomes in urban environments, and to catalyze growth of cities that is healthier and more sound.

Globalization

Globalization involves political, technological and cultural aspects as well as economic ones. It is a recent phenomenon that is “intensifying human interaction by reducing the barriers of time, space and ideas” (Lister 2000). This generates “widespread health impacts that affect large-scale populations across boundaries of geography, time and cultures.” Examples of risks that have increasingly become international include infectious diseases (both animal and human), food price volatility and shortages, lapses in food safety, unhealthy lifestyle and consumption trends, as well as long-term health threats posed by environmental damage.

A particular concern in LMICs is the heavy marketing and easy availability of products such as tobacco, sugared drinks, processed food, alcohol and baby milk. By

Figure 4 • Percent of Population in Urban Areas (1990 and 2011)



Source: UN 2011b.

2025, it is estimated that seven million smoking-related deaths will occur each year, 85 percent of which will be in LMICs. A majority of the 300 million cases of Type 2 Diabetes are in middle-income and poor countries.

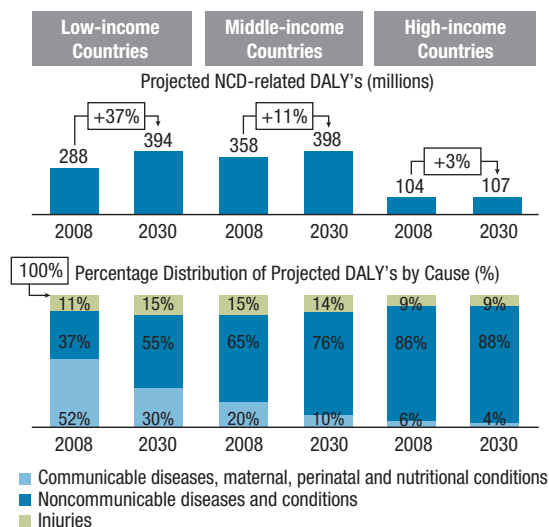
Alcohol is the fourth most important cause of disability worldwide (Lister 2000).

The impact of globalization on health is a significantly greater challenge for LMICs, as poverty remains a clear predictor of health outcomes and status. Children under five in Africa are seven times more likely to die than children in Western Europe, for example. As the effects of globalization intensify, more efforts toward investments in stewardship, effective governance as well as fair and equitable economic policies, are required.

Epidemiological Shift: the Rise in Chronic Non-Communicable Diseases

An historic epidemiological development has been the emergence of NCDs as a larger portion of the burden of disease (BOD) than communicable diseases, leading to earlier mortality in developing countries as compared to High Income Countries (HICs) (WHO, 2011a). Increased numbers of people are at risk of succumbing to NCDs while at the same time there has been a decline in other causes of ill health and mortality. Only in Africa is this trend not yet a reality (Figure 5), but it is anticipated that it will be over the next 20 years.

Figure 5 • NCDs will be the Largest Share of Disease Burden and the Leading cause of Healthy years Lost across all Country Income Groups by 2030



Source: Nikolic et al. (2011).

The increase in chronic NCDs is now a major topic in global fora. In September 2011, the United Nations organized a UN High Level Meeting on NCDs (UN 2011a). More recently, in May 2012, the World Health Assembly agreed to adopt a global target of reducing premature mortality from NCDs by 25 percent by 2025, marking an historic first in recognition of this development (WHO 2012c). At the Rio+20 UN Conference on Sustainable Development, a multi-organizational side event discussion panel took place to address frameworks for NCD control and sustainable development (Rio+20 Conference 2012).

There is growing global recognition of the challenge of NCDs (particularly cardiovascular diseases, cancer, chronic respiratory diseases and diabetes). For example, while mortality in childbirth per year (342,000 in 2008) has been declining (Hogan 2010), annual deaths of women 15–59 attributable to breast and cervical cancer as well as diabetes (448,131 in 2008) are on the rise (WHO Global Health Observatory Data Repository 2011). The impact of NCDs in China, for example, clearly illustrates that diseases such as diabetes, cardiovascular disease and lung cancer account for nearly 70 percent of the total disease burden (World Bank 2011c). The first Global Ministerial Conference on Healthy Lifestyles and NCDs, which took place in Moscow (Frenk 2011) is yet further testimony to the enhanced attention to this growing threat.

NCDs strain economies, health systems, households and individuals, and exert a negative impact on labor productivity, medical treatment costs and personal savings. Many households facing the burden of NCDs will find it increasingly difficult to meet their basic needs, and could be driven into poverty. Health systems in many countries will need to undergo significant adaptation if they are to address NCDs effectively. In addition to the increasing demand for healthcare services, NCDs will require health systems to improve across a number of fronts, including service delivery, human capital, quality control and licensing, organizational structure, information management, infrastructure management, and health financing. Health coverage and benefits packages will need to adjust to the changing nature of demand, while the financing models will need to reflect the different cost pattern of NCDs. Such reforms can be undertaken in a less costly and more effective manner if strategic steps are taken in advance. Health systems adaptation stemming from the ongoing health/disease burden transition presents an important fiscal and strategic challenge to the middle- and lower-income countries.

As Bank studies indicate, the cost of treating NCDs will make it prohibitive for most countries to “treat their way out” of the problem. Action must be taken on prevention, with collaboration required from many sectors beyond health including education, urban planning, agriculture, Poverty Reduction and Economic Management (PREM), transport, and industry, which have an influence on the rate and severity of NCDs (Nikolic et al. 2011).

Disability will also be an important part of the equation going forward. Christopher J.L. Murray, who headed the Global Burden of Disease Study (Murray, Lancet 2012), summarized this well in a Washington Post article on December 13, 2012 when he stated on the day the results of the latest study were released that “we are in transition to a world where disability is the dominant concern as opposed to premature death. ...The pace of change is such that we are ill prepared to deal with what the burden of disease is in most places”(Brown 2012).

Zoonotic Diseases and Pandemic Threats

Pandemics are a global catastrophic threat. Seventy-five percent of infectious diseases now originate in animals, including influenza, TB, HIV/AIDS, SARS, plague,

brucellosis, leptospirosis, and rabies. Zoonotic diseases already exact a heavy toll: every year an estimated 2.4 billion people in developing countries are affected, and 2.2 million die (Grace 2012). Many of these cases are undetected and misdiagnosed, as these diseases disproportionately affect the poor. Risks in developing countries are increasing, due to growing densities of livestock, incursions of humans and livestock into wildlife habitats and the impacts of urbanization and globalization. Control of zoonotic diseases can be highly cost-effective. The World Bank has estimated that system improvements in public health and animal health to meet minimum WHO and OIE standards would cost \$3.4 billion per year. Consider that six major zoonotic outbreaks in 1997–2009 cost \$80 billion, or \$6.7 billion per year (World Bank 2012). Fortunately, none became a pandemic, but the damage they caused could have been prevented if effective systems for early disease control had been in place. A severe flu pandemic could cost \$3 trillion, as mentioned above. With a 1 percent probability of occurrence in any year, the expected benefit from prevention is \$30 billion per year. The expected value of the economic benefits from robust human and veterinary public health systems is at least \$36.7 billion annually. This is well above the investment and operating costs of the systems, which were estimated at \$3.4 billion per year at local, national and global levels, with particular attention to the interface between animal and human health systems (World Bank 2012).

Vulnerability to Climate Change

Climate change is a serious threat to all countries, but developing countries are the most vulnerable. The consequences threaten to reverse progress in poverty reduction and economic growth, posing risks to food security, water supply, sound migration and disease control. Climate change has multiple impacts on human health. These include: increased incidence of vector- and waterborne diseases such as malaria, dengue and cholera; spread of zoonoses and other novel pathogens; increased mortality from heat-stress; and increased harm and deaths caused by extreme weather events. Efforts to achieve the MDGs and to improve standards of living are being compromised. Indeed, according to a major World Bank study, it will cost developing countries an estimated \$70–\$100 billion per year through 2050 in adaptation to climate change (World Bank n.d.).

New Evidence on the Cost-effectiveness of Prevention

Overall, prevention is cheaper than cure, and often dramatically so. The substantial benefits of zoonotic disease prevention and control noted above yield a benefit:cost ratio of 11:1. Reduction of the burden of brucellosis through vaccination and other disease control measures in livestock has also been shown as the more cost effective approach. Vaccination of dogs and control of strays have also been shown to be less costly than allowing humans (especially children) to die. Other measures also have very small costs relative to the private and public health benefits of avoided illness and death, including hand-washing, reduced alcohol consumption, reduced smoking, drinking, fewer sugar-laden drinks, and taking exercise. For instance, the effectiveness of hand hygiene has been widely shown to reduce the spread of disease. There are now low-cost sanitation solutions, including \$10 aspirational and affordable toilets, that can dramatically reduce the household members' risks of disease and malnutrition (Smets 2012). In Peru, for example, chronic malnutrition was reduced from 28.5 percent to 23.2 percent in just four years thanks to a program promoting toilets and sanitation for 500,000 beneficiaries (27 percent extremely poor) (Costain and Weitz 2012). Likewise, investments in key development infrastructure can yield major health and economic benefits. For example, a recent cost-benefit analysis by WHO showed that achieving the global MDG target in water and sanitation would bring substantial economic gains to health and other benefits (consequences of reduction in diarrheal episodes). Each \$1 invested would yield an economic return of between \$3 and \$34 depending on the region. The health-related costs avoided would reach \$7.3 billion per year (WHO and UNICEF 2005). Such investments promote not only public health but also equity because they reach those most often lacking access: the poor.

Revolutions in Technology

Revolutions in technology have changed the pursuit to improve health outcomes, in many ways. One of these ways is the use of open data supported by innovations in technology in the area of public health. An example is the Community Health Data Initiative (CHDI) at the U.S. Department of Health and Human Services (USDHHS n.d.). Open data is data that is freely available for use without intellectual property restrictions,

which can therefore be used to strengthen health systems and improve outcomes.

The technology revolution is just as relevant in LMICs. In Haiti, for example, cell phones were used for surveillance and to track populations during disasters such as the 2010 earthquake and the cholera epidemic that followed (Bengston et al. 2011). In Zambia and other LICs, cell phones are being used to track stock-outs of essential medicines in government health facilities (PlusNews 2009). And in Kenya (and elsewhere) text messages are used to transmit routine health check-up information (PlusNews 2010). Sharing public health data enables better and more effective utilization of existing data that ultimately allows the use of a wider range of tools, perspectives and methodologies than are available in any one place, thereby adding value to science, while promoting the use of sound evidence for policy making. Distance learning, telemedicine, computer medicine, lab networks also contribute to better surveillance, knowledge sharing, health promotion, governance and can enhance other essential public health functions.

Key Challenges in Advancing Public Health

Cutting across the challenges previously discussed are three core imperatives that must be addressed in order to sustain and advance public health over the decade ahead:

- Galvanizing actors outside the health sector to address key determinants of health outcomes;
- The dual challenge of dealing with rising NCDs and meeting the health MDGs targets;
- Building sufficient government capacity to address current and emerging public health issues.

Galvanizing Actors Outside the Health Sector to Address Determinants of Health Outcomes.

The following examples illustrate yet more benefits of galvanizing actors outside the animal and human health sectors:

- Despite the advances in **Water, Sanitation and Hygiene** discussed earlier in this chapter, diseases

spread by consumption of contaminated water remain widespread. Diarrhea remains a leading cause of death in children under five years of age globally, surpassing HIV/AIDS, malaria and measles combined (Childinfo 2012, UNICEF). Lack of clean drinking water drives a host of other illnesses that include viral hepatitis, typhoid, cholera, and dysentery. An analysis of 172 Demography and Health Survey data sets from 70 countries to estimate the effect of water and sanitation on child mortality and morbidity shows a robust association between access to water and sanitation technologies and both child morbidity and child mortality. The point estimates imply, depending on the technology level and the sub-region chosen, that water and sanitation infrastructure lowers the odds of children to suffering from diarrhea by 7–17 percent, and reduces the mortality risk for children under the age of five by about 5–20 percent (Gunther and Gunther 2010).

- The massive declines in child mortality during the last third of a century have been the result not only of technological and economic change but also of social change, of which the most important component for the survival of children through the first years of life has been parental **education**. There is evidence that schooling brings about a new family system in which women and children are allocated higher priorities in terms of care and allocation of food (see box 2).
- Limiting population exposure to vehicle and industrial air pollution as part of an **Environment** sector project minimizes respiratory diseases, certain cancers and loss of IQ in children (Lvovsky 2001). Likewise, multi-pronged interventions to reduce indoor air pollution, including provision of cleaner fuels and changes to living environments, can significantly reduce the associated negative health impacts while also generating economic and ecological benefits.
- Within the Road and Infrastructure sectors, specific activities can greatly reduce traffic injuries. The recent Global Burden of Study (Murray, Lancet 2012) shows that road traffic injuries accounted for 27% of total injuries in 2010. WHO reports that road crashes are the number one killer of young people age 15–29 (WHO 2012b). A World Bank-supported study of traffic accident costs in Thailand concluded that road accidents costs represented 2.8 percent of the country's GDP in 2007, 60 percent more than what the government allocated to health service delivery the year before (Thailand, Department of Highways. 2007).

Box 2. The Link between Education and Health

In a data analysis from a World Fertility Survey in ten developing countries, the analysis confirmed the major importance of parental education, the impact of which is probably greater than both income factors and access to health facilities combined. Rural/urban differentials are of small importance once parental education has been controlled. The findings of the Nigerian study are modified in that paternal education is also shown to be important, though not as important as maternal education, and the step from primary to secondary schooling is more important than that from illiteracy to primary schooling.

The massive declines in child mortality during the last third of the century have been the result not only of technological and economic change but also of social change, of which the most important component for the survival of children through the first years of life has been parental education.

It is suggested that schooling introduces parents to a global culture. Age and sex differentiations in power, decision-making and benefits within the larger family are reduced when schooling brings about a new family system in which women and children are allocated higher priorities in terms of care and allocation of food and in which parents can make decisions about health and child care without reference to their elders.

Research also shows that children who complete basic education eventually become parents who are more capable of providing quality care for their own children and who make better use of health and other social services available to them. Evidence indicates that when girls with at least a basic education reach adulthood, they are more likely than those without an education to manage the size of their families according to their capacities, and more likely to provide better care for their children and send them to school.

Source: Caldwell and McDonald 1982; Veneman 2007.

The Bank has conducted a detailed analysis of road safety problems in Europe and Central Asia to help galvanize multisectoral action (see box 3).

- One barrier to effective implementation of multi-sectoral activities to improve health is the lack of broadly accepted and rigorous analytic tools to quantify the impact of the relevant key determinants of health. Such analysis is necessary for the prioritization of action in non-health sectors at country level.

Annex 6 sets out the illustrative role of different sectors in strengthening public health programs and outcomes.

The Dual Challenge of Addressing NCDs and Meeting the MDGs

The dramatic rise in NCDs in developing countries poses additional threats to achieving the MDGs, and population aging will contribute to the increase in non-communicable diseases. Countries face, in effect, a dual challenge that has been aptly named “a tiger with two heads” by some policy makers. For LICs with budget constraints, focusing resources towards managing NCDs poses the real threat of diverting valuable resources away from MGD goals, many of which have not been met. High treatment costs make it clear that countries will not be able to “treat their way out” of NCDs. Thus, LICs and MICs must effectively maximize the impact of their responses to both challenges.

Box 3. Confronting Death on Wheels: Making Roads Safe in Europe and Central Asia

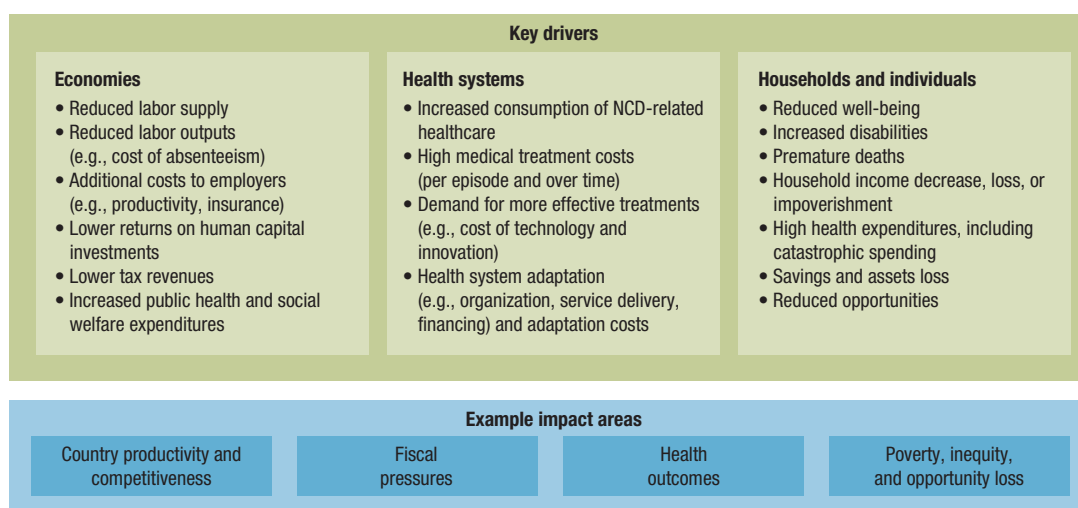
The World Bank has released “Confronting Death on Wheels: Making Roads Safe in Europe and Central Asia”, which reviews the size, characteristics, and causes of the road safety problem in ECA countries. Together with seven other development banks, in November 2009 the World Bank issued a joint statement ahead of the Global Ministerial Conference on Road Safety that outlines a broad package of measures that each institution would implement to reduce an alarming rise in the number of road injuries, fatalities, and disabilities in low- and middle-income countries.

Unsafe road traffic conditions in the countries of Europe and Central Asia have tremendous adverse implications for their economic and social well-being. The treatment of road safety victims is imposing an increasingly insupportable burden on these countries' health and social services. Road traffic injuries are a major cause of death and disability, affecting young and working-age groups of society in particular.

A combination of weak capacity to manage road safety, deteriorated roads, unsafe vehicles, poor driver behavior, and patchy enforcement of road safety laws, alongside the exponential growth in the number of vehicles, are the key factors that are contributing to the rapid pace by which road traffic injuries and fatalities are multiplying. An effective strategy to improve the safety of a country's roads requires a systematic, multisectoral approach with a politically strong and technically competent lead agency to coordinate the involvement of the many government departments that have responsibilities towards road safety.

Source: World Bank 2009a

Figure 6 • NCDs Have Significant Impact on Economies, Health Systems, and Households



Source: Nikolic et al. 2011.

In many developing countries, the discussion about controlling the rise of NCDs and meeting the health MDG targets is one and the same. For example, the increase in risk behaviors such as smoking and alcohol abuse in turn increase the likelihood of developing active TB and reduce the effectiveness of treatment. This double burden of disease particularly threatens Sub-Saharan Africa and South Asia, where communicable diseases including TB, respiratory infections, water- and vector-borne diseases and HIV/ AIDS are predicted to remain prominent even as the rate of NCDs grows rapidly (Engelgau et al. 2011). In many LICs and MICs, NCDs will also coexist with a backlog of developmental issues, such as maternal and child health issues and poor nutrition. Other health challenges, some of which are linked to NCDs (for example, fetal and early childhood malnutrition) are expected to remain or increase in seriousness.

Building Sufficient Government Capacity for Promoting and Evaluating Efficient Policies on the Basis of Health Outcomes

Institutional and structural barriers within the public health system hamper many developing countries from

effectively performing essential public health functions (Annex 2). For instance, many countries are having difficulties complying with the requirements for the 2005 International Health Regulation (IHR) framework that assumes that countries will build their national public health surveillance and response capacities as part of a functional health system. Several countries fall short of this intent, with a large number of LMICs experiencing serious gaps that result from poor disease surveillance capacity, an absence of inter-sector collaboration, limited technical expertise and weak leadership (Katz et al 2010; Katz and Fischer 2010). An evaluation tool to assess gaps in public health similar to the well established OIE Performance of Veterinary Services Pathway tools is missing.

Addressing emerging threats such as drug and insecticide resistance in malaria and TB control provide further rationale for countries to build such capacities. To move forward, decision makers must understand the significant returns from cost-effective investments on health outcomes, including investments in non-health sectors.

The World Bank

Contribution to Public Health: Connecting Sectors and Systems for Health Results

Given the context set out in the previous chapters, this chapter defines the main areas which the Bank will emphasize in framing its work on public health over the coming years—with the overarching aim of contributing toward improvement of health outcomes. These areas will leverage and complement the work of partners. They will also guide the public health knowledge agenda within the Bank.

As discussed below, two main parameters are used to guide the choice of future priorities for the Bank—namely, selectivity and comparative advantage. This chapter also reflects on the role of Bank management in creating a supportive environment for the Bank's proposed focus areas and actions in public health, including making available sufficient resources.

Annex 8 lists a set of illustrative concrete actions and opportunities that will allow the Bank to have an impact and make a difference in public health over the next five years, within the areas of strategic focus identified in this chapter.

The HNP Strategy

The World Bank's 2007 HNP Strategy provides the context and background for the articulation of a path forward for the Bank's work in public health (World Bank 2007). The strategy focuses on healthy development for health results, the promotion of fiscal sustainability, economic growth, global competitiveness and good governance (see Figure 7).

The main strategic directions to achieve these objectives include the strengthening of a country's health systems, ensuring synergies between health systems and priority disease interventions, strengthening advice to countries on intersectoral approach to HNP, and improving harmonization and strategic engagement with global partners.

The 2009 strategy implementation report emphasizes progress made in some areas, but also underscores areas where significant work remains to be done, including in strengthening multisectorality in HNP interventions (World Bank 2009b). The Health Sector has the responsibility to play the governance and stewardship role necessary in connecting sectors and systems to improve health outcomes.

Figure 7 • World Bank HNP Strategy 2007

Source: World Bank 2007.

The World Bank Footprint in Public Health – Making a Difference Through a More Strategic Approach

Given the changes in the global landscape and the challenges discussed previously, “business as usual” in addressing public health issues is not an option, particularly given the challenges of improving public health in poor populations. Over the coming years, decisions on where the Bank will focus its investments and efforts in public health will need to take into account **the Bank’s comparative advantages vis-à-vis other partners and stakeholders**. These advantages include:

- **Ability to foster action across sectors for health results.** Connecting sectors around actions to produce significant health results will be an overarching principle which will guide action within the Bank on public health over the coming years.
- **Ability to promote a systems-based approach to address disease prevention and control.** The Bank is well positioned to promote efficiency and effectiveness in addressing both communicable and non communicable diseases, by prioritizing actions which promote the biggest “bang for the buck” and ensuring that public health is also an effective part of health systems. HDNHE and Agriculture Environment Services (AES) are already collaborating to achieve this common objective.
- **Capacity to carry out economic analyses** to guide evidence-based policies and to inform and influence

high level policy dialogue at global and country level. This is a growth area which, to date, the Bank has not yet sufficiently developed in public health.

Over the next five years, the World Bank will enhance its footprint in public health by focusing on three strategic pillars building on its comparative advantages. This approach will promote public health policies and interventions within each country that achieve tangible results in health and development. The three pillars are:

- I. Fostering multisectoral interventions (as well as interactions among public and private sectors and civil society) to maximize returns on investments in health.
- II. Identifying country-specific, cost-effective actions to help countries face the dual challenge of meeting MDGs and addressing NCDs.
- III. Strengthening governance and leadership to anticipate, address and manage public health challenges.

Building on the Bank’s commitment to support the LMICs in achieving the MDGs and its comparative advantages, the Bank will also focus on implementing a key strategic cross-cutting theme—namely, the use of economic evidence to inform the formulation of effective public health policies—in support of the above three strategic pillars. These 3 pillars are interrelated: a multi-sectoral approach will be needed to address MDGs and NCDs and to perform Essential Public Health Functions (EPHFs). Strengthening governance and leadership will be critical to support the first two pillars, while integrating economic evidence into policy decisions.

Figure 8 • World Bank Integrated Approach to Strengthen Public Health

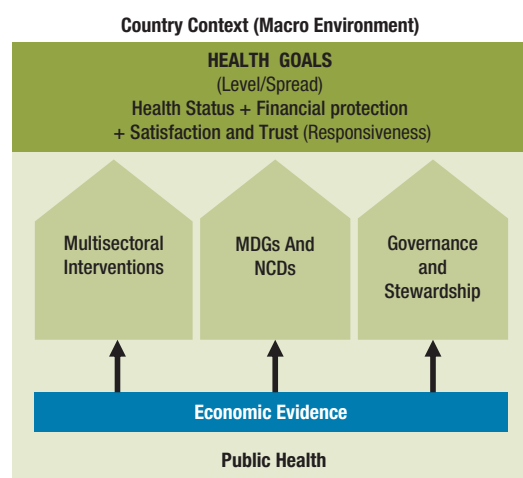


Figure 8 represents an integrated approach to strengthening public health, bringing together the strategic pillars as well as the cross-cutting theme.

The opportunities and actions proposed under each of these pillars and themes are explored below, and summarized in Annex 8.

It should be emphasized that a prerequisite for the effective implementation of these strategic pillars will be the robust assessment of the key health-related issues in each country, so as to assist in formulating effective policies to address the main causes of the burden of disease and identify opportunities for improvement. Risks associated with pandemics, environmental hazards and other emerging threats are also important to inform and determine the optimal health policies for each country. Such assessments will need to recognize that low and middle income countries have very diverse priority health issues.

PILLAR I: FOSTERING MULTISECTORAL INTERVENTIONS

The Bank is involved in high level policy dialogue and operations across 19 sectors in all regions. With all sectors focusing on improving development outcomes for the world's poor, the Bank has a comparative advantage

to work across sectors to improve health outcomes. Upholding this principle will yield multiple benefits across sectors (see Box 4 below, which provides examples in Energy, Transport and Environment). Very few organizations combine a multisectoral mandate with the resources, analytical and operational capability to influence public sector policies.

Box 4. Examples of Other Sectors Leading Collaboration to Improve Health Outcomes

There are numerous examples across the World Bank of non-health sector actors leading cross-sectoral collaboration to evaluate and improve health outcomes. These include:

1. **Animal health as a determinant of health outcomes.** The World Bank contributed to the global response to the avian influenza threats through a \$1.3 billion multisectoral program of 72 projects in 60 countries, combining actions to strengthen systems for animal health, human health, disaster risk management, and communications (World Bank 2011a). More than two thirds of the projects were managed by the agriculture sector, while the overarching goal of the program was to safeguard human health security.
2. **Energy as a determinant of health outcomes.** The energy sector's ESW aims to develop a framework to *Define and Measure Access to Energy* (ongoing analytical work, M. Bhatia and team, SEGEN), designed to complement ongoing work by WHO, UNIDO, UNDP and others. The ESW seeks to determine how energy is linked to poverty reduction and development aspects including potentially improving health outcomes by improving access to better cooking and heating options, and strengthening health services by identifying sustainable energy options for health care centers.
3. **Transport as a determinant of health outcomes.** A World Bank report led by the transport sector states that many women spend excessive time to reach a health facility with the capacity to treat obstetric or infant complications. It was estimated that approximately 75 percent of maternal deaths might be prevented through timely access to essential emergency childbirth-related care (Babinard and Roberts 2006). Therefore, transport interventions which are specifically designed to improve access to health services should be planned as part of long-term health/and transport strategies.
4. **The link between Environment and Public Health – The MENA region.** The Bank recently published a report on the costs of environmental degradation in the MENA region. The economic costs of environmental degradation are linked to health impacts primarily through lack of access to water and sanitation services, and outdoor and indoor air pollution. The costs associated with these three factors in 2008 ranged between 1.1 percent of GDP in Tunisia, and 2.9 percent of GDP in Egypt—with negative impacts on public finances, household budgets, economic competition and generational equality.

Table 1. World Bank Projects, by Sector and Commitment Amount, FY1990–2011

Total World Bank Projects	\$113.9 billion
Health projects	\$44.6 billion
Managed by HNP Sector Board	\$28.3 billion
Managed by non-HNP Sector Board (mainly through the Social Protection, Economic Policy, Transport, Education, and Urban Sectors)	\$16.3 billion
Non-health Projects	\$69.3 billion

Source: Health in all the right places, Merrick, Yazbeck et al, forthcoming 2013.

Indeed, a recent review of World Bank projects over the past 22 years revealed that some 1,000 Bank-financed projects outside of the health sector included a health sector component. As many policies and interventions beyond the health sector also have health consequences, it would be appropriate to devise mechanisms and instruments to assess how “healthy” or “health promoting” Bank operations are to the population, and to provide constructive and pragmatic solutions to strengthen their health impact or mitigate their potential negative effects.

Under this pillar, the Bank will build on its existing platform of intersectoral work relevant to public health, placing particular emphasis on the following actions:

- **Carrying out multisectoral constraints assessments (MCA) to health results in a country.** Because many determinants of health are not in the health sector, such assessments will assist in identifying the major multisectoral interventions to improve health outcomes as well as the constraints on their effective implementation in a country. This action is intended to build the evidence for priority actions across sectors and empower staff in making the case for investments in other sectors to improve health outcomes. The 2007 HNP action plan states that a tool to carry out these assessments (World Bank 2007) was expected to be available in 2008 and tested in pilot countries in 2009—but this expectation has not yet been met.
- **Exploiting windows of opportunity to promote actions across sectors.** A quick analysis of sector portfolios and pipelines could help identify projects and countries which could improve health through investments and policies in other sectors. Such

analysis could also provide the opportunity for useful case studies to inform the knowledge agenda within the Bank on multisectoral action, as well as action at the country level. Examples of such opportunities include the *Healthy City Initiatives*, using urban space to foster a “whole of government” approach. The recent work *Defining and Measuring Access to Energy* is another such opportunity to analyze the linkages of the health sector with access to energy/energy applications in the field of health, assessing potential health impacts of the household energy sector in developing countries, and mapping energy barriers to the achievement of outcomes in the health sector.²

- **Reaching out to other sectors to tackle the major risk factors to address NCDs, communicable diseases, other health MDGs and injuries.** In the context of scarce resources, particularly but not only in LICs, cost-effective interventions and policies are mostly centered on promoting healthy behavior and prevention. This will necessitate strong involvement from sectors beyond health; particularly those which can help curb the growing threat of zoonotic diseases and NCDs (Figure 9). Because much of the rise in NCDs in developing countries is attributable to shared and modifiable risk factors (tobacco, alcohol, diet/nutrition, exercise, indoor air pollution), prevention has the potential to yield meaningful results. Indeed, existing evidence suggests that more than half of the NCD burden could be prevented through a few key health promotion and disease prevention interventions that address such risk factors, amenable to actions beyond the health sector (Meiro-Lorenzo et al. 2011). Likewise, on communicable diseases, addressing risks such as poor hygiene,

² In Marikina, Philippines, the Bank provided a \$1.3m to the city for the construction of bicycle lanes; Healthy cities Illawara, Australia brings healthy and safe living to deal with injury prevention among children).

Figure 9 • Risk Factors Addressed by Sectors

	Tobacco	Poor Diet & Nutrition	Physical inactivity	Alcohol	Unhealthy environment	Pathogens	Injuries & violence
Health	✓	✓	✓	✓		✓	
Education	✓	✓	✓	✓		✓	✓
Finance	✓	✓		✓	✓		
Urban Planning			✓	✓	✓		✓
Agriculture	✓	✓			✓		
Industry	✓	✓		✓	✓		
Transport			✓		✓		✓

Source: Meiro-Lorenzo et al. 2011.

water and sanitation, and weak veterinary systems, will have significant health impacts—including preventing pandemics. Finally, on injuries, addressing some risky behaviors could help curb the high toll of road traffic injuries.

Annex 6 illustrates the roles different sectors play in strengthening public health programs and outcomes, while Annex 7 provides a conceptual view of how these multiple sectors impact on health.

PILLAR II: SUPPORT COUNTRIES TO ADDRESS THE DUAL CHALLENGE OF MEETING THE HEALTH MDG TARGETS AND ADDRESSING NCDs.

The Bank's work in public health is underpinned by the need to sustain our strong commitment to the MDG agenda. Countries are at different stages in their quest to achieve the health MDGs by 2015. Many countries are still lagging behind in expected gains on nutrition, maternal and child health and communicable diseases. The Bank remains strongly committed to helping countries improve their performance to achieve the MDG targets as stated during the UN meeting in 2010. Because of this commitment, the public health actions to address MDGs, discussed below, must be seen as a reinforcement of what the Bank is already doing on that front, not as a substitution.

This pillar is not about defining the best buys to curb the growing threat of NCDs. It will focus initially on

(i) incremental actions that can be promoted to leverage the MDGs service delivery platforms at the PHC level and start making progress against NCDs, especially in the context of LICs; and (ii) how actions aimed at addressing NCDs can be introduced at little marginal cost. So far, the global conversation has mostly framed the discussion on MDGs and NCDs around the significant tradeoffs between both agendas. Indeed, there is growing concern, both from policy makers and the donor community, that responding to NCDs in LICs and MICs may divert valuable resources which should instead be directed to making progress toward the health-related MDGs. With severe budget constraints, focusing resources on one area is likely to result in displacement in others, especially in LICs. Some common ground exists on policy actions and interventions which can advance both agendas simultaneously and increase the opportunity set available to countries. However, most countries have yet to focus effectively on exploiting those synergies.

Under this pillar, the Bank will primarily assist LMICs in exploring the points of intersection where synergies in service delivery and disease dynamics can positively affect both NCDs and MDGs as well as understanding the financial implications of such choices. At present, there is still little understanding of the synergies and tradeoffs between NCDs and MDGs, and how such synergies translate into actionable knowledge that can be applied at country level to optimize the allocation of limited resources to improve health outcomes. The final objective of this pillar will be to generate critical knowledge to assist countries in making decisions on the hard choices of dealing simultaneously with the unfinished

MDG agenda and the growing burden of NCDs, taking into account each country's specific epidemiological profiles and available resources.

Although the primary emphasis will be on building these synergies, this Note recognizes the need to support countries—particularly MICs—in initiating system adaptation in the face of the heavy NCD burden they are already experiencing.

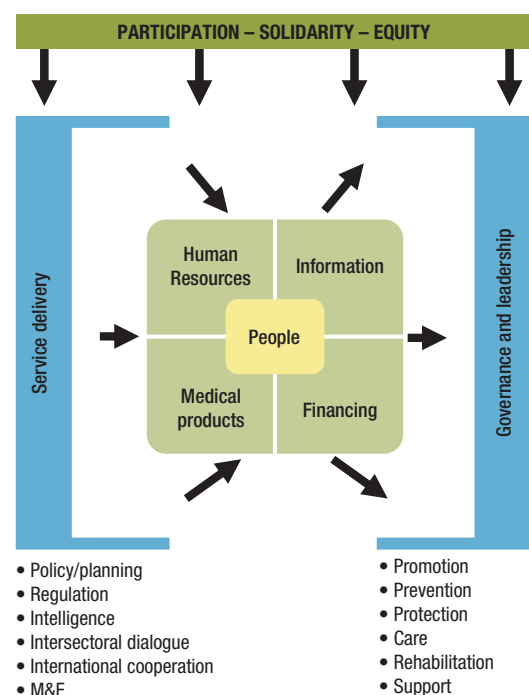
PILLAR III: STRENGTHENING GOVERNANCE AND LEADERSHIP TO ANTICIPATE, ADDRESS AND MANAGE PUBLIC HEALTH ISSUES.

Under this pillar, particular emphasis will be placed on strengthening countries' capacity and stewardship role and capacity to perform EPHFs at the national and regional levels and on connecting systems to improve health outcomes. Currently, many countries are not well equipped to address the full range of diseases and public health threats they face, as they typically use their limited resources to focus on a few high-profile diseases and public health threats at a time. Building such capacity to promote efficiency and evidence-based public health policies is an area which has been mostly been neglected so far. Connecting systems and addressing system issues to allow countries to respond to current and forthcoming health issues in a more efficient manner is another area deserving immediate attention. Strengthening public health systems and institutions is likely to provide more value for money, particularly in a context of limited resources by fostering a multidisciplinary response on several fronts:

- It will assist countries in the formulation and implementation of evidence-based public health actions, to address communicable and non communicable diseases, injuries, chemical hazards, food safety, and so on, by reinforcing capacity for data collection, monitoring and analysis—all of which are important to inform sound policy decisions, particularly across sectors. (Annex 2, particularly essential public health functions 1, 3, 5, 6, 8, 10)
- It will position countries to play their “global role” by assisting them in addressing trans-border issues of a public good nature (Annex 2, particularly essential public health functions 2, 10, 11).

- It will help manage the gaps which currently exist between systems, institutions and professions to promote an effective response to contagious diseases arising at the animal-human-ecosystems interfaces. Managing such gaps is critical to effectively mitigate the increasing number of dangerous pathogens (Annex 2, particularly essential public health functions particularly 6, 8, 10,11).
- It will highlight the importance of public health as an integral part of the agenda to strengthen health systems, particularly at the primary health care level, to improve population health and achieve the health system's goals. Indeed, health systems cannot deliver effectively and efficiently on these goals without a strong focus on public health (Annex 2, particularly essential public health functions 3,4, 7, 8, 9). The main functions of health systems (governance stewardship, financing, resource generation and service delivery) apply as well as to public health as a sub-system (Figure 10). The East Africa Public Health Laboratory project (US\$63.6 million covering Burundi, Kenya, Rwanda, Tanzania and Uganda),

Figure 10 • Public Health is an Integral Part of the HS Framework



Source: WHO Regional Office for Europe, 2010

is an example of addressing global public goods and strengthening health systems for results.

The focus on systems does not exclude specific actions in countries aimed at addressing specific health risks that impose, or are expected to impose, a major health toll on their populations. In this regard, the Bank's HNP portfolio in Argentina is worth highlighting as an example: it focuses on strengthening the country's EPHE, while at the same time reducing the burden of NCDs and preventing influenza (see Box 5 below).

Effective action on the several fronts mentioned above will only be possible if health sectors within countries can ensure the strong governance required (i.e providing strategic direction for policy formulation, implementation and monitoring, coordination of actions across sectors and stakeholders and developing an accountability framework). The major shifts in the global landscape (discussed in Chapter 2) as well as the need for countries to comply with the IHR regulations framework, make it even more imperative for countries to pay urgent attention to mobilizing the resources they need to perform the EPHFs. Ministries of health (MOH) will have to move beyond their traditional role to bring on board and coordinate the inputs of other sectors and stakeholders to improve health outcomes.

One critical investment countries can make to assist MOHs in their new role is the development and

strengthening of national public health institutes (NPHIs, see box 6). Investing in NPHIs is an option that some countries have started to consider to complement (not to substitute for) the MOH's role in performing essential public health functions (Frieden and Koplan 2010). For example, Mexico established a new public health agency, as the government recognized the need to "mobilize all instruments of public policy in the pursuit of health, not as a specialized sector but as a shared social objective" (Frenk 2011). Experience has shown that achieving and sustaining positive impact in public health is best served by a national organization which can help ensure a strong and coordinated focus on public health to assist the government in its stewardship role.

Public Health Strategic Cross-cutting Theme – Generating Economic Evidence

In pursuing the strategic public health pillars presented above, there is a need to capitalize on the comparative advantage of the Bank in generating the economic evidence to underpin the different actions and interventions.

Limited resources, particularly in LICs and MICs, will make it necessary for countries to inform their policy decisions and resource allocations through robust economic analyses of the strategic choices they face. Under

Box 5. The World Bank's Public Health Portfolio in Argentina

1. **The Essential Public Health Functions Project (P090993)** focuses on strengthening national and provincial health stewardship and capacity to carry out core essential Public Health programs and functions. Using RBF (results-based financing for Public Health), the focus is on communicable diseases, including epidemiological surveillance and control of vector-borne diseases. The project will close on December 31, 2012. US\$ 220 million.
2. **The Essential Public Health Functions and Programs II Project (P110599)** will contribute to reducing the burden of disease associated with non-communicable diseases (NCDs) by strengthening MSN's stewardship role in this area and by increasing coverage and clinical governance of priority Public Health programs focused on NCDs. Using RBF for health promotion and prevention in Public Health applied to NCD's, and Health Insurance premiums (capitas) for a Catastrophic Health insurance to cover NCDs and disabilities, the project will close on June 30, 2016. US\$485 million.
3. **The Emergency Project for the Prevention and Management of Influenza Type Illness and Strengthening of Argentina's Epidemiological System (P117377)** supports strengthening the capacity of Argentina's epidemiological surveillance system to prevent, monitor and evaluate influenza activities. The project will close on March 31, 2013. US\$160 million.

EPFH were identified by the Governments of the LAC Region after a Regional consultation lead by PAHO/WHO and CDC in 2002–2003, and refer to core elements of public health policy which apply across all Programs of public health, independent of specific diseases or levels of interventions.

Source: World Bank Projects and Operations Portal 2012.

Box 6. Historical Context for NPHIs

Many of today's comprehensive NPHIs have their roots in prevention and control of infectious diseases. For example, Brazil's Fiocruz started as the Federal Seropathy Institute, created in 1900 to produce serums and vaccines against the plague. Finland's KTL was established as the Temporary Serum Laboratory in 1911 to respond to cholera and plague, improve diagnostics for organisms believed to cause typhus and "paratyphus," enhance serologic testing, and produce antisera against rabies and diphtheria. The U.S. Centers for Disease Control and Prevention was created from an organization called Malaria Control in War Areas (MCWA); in 1946, the MCWA became the Communicable Disease Center, in recognition of the expansion of MCWA's work into other vector-borne and infectious diseases.

These NPHIs subsequently grew through a variety of processes, including the addition of existing organizations from other parts of government, extension of existing programs into new scientific and programmatic areas, and creation of new programs through legislative or administrative decisions.

Source: IANPHI 2007.

this pillar, the Bank will promote the use of economic evidence to inform the formulation of sound public health policies—both within the Bank, and to inform the Bank's policy dialogue with countries. Partners and countries expect the Bank to take the lead in this arena, as has been expressed several times in international fora such as the recent UN High Level meeting on NCDs in September 2011 (UN 2011a). Examples of economic analysis include the economic impact of NCDs and obesity in MICs; economic returns of investments in prevention; economic benefits of early and effective disease control and of disease eradication; and assessment of the impoverishment impact of disease and injury.

Developing and Implementing a Robust Knowledge Agenda on Public Health within the Bank

A robust knowledge agenda focusing on solutions and impact at country level will underpin the Bank's work on the strategic pillars and initiative described above. This agenda will take stock of specific actions taken, in each fiscal year, to foster exchanges across regions and sectors, to bring TTLs up to speed on the latest ground-breaking activities and research on public health. This knowledge agenda will also include (but is not limited to) the following:

1. Empowering the recently established **Public Health Community of Practice** to discuss and promote action across sectors and to share and disseminate knowledge.
2. Organizing **field-based training for Bank staff** in countries with improved public health systems functions (for example, Argentina and Brazil) to provide Bank staff with first hand exposure to best practices on public health.
3. Promoting south-south learning to disseminate best practices and stimulate the establishment of public health networks across regions. A trust fund currently exists in the Bank to support such an effort.
4. Ensuring **regular updates of the knowledge repository** on public health, and meeting on-demand knowledge requests from the regions (short notes; fact sheets, policy briefs).
5. Developing tacit knowledge to allow staff to record and share their experiences and lessons learned in developing policy dialogue and implementing projects.

This knowledge agenda will build on the foundation of existing World Bank knowledge on public health. It will also help the Bank play its role as a major convener globally and regionally. The recent conference of SADC countries on economics of tobacco in Southern Africa, organized by the Bank and sponsored by Bloomberg Philanthropic and the BMGF is an example of the convening role that the Bank plays.

Creating the Environment to Foster Action across Sectors within the Bank

Working across sectors has been on the internal agenda for some time but has yet to be institutionalized. Multisectoral work is often not seen as a

responsibility, nor as a major governance issue that governments need to tackle to deliver health outcomes or address global public health threats. Multisectoral actions are often affected by a fundamental coordination problem: while the positive outcomes are perceived to benefit one specific sector, the necessary coordination and implementation activities depend crucially on other sectors. To overcome this issue, better recognition of the contributions of other sectors to the achievement of health outcomes is needed, as well as putting in place appropriate incentives for Country Directors to effectively support coordination and to foster engagement in multisectoral activities. In order to move ahead, candid discussions are needed to identify and address constraints and create incentives—for example, explicit recognition and reward on cross sector work during annual evaluation of staff performance—that enable and encourage the Bank’s team leaders to engage in cross-sectoral collaboration. One option is to formally institute dual task management (by co-task team leaders). In addition, management oversight of a multisectoral portfolio should be explicitly assigned to one of the Sector Boards, with specified roles for the other Sector Boards involved. Management endorsement and support from the highest levels will send a strong signal that this shift in mindset is explicitly recognized as a new way of doing business.

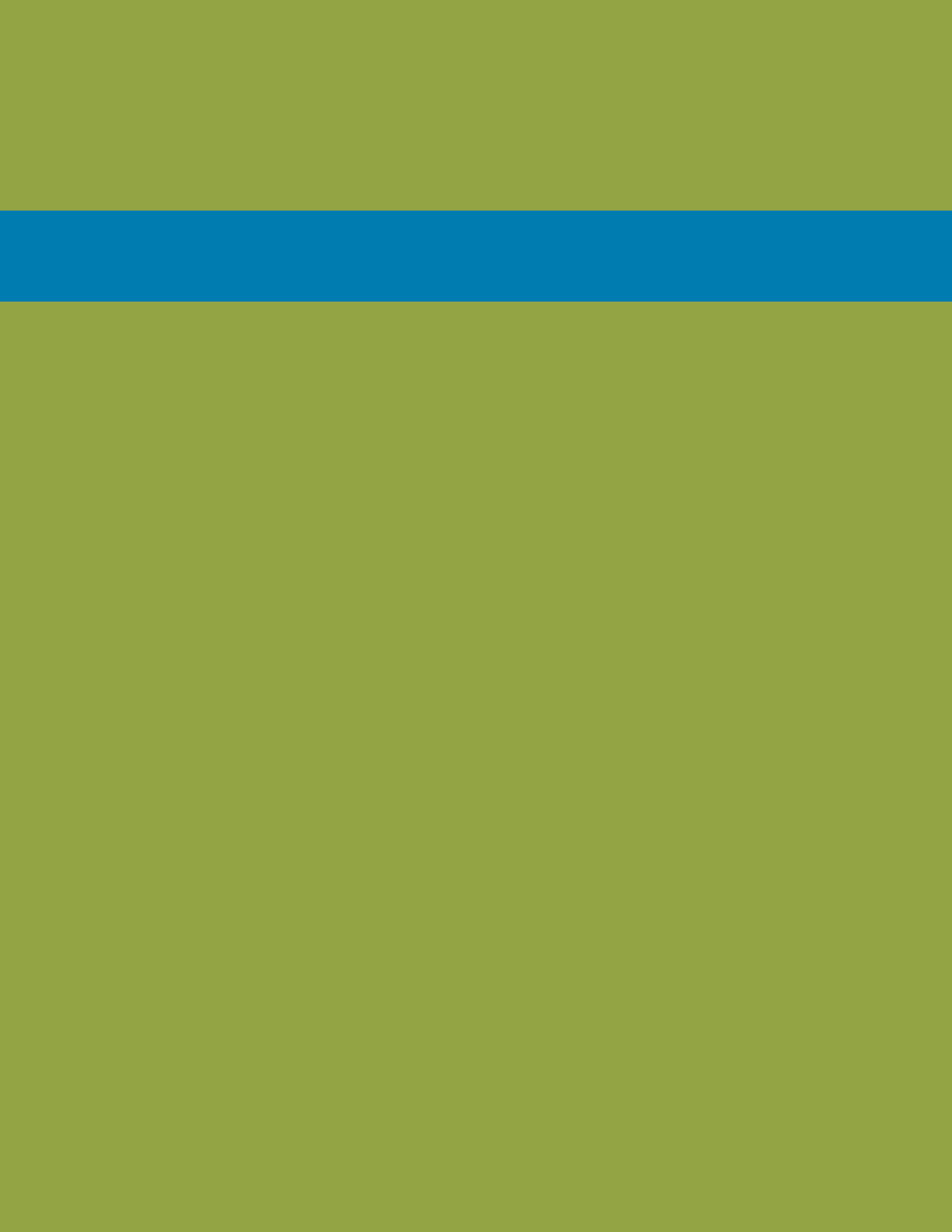
Providing the Resource Base to Implement Actions

Additional resources will be needed to support effective coordination and action across sectors to support new activities. In this context, a strong resource mobilization

strategy will be developed to promote knowledge generation and dissemination, and help the Bank play fully to its comparative advantages. Indeed, the ambitious agenda described above, cannot be delivered in the absence of adequate resource mobilization. In this context, the Bank could follow the model implemented for other themes in HNP, which have historically attracted large trust funds by developing effective resource mobilization strategies to augment priority knowledge generation and dissemination, to help the Bank improve public health in its client countries, in line with its comparative advantages.

Bringing other Partners on Board

As the Bank examines its comparative advantages in development assistance and health, it is relevant to consider the shifts underway on the world stage and to identify opportunities for tandem and harmonized development to effectively improve the lives of the poor and vulnerable. Effective partnerships will be a key feature in implementing the World Bank vision in public health over the next five years. For the Bank to be optimally effective, it needs to work with other agencies and organizations which have complementary competencies and value-added roles. The Bank will also strengthen collaboration with regional banks and institutions, as well as exploring the possibility of partnering with the BRICS countries to leverage Bank resources at country level. The examples of China, India and Russia are a precedent. They contributed resources to the Avian and Human Influenza Facility; moreover, Russia co-financed projects in Mozambique and Zambia on malaria control, with IDA. Such models could be replicated to advance public health at country, regional and global levels.



Illustrative Examples of Ongoing World Bank Work in Public Health

Chapter 3 defined the main areas which the World Bank will emphasize in framing its work on public health over the coming years. This chapter provides a picture of what this direction will look like in action, by examining a few high-impact examples of the Bank's recent work in public health. These include:

- Supporting public health reform in Argentina
- Providing assistance to countries on tobacco control
- Strengthening risk-based governance to prevent zoonotic diseases
- Building public health capacity for pharmaceutical governance and regulation
- Promoting the use of economic analysis to support public health operations

Supporting Public Health Reform in Argentina

During the severe economic crisis that hit Argentina in 2001–2002, the country requested the World Bank to restructure all existing Bank-financed projects in order to create an Emergency Program (EP) to mitigate the most deleterious impacts of the crisis on the poor and vulnerable population. Priority actions were identified as being in health, education, nutrition, temporary work, income support and community activities. The objective of the EP in the health sector was to help the government protect the most vulnerable population and to keep public health programs running, provide essential

drugs for the most vulnerable and protect priority public health measures, including immunizations, disease monitoring, and the prevention and control of TB, dengue and other vector borne diseases.

Despite Argentina's rapid recovery from the crisis, serious structural and systemic problems were revealed in the sector during those years, suggesting a need for serious long-term reform of the country's public health program and an urgent need for an improved Ministry stewardship capacity to lead and assure effective implementation of programs, improve the epidemiological surveillance structure and expand coverage of key public health programs such as vaccination, TB control, dengue control and others. With these improvements, the Ministry aimed to reduce important inter-provincial inequities, high levels of fragmentation, systemic inefficiency and a weak regulatory framework in public health, which impeded timely response to the population's needs. The Government requested the support of the World Bank to help implement a Federal Health Plan; this was created in agreement with the provinces, involved a roadmap for public health reform and prioritized health promotion, prevention, surveillance and control of communicable and NCDs. While communicable diseases were prioritized through 70 percent of the country's initial financial efforts, NCDs were a priority in the second phase.

Public health was reformed in Argentina. Health systems and specific public health programs were strengthened, focusing first on ten selected EPHF

that were key for building systems and strengthening the stewardship role of ministries. The next step was to consider the appropriate financing of the public health package of programs and, later, the prevention of NCDs. Such programs are characterized by a collective health interest and represent either public goods or goods with important health externalities such as the vaccination program. The programs included had important synergies between them, and were chosen based on evidence, with a view to an extensive long term investment and using a 10-year strategy to impact Argentina's burden of disease. The program used a results-based governance framework and impact evaluation system.

In 2006, with support from the Bank, Argentina initiated its first results-based public health project, using a “hybrid” vertical and horizontal public health program, which was selective both in functions to be strengthened in the health system and in public health programs to be implemented. The project used a performance-based governance and financing framework and an impact evaluation system for measuring project results. This reversed the tradition in the country where the nation could provide only inputs—like supplies, medicines and vaccines—without signing specific agreements for results. In 2010 and 2012, the Argentine Government and the Bank agreed to complete the trilogy of public health projects financed in the country for a total amount of \$925 million (see Box 5 in Section 3.2.3 above).

Argentina's public health reform to date has yielded promising results on communicable as well as NCDs. The EPHF are an integral part of public health, and the overall program built systems and strengthened the stewardship role of ministries in improving health and quality of life. Such stewardship—including robust public health surveillance—forms the foundation of a public health system by providing information on disease outbreaks and patterns. Policy-makers both at national and provincial levels, will use this information to make better decisions about the efficient and effective allocation of limited resources. In addition, regulation, quality control and health insurance monitoring are key functions that FESP I and FESP II supported in the country. In particular, food regulation was a key success of the regulation function.

Providing Assistance to Countries on Tobacco Control

Tobacco control is a well-proven strategy to reduce illness and mortality attributable to TB, cardio-vascular diseases and certain cancers, inter alia. Tobacco causes an estimated seven to eight million deaths each year. It is estimated to be the number one risk factor for premature death in absolute numbers, second only to unsafe sex in terms of lost DALY. The WHO Framework Convention on Tobacco Control (FCTC) is the first legally binding United Nations treaty addressing a major public health issue. The Framework recognizes the devastating worldwide health, social, economic and environmental impacts of tobacco consumption and exposure to tobacco smoke and includes both demand and supply measures to curb its use.

The Bank has been one of the lead organizations supporting Article 6 of the Convention, dealing with tobacco taxation. High taxes on tobacco prices have proven to be the most cost-effective method to reduce total consumption and most importantly, to stop young people from starting to smoke. HNP has strengthened its technical capacity to respond to country demand and has launched a Tobacco Control Technical Assistance Program. Supported by Bloomberg Philanthropies and the US Center for Disease Control and Prevention (CDC), the Program collaborates closely with WHO and other tobacco-control partners. There are two overall goals: (a) to increase awareness among key World Bank staff about the impact of tobacco control on development; and (b) most importantly to support Task Teams and country counterparts in the implementation of tobacco control measures. This will be achieved through a series of products aimed at three objectives:

1. Launching internal dialogue on tobacco control in general, and specifically on tobacco taxes within the Bank. Ongoing work includes preparing country fact sheets on tobacco control for seven countries in the South Asia Region, as well as for Bosnia and Herzegovina and Kyrgyzstan for PREM and HNP colleagues.
2. Providing technical assistance to Task Teams and country counterparts on tobacco taxes. As an example, this includes support to PREM and HNP teams

in the Philippines, carrying out analysis to back the Government's proposed law to increase tobacco and alcohol excise taxes. This work has incorporated analysis of the tobacco market structure, the impact on farmers, health impact and costs, revenue generation, tax administration and prevention of illegal trade in tobacco.

3. Compiling, creating and disseminating new knowledge on tobacco tax issues that are under-researched. The Bank is working with the CDC, Johns Hopkins University and the WHO on assessing the impact of increasing tobacco control on the consumer-price index. Work at the country level includes support to the HNP teams in Russia and the Central Asian republics to mobilize resources and carry out a regional background analysis aimed at exploring options to strengthen tobacco control regionally, including through possible harmonization of tobacco excise tax rates.

Future activities will extend these objectives. BBLs/seminars will focus on the relationship between tobacco and poverty, public spending, taxation and other instruments. Country and regional research will be provided on the impact of tobacco and the potential for tax increases and their impact on health, public health spending, family spending, illegal trade and fiscal revenue. Key areas for knowledge creation include the impact of tobacco use on poverty and household investments, the impact of tobacco taxes on health and poverty, as well as placing an emphasis on data generation and analysis.

Strengthening Risk-Based Governance at the Animal-Human-Ecosystem Interface

Most client countries do not have the requisite systems in place and are ill-equipped to prevent human infections and to mitigate the losses from exposure to diseases of animal origin. This is an example of poor governance and poses insidious public health risks, poverty impacts, economic costs and potentially catastrophic consequences in the case of a pandemic. Prioritizing core public health functions is required, especially those that reduce infectious disease risks. The greatest risks that therefore warrant particular care arise

at the animal-human-ecosystem interface. Infectious disease prevention, prompt detection, accurate diagnosis and rapid and effective control are needed, preferably before humans are infected. Countries may request Bank support to assess these core functions, bridge divides among ministries and reduce capacity gaps.

During the avian flu response in 2005–12, more than 120 countries worked across sectors (veterinary services, public health disaster management, etc.). Capacities improved as medium-term needs in zoonotic disease control informed the design of many emergency programs. Government staff were trained in disease-control competencies, equipment and supplies were purchased, disease reporting and diagnostic capacities were established, simulation exercises enhanced preparedness, compensation arrangements were made and communications strategies were put in place. This response also revealed substantial capacity gaps, especially in veterinary services.

Some countries are already addressing these gaps. The Bank has supported in-depth assessments of systems in several ECA countries to implement One Health approaches (covering veterinary and public health systems), with considerable success in stimulating follow-on programs to strengthen core functions systematically. Economic analyses complemented this work and improved communications. As more countries adopt a One Health approach to strengthen their systems, global performance in disease control and prevention will improve as well. Regional capacity-building programs and coordination can also be a powerful way to accelerate progress and thus contribute to global improvements.

OIE's Performance of Veterinary Services (PVS) tool is an assessment method already used in more than 100 countries. Public health functions, including those for international health regulations, are not yet as well-governed. From FY12, the Bank, WHO, OIE and FAO are working on system assessment tools for human health and environmental disease risks; these tools will dovetail with the PVS. Pilots in several countries will test operationality, especially for formulating prioritized investment plans (PVS is already tested). The Bank's methodology for cost-benefit analysis makes explicit the toll of zoonotic diseases, so as to inform

communications with the public and policy makers. Official ownership of the WHO and OIE tools will provide credibility and comparability. Countries could undergo periodic reassessments and achievements could be used by the Bank as indicators for P4R operations. Working with partners, the Bank would provide technical assistance to governments to prepare programs based on the assessment results and mobilize the requisite financing.

Attention to building systems for core functions and policy dialogue, based on credible assessments, rigorous analysis and adequate financing, will ensure sustainability and reduce disease risks. Specific disease-control initiatives (e.g., brucellosis, rabies, avian flu, antimicrobial resistance (AMR) and foot and mouth disease (FMD)) would be a natural part of system-strengthening country programs, with coverage based on country priorities. These initiatives will not only yield concrete results, but also demonstrate the performance of systems in disease control and prevention.

Pharmaceutical Governance and Regulation: Building Public Health Capacity

Strengthening governance, regulations and accountability in the pharmaceutical sector are important aspects of health systems that lead to more competitive markets, economic growth, improved access to new medicines, better quality of pharmaceuticals in circulation and ultimately better health outcomes.

The Multi-Donor Trust Fund for the Global Medicines Regulatory Harmonization (GMRH) Project, established by the World Bank in 2011, falls under the HDNHE program, which focuses on pharmaceutical governance and regulation. The overall project goal for GMRH is to promote the harmonization of medicine regulation as a means to increase patient access to safe, effective and good-quality essential medicines. The Africa arm of the project, the African Medicines Regulatory Harmonization Project (AMRH) focuses on medicine registration and the development and implementation of technical documents, systems and partnerships at a regional level to increase the quality, transparency and predictability of

regulatory functions. Public health will be improved by reducing the time it takes to register essential medicines and better ensuring good quality products reach the marketplace.

In the longer term, harmonization of other regulatory functions and the development of regional authorities (similar to the EU model) can take over more complex activities. The AMRH initiative is led by the World Bank in consultation with the New Partnership for Africa's Development (NEPAD) and WHO. The Bank takes the lead on fiduciary oversight and overall project management. NEPAD ensures support for regional project development and continent-wide coordination and WHO provides expert technical assistance. Meanwhile, The Bank has launched a multiple stakeholder forum on regulatory issues globally; this includes donor organizations, regulators, the generics and innovator pharmaceutical industry and associations.

The East African Medicines Regulatory Harmonization Project is an example of strengthening capacity on governance and stewardship. Launched in March 2012 it is the first project to be financed from the Trust Fund. The National Medicines Regulatory Agencies, the EAC secretariat, WHO, NEPAD and other partners involved in project implementation have been working to move the project forward. The EAC Project Steering Committee will oversee project operational activities in the region. Project components include: regional coordination and capacity building and institutional development and strengthening of National Medicines Regulatory Authorities.

Work in other regions will provide an analysis of regulatory functions and a discussion of options to strengthen their capacity in order to become more compatible with each other and with the emerging global standard. The Bank has allocated \$500 thousand to regions outside of Africa to conduct exploratory work on medicines regulation issues of relevance.

Full harmonization of regulatory functions all over Africa is a far-off vision that may take a generation and a significantly larger budget to accomplish. With initial progress on the regional level over the next five years, however, there is likely to be support from other sources of funding. The hope is that AMRH can

provide a model for similar initiatives and a convening platform for learning and trust building, even if it is not directly involved as a funding source. At a meeting on global pharmaceutical policy challenges and opportunities hosted by the Bank in June 2012, the Bank was requested to use its convening power to further the global dialogue on regulatory harmonization issues, including the contributions of competent regulatory authorities.

Promoting the Use of Economic Analysis to Support Public Health Operations

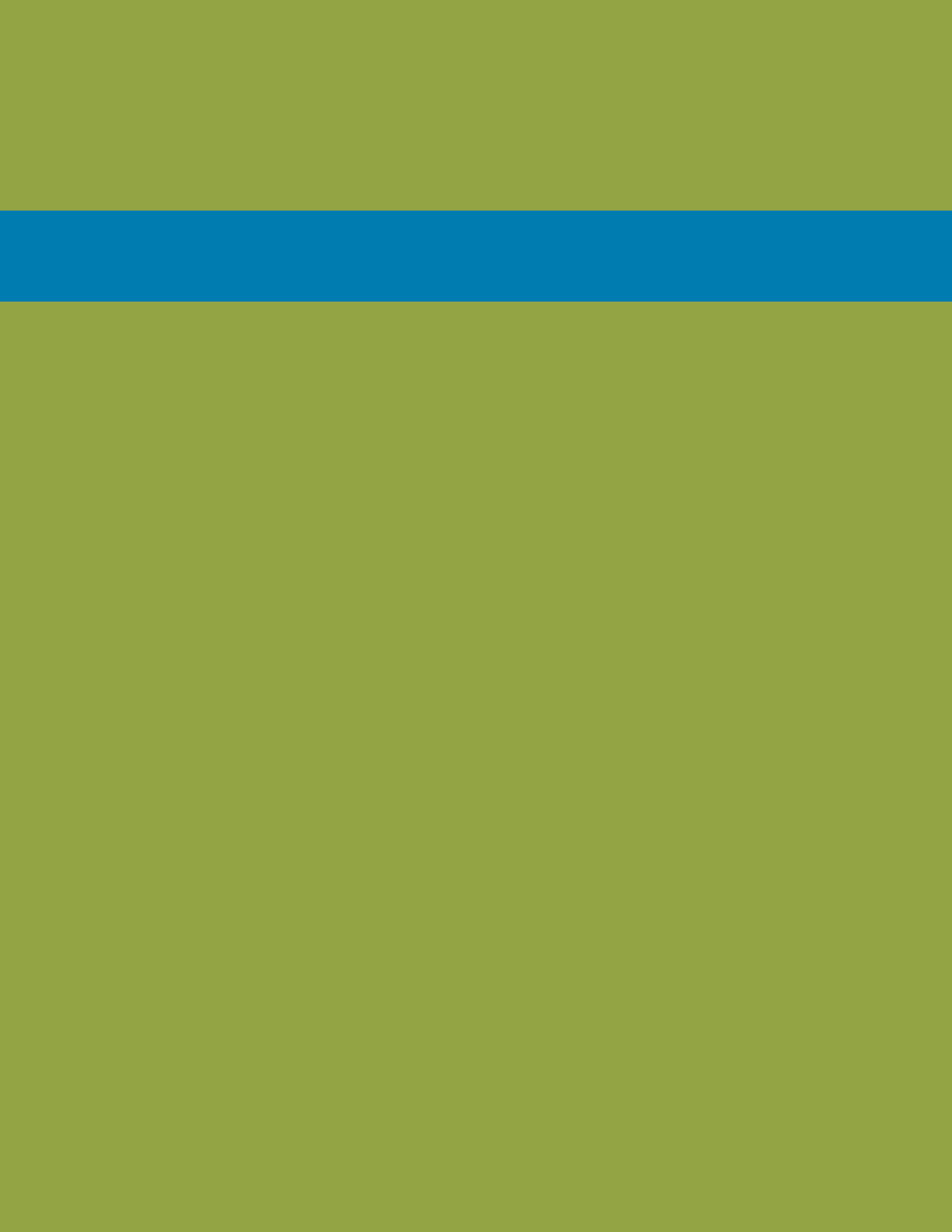
A strong emphasis on economic analysis is a key comparative advantage of the World Bank. Its expertise enables it to advise policy makers on areas such as health economic analyses on prioritization and resource allocation, return-on-investment, the economic impact of disease and injury, benefit-incidence and fiscal and financial sustainability.

In this context, an important activity is currently being developed to foster synergies between NCDs and the MDGs and craft responses to both agendas in a resource-constrained environment. As became clear during the recent UN High Level Meeting on NCDs (UN 2011a), country policy makers are seeking advice on prioritizing policies that can help advance the response to both agendas. To identify areas of common ground where effective actions can be undertaken to reinforce both agendas at zero or negligible marginal incremental

cost, economic analysis will focus on collecting the evidence to guide policy making.

The proposal is (i) to review the evidence from current literature that identifies promising examples of synergies that can be harnessed and (ii) conduct country case studies to estimate the expected costs and benefits of implementing such activities, examining the country-level implications of promoting such interventions, including an estimate of the likely cost-effectiveness compared with existing delivery models. The case studies will be conducted in a limited number of countries to examine how existing health service delivery platforms servicing mainly the MDGs can be leveraged to further strengthen interventions to address NCDs, assessing potential linkages in terms of delivery models, infrastructure, information systems, human resources and the supply chain, etc.

Further extensions of this work are being envisaged to strengthen the Bank's presence in economic analysis in public health and NCDs in particular and will focus on expanding the scope of the current study to additional countries. This might include, for instance, (i) refining and complementing the estimation of marginal costs, (ii) conducting extensive cost-effectiveness and resource allocation analyses to advise countries on how best to shape their national service delivery platforms to improve efficiency and achieve superior health outcomes at low cost and (iii) assessing more explicitly how to deal with the trade-offs that inherently can be found in the allocation of scarce resources in the health sector.



Conclusion

Efforts to advance public health in the 21st century will take place against the backdrop of major shifts in the global landscape. More than ever, strong coordination among key stakeholders at the global and country levels will be imperative to avoid duplication and provide countries with the tailored support they need—both to keep ahead of their major public health threats in a time of major global change, and to face the MDGs/NCDs “tiger with two heads.” As a key multilateral development institution, the World Bank will advance its work in public health by focusing primarily on three pillars of action that build on its comparative advantages.

Under the first pillar, *fostering multisectoral interventions to maximize results on investments in health*, some of the key proposed actions include designing and testing an Multisectoral Constraints Assessment (MCA) tool to improve health results, exploiting windows of opportunity to promote actions across sectors, and assisting country clients in implementing actions aimed at mitigating the major NCDs risk factors. The MCA tool will provide a methodology for leveraging investments in non-health sectors, assisting the public health community to engage early in country assistance strategy (CAS) discussions with country directors and country teams. It will also guide the dialogue with policymakers at country level on this important topic. The tool can thus be a powerful catalyst for a shift in mindset for improving health outcomes. Furthermore, many of the risk factors driving the growing epidemic of NCDs in developing countries can be mitigated by actions by non-health sectors, such as tobacco taxation and reduction of salt and fat in foods. Such work could also provide useful case studies to inform the knowledge agenda of the Bank on multisectoral actions.

Under the second pillar, *assisting client countries in making cost effective decisions to address the dual challenge of MDGs and NCDs*, the work will initially focus on promoting synergies that can address both MDGs and NCDs at the level of primary health care service delivery, at little marginal cost. In the medium to longer term, further analytic work will be conducted on health service delivery system adaptation at all levels of health care. Indeed, the health care model will need to evolve from its current structure—organized around acute episodes of illness—to one adapted to address NCDs through an integrated approach that ensures continuity of care.

The key actions under the third pillar, *strengthening governance and leadership to address public health challenges*, include supporting client countries’ capacity to perform the essential public health functions, supported in this effort by the establishment of NPHIs, or similar institutions adapted to local contexts. Further actions include assisting task team leaders in integrating public health components in future operations; and promoting interfaces across human, animal and ecosystems and different disciplines.

The Bank’s work under each of the pillars will be supported by a cross-cutting theme that calls for vigorous efforts to generate the economic evidence to inform the formulation of effective public health policies and programs. This will be coupled with knowledge management activities to ensure this knowledge is translated and adapted to local contexts.

Moving forward, the Bank will use its various lending and analytical instruments to implement the set of actions identified above in order to: (i) support client countries in making the greatest possible improvement and sound

investments in public health; (ii) strengthen its role as a key knowledge broker by generating, disseminating, and translating knowledge in its areas of comparative advantage; and (iii) contribute to shaping public health policies in the international arena. In a nutshell, the strategic framework described in this document is aligned with the vision of World Bank's President Jim Y. Kim of turning the institution into the "Solutions Bank" by providing client countries with evidence-based policies and interventions to improve health outcomes.

Translating this vision into reality as the Bank's operational work will require a strong institutional mandate, backed by equally strong leadership. The full promise of multisectoral action in health is unlikely to be met unless effective mechanisms to break silos are identified and implemented. Indeed, working effectively across sectors will require an enabling environment, which provides the right incentives and adequate resources for staff across sectors to engage actively in this new way of doing business.

References

- Acheson, Sir Donald. 1988. *Independent inquiry into inequalities in health report*. The Stationary Office, London.
- Babinard J. and P. Roberts. 2006. "Maternal and Child Mortality Development Goals: What Can the Transport Sector Do?" Transport Paper 12, World Bank, Washington, DC
- Baeza, C., S. Lim, R. Lakshminarayanan, E. Gakidou, A. Fidler, and C. Murray. 2011. "Accountability for impact of Investments in Development Assistance for Health: a health systems approach to lives saved estimations." Technical Discussion Document, World Bank, Washington, DC and Institute for Health Metrics and Evaluation, University of Washington, Seattle.
- Bengston, L., L. Xin, A. Thorson, R. Garfield, and J. von Schreeb. 2011. "Improved Response to Disasters and Outbreaks by Tracking Population Movements with Mobile Phone Network Data: A Post-Earthquake Geospatial Study in Haiti." *PLoS Med* 8 (8): e1001083.
- Brown, D. "New Burden of Disease study shows world's people living longer but with more disability." *Washington Post*, December 13, 2012. Accessed December 13, 2012. http://www.washingtonpost.com/national/health-science/burden-of-disease-study-shows-a-world-living-longer-and-with-more-disability/2012/12/13/9d1e5278-4320-11e2-8061-253bccfc7532_story.html.
- Burns, A., D. van der Mensbrugghe, and H. Timmer. 2008. "Evaluating the Economic Consequences of Avian Influenza." Development Economics Department Paper, World Bank, Washington, DC. Business Warehouse (database). World Bank, Washington, D.C.
- Caldwell, J. and P. McDonald. 1982. "Influence of maternal education on infant and child mortality: levels and causes." *Health Policy Educ* 2 (3–4): 251–67.
- CDC (Centers for Disease Control and Prevention). 2010. "Ten Great Public Health Achievements – Worldwide, 2001–2010." *MMWR* 60 (24): 814–818.
- Childinfo. 2012. <http://www.childinfo.org/>
- Claeson, M., C.C. Griffin, T.A. Johnston, M. McLachlan, A.L. Soucat, A. Wagstaff, and A.S. Yazbeck. 2001. "Poverty Reduction and the Health Sector." In *Poverty Reduction Strategy Sourcebook*, ed. J. Klugman. Washington D.C.: World Bank.
- Costain J. and A. Weitz. 2012. "Integrating Hygiene and Basic Sanitation into Conditional Cash Transfer Programs." Presented at the World Water Week 2012, "Water and Food Security," Stockholm, August 26–31.
- Cotlear, D. 2011. Population Aging: is Latin America Ready. Directions in Development Series. Washington, D.C.: World Bank.
- Engelgau, M., S. El-Saharty, P. Kudesia, V. Rajan, S. Rosenhouse, and K. Okamoto. *Capitalizing on the Demographic Transition: Tackling Noncommunicable Diseases in South Asia*. Washington, D.C.: World Bank.
- Frenk, J. 2011. "Strengthening Health Systems to address NCDs." Speech at First Plenary Session, First Global Ministerial Conference on Healthy Lifestyles and Noncommunicable Disease Control, Moscow, April 28–29.
- Frieden, T.R. and J.P. Koplan. 2010. "Stronger National Public Health Institutes for Global Health." *Lancet* 376 (9754): 1721–1722.

- GHSi (Global Health Strategies initiatives). 2012. *Shifting Paradigm: How the BRICS are Reshaping Global Health and Development*, by Brad Tytel, Katie Callahan, Chandni Saxena et al. Durban.
- Global Polio Eradication Initiative (GPEI). <http://www.polioeradication.org/>
- Grace, D. 2012. "Zoonoses: The Lethal Gifts of Livestock." Presented at the International Livestock Research Institute (ILRI) Livestock Live Seminar, Nairobi, October 31.
- Gunther, I. and F. Gunther. 2010. "Water, Sanitation and Children's Health: Evidence from 172 DHS Surveys." Policy Research Working Paper 5275, World Bank, Washington, D.C.
- Hogan, M.C., K.J. Foreman, M. Naghavi, S.Y. Ahn, M. Wang, S.M. Makela, A.D. Lopez, R. Lozano, and C.J.L. Murray. 2010. "Maternal mortality for 181 countries, 1980-2008: a systematic analysis of progress towards Millennium Development Goal 5." *Lancet* 375: (9726) 1609–1623
- IANPHI (International Association of National Public Health Institutes). 2007. "Framework for the Creation and Development of National Public Health Institutes." Technical and Policy Briefs Number 1, Atlanta.
- IHME (Institute for Health Metrics and Evaluation). 2011. *Financing Global Health 2011: Continued Growth as MDG Deadline Approaches*. IHME Report, Seattle.
- Katz, R.L., J.A. Fernandez, and S.J.N. McNabb. 2010. "Disease Surveillance, Capacity Building and Implementation of the International Health Regulations (IHR[2005])." *BMC Public Health* 10 (Suppl 1):S1.
- Katz, R. and J. Fischer. 2010. "The Revised International Health Regulations: A Framework for Global Pandemic Response." *Global Health Governance* Vol. 3 No. 2, Stimson Center, Washington, D.C.
- Krug, E., ed. 1999. *Injury: A Leading Cause of the Global Burden of Disease*. Geneva: World Health Organization.
- Lister, G. 2000. "Global Health and Development: The Impact of Globalisation on the Health of Poor People." White Paper on Eliminating World Poverty: Making Globalisation Work for the Poor, Department for International Development, London.
- Lvovsky, K. 2001. "Health and Environment." Environment Strategy Papers No. 1, World Bank, Washington, D.C.
- Meiro-Lorenzo, M., T. Villafana, and M. Harrit. 2011. "Effective Responses to Non-communicable Diseases." Health, Nutrition, and Population Discussion Paper, World Bank, Washington, DC.
- Merrick, T., A. Goldman, A. Yazbeck, and A. Couffinal. Forthcoming. *Health in all the Right Places: Supporting Health and the Health*
- Murray, C.J.L., B. Anderson, R. Burstein, K. Leach-Kemon, M. Schneider, A. Tardif, and R. Zhang. 2011. "Development Assistance for Health: Trends and Prospects" *Lancet* 378: (9785) 8–10.
- Murray C.J.L., T. Vos, R. Lozano, M. Naghavi, A.D. Flaxman, C. Michaud et al. 2012. "Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010." *Lancet* 380: (9859) 2197–2223.
- Nikolic I., A. Stanciole, and M. Zaydman. 2011. "Chronic Emergency: Why NCDs Matter." Health, Nutrition, and Population Discussion Paper, World Bank, Washington, DC.
- PlusNews. 2009. Africa: Text Messages Highlight Drug Stock-outs. IRIN News, September 17. <http://www.plusnews.org/>
- PlusNews. 2010. Global: Seven Strategies for Smarter HIV Programmes. IRIN News, July 22. <http://www.irinnews.org/>
- Ravishankar, N., P. Gubbins, R.J. Cooley, K. Leach-Kemon, C.M. Michaud, D.T. Jamison, and C.J.L. Murray. 2009. "Financing of Global Health: Tracking Development Assistance for Health from 1990 to 2007." *Lancet* 373 (9681): 2113–2124.
- Rio+20 Conference (United Nations Conference on Sustainable Development). 2012. Conference focus on "Green Economy in the Context of Sustainable Development and Poverty Eradication, and the Institutional Framework for Sustainable Development," Rio, June 20–22.
- Smets S. 2012. "Promising Approaches and Tools for Reaching the Poor. Presentation." Presented at the World Water Week 2012, "Water and Food Security," Stockholm, August 26–31.
- Thailand, Department of Highways. 2007. *The Study of Traffic Accident Cost in Thailand*, Bangkok.

- UN (United Nations). 2011a. High-level Meeting on Non-communicable Diseases. New York, September 19–20. <http://www.un.org/en/ga/president/65/issues/ncdiseases.shtml>
- . 2011b. *World Urbanization Prospects: The 2011 Revision*, by the Department of Economic and Social Affairs/Population Division. Report ST/ESA/SER.A/322, New York.
- UNICEF (United Nations International Children's Emergency Fund). 2012. "Water, Sanitation and Hygiene." Press Release, May 26 (Updated 2012)
- USDHHS (United States Department of Health and Human Services). n.d. Community Health Data Initiative. Washington. <http://www.hhs.gov/openplan/opengovernmentplan/initiatives/initiative.html>
- Veneman, A.M. 2007. "Education is Key to Reducing Child Mortality: the Link between Maternal Health and Education." UN Chronical, Volume XLIV Number 4, WHO, Geneva.
- WDI dataBank (World Development Indicators database). World Bank, Washington, D.C. <http://data.worldbank.org/>
- World Bank. n.d. "Economics of Adaptation to Climate Change," World Bank, <http://climatechange.worldbank.org/>
- . 1999. *Curbing the Epidemic: Governments and the Economics of Tobacco Control*. Development in Practice Series. Washington D.C.: World Bank.
- . 2002 *Public Health and World Bank Operations*. Health, Nutrition, and Population Series. Washington, D.C.: World Bank.
- . 2007. *Healthy Development: The World Bank's Strategy for Health, Nutrition, and Population*. Health, Nutrition, and Population Report, Washington, D.C.
- . 2009a. *Confronting "Death on Wheels". Making Roads Safe in Europe and Central Asia*, by P. Marquez, G. Banjo, E. Chesheva, and S. Muzira. World Bank Report, Washington, D.C.
- . 2009b. *Implementation of the World Bank's Strategy for Health, Nutrition and Population Results: Achievements, Challenges, and the Way Forward – Progress Report 2009*. Health, Nutrition, and Population Report, Washington, D.C.
- . 2011a. "Avian Flu Resurgence Raises Concern in Asia, Middle East." News & Broadcast, March 10.
- . 2011b. *The World Bank Annual Report 2011: The Year in Review*. Washington, D.C.: World Bank.
- . 2011c. *Toward a Healthy and Harmonious Life in China: Stemming the Rising Tide of Non-Communicable Diseases*, by East Asia and Pacific Region. Human Development Unit Report, Washington, D.C.
- . 2011d. *Towards One Health: Interim Lessons from the Global Program on Avian and Human Pandemic Influenza*, by Agriculture and Rural Development Department and the Human Development Network, Washington, D.C.
- . 2012. *People, Pathogens and Our Planet, Volume 2: The Economics of One Health*, by Agriculture and Rural Development Unit. Report No. 69145-GLB, Washington, D.C.
- World Bank Global Road Safety Facility. <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTTRANSPORT/EXTTOPGLOROADSAF/0,,menuPK:2582226~pagePK:64168427~piPK:64168435~theSitePK:2582213,00.html>
- World Bank Projects and Operations Portal. 2012. <http://www.worldbank.org/projects>
- WHO (World Health Organization). 2011a. *Global Status Report on Noncommunicable Diseases 2010*. WHO Report, Geneva.
- . 2011b. *World Malaria Report 2011*. WHO Report, Geneva.
- . 2012a. "Antimicrobial Resistance." Fact sheet No. 194, March.
- . 2012b. "Road traffic injuries." Fact sheet N°358, September.
- . 2012c. "Second Report of Committee A (draft)." Report prepared for the 65th World Health Assembly. Geneva, May 21–26.
- WHO Decade of Action for Road Safety 2011–2020: global launch. 2011. http://www.who.int/road-safety/publications/decade_launch/en/index.html
- WHO Global Health Observatory Data Repository. 2011. Cause-specific mortality, 2008: LMIC countries by WHO region (datafile). WHO, Geneva (updated May 2011). <http://apps.who.int/gho/data/?theme=main#>.
- WHO and Carter Center. 2008. "Integrated Control of the Neglected Tropical Diseases: a neglected opportunity ripe for action." Presented at the Global Health and the United Nations Meeting, Atlanta, May 8–9.

WHO and UNICEF (United Nations Childrens Fund). 2005. Water for Life: Making it Happen, by the Joint Monitoring Programme for Water Supply and Sanitation. Geneva.

Yazbeck, A. 2012. "What can we learn from 22 years & \$16 billion of Lending for Health through Non-Health Projects and Can we do better?" Presented at the HNP Learning Program, "Health Insurance and Financing Seminar Series," Washington, D.C., September 26.

Annex 1: What is Public Health?

Concepts and Activities Embraced by the Field of Public Health

- Emphasis on collective responsibility for health and the prime role of the state in protecting and promoting the public's health
- Focus on whole populations
- Emphasis on prevention, especially primary prevention on population-wide basis
- In addition to prevention, control of disease
- Addressing the risk factors as well as the underlying socioeconomic determinants of health and disease
- Multidisciplinary and intersectoral
- Partnership with the populations served
- Collection and dissemination of evidence for public health policies, strategies and actions
- Policy development
- Human resource development and capacity building for public health

While the responsibility for public health is normally governments, NGOs, the community and the private sector can all play a role, especially where government has no or low capacity.

Source: The American Public Health Association, cited in Public Health and World Bank Operations, World Bank, 2002. Adopted from Financing of Essential Public Health Functions in Mexico, 1997.

Public Health Categories and Examples of Functions

1. Policy development

- Public health regulation and enforcement
- Evaluation and promotion of equitable access to necessary health services
- Ensuring the quality of personal and population-based health services
- Health policy formulation and planning
- Financing and management of health services
- Pharmaceutical policy, regulation and enforcement

2. Collecting and disseminating evidence for public health policies, strategies and actions

- Health situation monitoring and analysis
- Research, development and implementation of innovative public health solutions
- Provision of information to consumers, providers, policymakers and financiers
- Health information and management systems
- Research and evaluation

3. Prevention and control of disease

- Surveillance and control of risks and damages in public health
- Management of communicable and non-communicable diseases
- Health promotion
- Behavior change interventions for disease prevention and control
- Social participation and empowerment of citizens in health
- Reducing the impact of emergencies and disasters on health

4. Intersectoral action for better health

- Includes the impact on health from environmental protection, road safety, indoor air pollution, water

and sanitation, vector control in infrastructure, management of medical wastes, tobacco control including taxation and school health/education

5. Human resource development and capacity building for public health

- Development of policy, planning and managerial capacity
- Human resources development and training in public health
- Community capacity building

Source: World Bank. 2002 *Public Health and World Bank Operations*. Health, Nutrition, and Population Series. Washington, D.C.: World Bank.

Annex 2: Essential Public Health Functions Identified by PAHO/CDC/WHO

1. Health Situation Monitoring and Analysis

Examples:

- Up-to-date evaluation of the country's health situation and trends and their determinants, with special emphasis on identifying inequities in risks, threats and access to services.
- Identification of the population's health needs, including assessment of health risks and the demand for health services.
- Management of the vital statistics and the specific situation of groups of special interest or at greater risk.
- Generation of useful information to evaluate the performance of the health services.
- Identification of extra-sectoral resources to support health promotion and improvements in the quality of life.
- Development of technology, experience and methodologies for the management, interpretation and communication of information to those responsible for public health (including actors from outside the sector, health care providers and citizens).
- Creation and development of agencies to evaluate the quality of the data collected and analyze it correctly.

2. Surveillance, Research and Control of Risks and Damages in Public Health

Examples:

- The capacity to conduct research and surveillance on epidemic outbreaks and patterns of communicable and non-communicable diseases, accidents and exposure to toxic substances or environmental agents harmful to health.
- A public health services infrastructure designed to conduct population screenings, investigate cases and perform epidemiological research in general.
- Public health laboratories with the capacity to conduct rapid screening and process a high volume of tests needed to identify and control emerging threats to health.
- The development of active programs for epidemiological surveillance and control of infectious diseases.
- The capacity to develop links with international networks that permit better management of relevant health problems.
- Preparedness of the national health accounts (NHA) to mount a rapid response to control health problems or specific risks.

3. Health Promotion

Examples:

- Community health promotion activities and development of programs to reduce risks and threats to health with active citizen participation.
- Strengthening of the inter-sectoral approach to make promotion activities more effective, especially those designed for the formal education of young people and children.
- Empowerment of citizens to change their own lifestyles and become actively involved in changing community habits and demand that the responsible authorities improve environmental conditions to facilitate the development of a “culture of health”.
- The implementation of activities aimed at making citizens aware of their rights in health.
- The active participation of health services personnel in the development of educational programs in schools, churches, workplaces and any other organizational setting where information can be conveyed.

4. Social Participation and Empowerment of Citizens in Health

Examples:

- Facilitation of participation by the organized community in programs for the prevention, diagnosis, treatment and rehabilitation of health.
- Strengthening of inter-sectoral partnerships with civil society that make it possible to utilize all the human capital and material resources available to improve the health status of the population and promote environments that foster healthy lives.
- Support through technology and experience for developing networks and partnerships with organized society for health promotion.
- Identification of community resources that collaborate in promotional activities and in improving the quality of life, enhancing their power and capacity to influence the decisions that affect their health and their access to adequate public health services.

- Reporting and lobbying government authorities concerning health priorities, particularly those that depend on improvements in other aspects of the standard of living.

5. Development of Policy, Planning and Managerial Capacity to Support Efforts in Public Health and the Steering Role of the National Health Authority

Examples:

- The development of political decisions in public health through a participatory process at all levels that is consistent with the political and economic context in which the decisions develop.
- Strategic planning on a national scale and support for planning at the subnational levels.
- Definition and refinement of public health objectives, which should be measurable, as part of the strategies for continuous quality improvement.
- Evaluation of the health care system to develop a national policy that protects health services delivery with a public health approach.
- Development of codes, regulations and laws to guide public health practice.
- Definition of national public health objectives to support the steering role of the Ministry of Health or its equivalent, in terms of setting objectives and priorities for the health system as a whole.
- Management of public health in terms of the process of constructing, implementing and evaluating organized initiatives to address public health problems.
- Development of competencies in evidence-based decision-making that incorporate resource management, leadership capacity and effective communication.
- Quality performance of the public health system resulting from successful management that can be demonstrated to the providers and users of such services.

6. Public Health Regulation and Enforcement

Examples:

- Development and enforcement of sanitary codes and/or standards to control of health risks related to the quality of the environment; accreditation and quality control of medical services; certification of the quality of new drugs and biologicals (medicinal preparations made from living organisms and their products, including serums, vaccines, antigens, anti-toxins, etc.) for medical use, equipment, or other technologies; and any other activity that involves compliance with laws and regulations geared to protecting public health.
- The creation of new laws and regulations aimed at improving health and promoting healthy environments.
- Consumer protection as it relates to the health services.
- Carrying out all these regulatory activities properly, consistently, fully and in a timely manner.

7. Evaluation and Promotion of Equitable Access to Necessary Health Services

Examples:

- The promotion of equitable access to health care. This includes the evaluation and promotion of effective access by all citizens to the health services they need.
- The evaluation and promotion of access to the necessary health services through public and/or private providers, adopting a multisectoral approach that makes it possible to work with other agencies and institutions to resolve inequities in the utilization of services.
- The execution of activities aimed at overcoming barriers in access to public health interventions.
- Facilitating the linkage of vulnerable groups to the health services (without including the financing for this care) and to health education, health promotion and disease prevention services.

- Close collaboration with governmental and nongovernmental agencies to promote equitable access to the necessary health services.

8. Human Resources Development and Training in Public Health

Examples:

- The education, training and evaluation of the public health workforce to identify the need for public health services and health care, efficiently address priority public health problems and adequately evaluate public health actions.
- The definition of licensure requirements for health professionals in general and the adoption of programs for continuous quality improvement in the public health services.
- The formation of active partnerships with programs for professional development to ensure that all students have relevant public health experience and receive continuing education in management and leadership development in public health
- Capacity-building for interdisciplinary work in public health.

9. Ensuring the Quality of Personal and Population-Based Health Services

Examples:

- Promoting permanent systems for quality assurance and the development of a system for monitoring the results of evaluations made through those systems.
- Facilitating the development of the basic standards required for a quality assurance system and supervising the compliance of service providers with this obligation.
- A health technology assessment system that supports the decision-making process for the entire health system.
- Use of the scientific method to evaluate health interventions of varying degrees of complexity.
- Use of this system to improve the quality of the direct delivery of health services.

10. Research, Development and Implementation of Innovative Public Health Solutions

Examples:

- The continuum of innovation, which ranges from the efforts of applied research to promote changes in public health practice to formal scientific research.
- Development of the health authority's own research capacity at its different levels.
- Establishment of partnerships with research centers and academic institutions to conduct timely studies that support the decision-making of the NHA at all its levels and in as broad a sphere of action as possible.

11. Reducing the Impact of Emergencies and Disasters on Health

Examples:

- The planning and execution of public health activities in prevention, mitigation, preparedness, response and early rehabilitation.
- A multiple focus that addresses the threats and etiology of any and all possible emergencies or disasters that can affect a country.
- Participation of the entire health system and the broadest possible inter-sectoral cooperation to reduce the impact of emergencies and disasters on health.

Sources: Adapted from Pan American Health Organization (PAHO). May 2000. "National Level Instrument for Measuring Essential Public Health Functions"; Public Health in the Americas. Washington DC: PAHO/U.S. Centers for Disease Control and Prevention/Centro Latino Americano de Investigaciones en Sistemas de Salud.

Annex 3: Role of Development Partners in Global Health

(Non exhaustive list of UN agencies and specialized organizations working in health: their purpose or mission statement as they appear on their web page)

UN Agencies and specialized agencies working in health (not an exhaustive list)	
Food and Agriculture Organization of the United Nations (FAO)	FAO focus is on food production and agriculture, reflecting its specialization and responsibility within the United Nations family. Assisting in preventing disaster-related emergencies, providing early warnings of food emergencies and helping in rehabilitation of food production systems are FAO's predominant roles in humanitarian aid. The main forms of FAO's intervention include needs assessments, provision of agricultural inputs and technical assistance for the planning and management of sustainable recovery and rehabilitation of rural production systems
International Monetary Fund (IMF):	The IMF works to foster global growth and economic stability. It provides policy advice and financing to members in economic difficulties and also works with developing nations to help them achieve macroeconomic stability and reduce poverty.
United Nations Development Programme (UNDP):	Since 1966, the UNDP has been partnering with people at all levels of society to help build nations that can withstand crisis and drive and sustain the kind of growth that improves the quality of life for everyone. UNDP works in four main areas: poverty reduction and achieving the Millennium Development Goals (MDGs); democratic governance; crisis prevention and recovery; environment and sustainable development.
UNICEF:	UNICEF is mandated by the United Nations General Assembly to advocate for the protection of children's rights, to help meet their basic needs and to expand their opportunities to reach their full potential.
The World Bank Group:	Our mission is to help developing countries and their people reach the goals [of the elimination of poverty and sustained development] by working with our partners to alleviate poverty. We address global challenges in ways that advance an inclusive and sustainable globalization—to overcome poverty, enhance growth with care for the environment, and create individual opportunity and hope.
World Health Organization (WHO):	Mission: The attainment by all peoples of the highest possible level of health. Health, as defined in the WHO Constitution, is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.
World Organization for Animal Health (OIE):	The need to fight animal diseases at global level led to the creation of the Office International des Epizooties through the international Agreement signed on January 25th 1924 (predates the United Nations); OIE is the intergovernmental organisation responsible for improving animal health worldwide working with six mission objective areas – 1) Transparency, 2) Scientific information, 3) International solidarity, 4) Sanitary safety, 5) Promotion of veterinary services, 6) Food safety and animal welfare.

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Bilateral Agencies (examples, including selected centers and institutes)	
The Centers for Disease Control and Disease Prevention (CDC):	Vision: “Health Protection...Health Equity” Mission: Collaborating to create the expertise, information, and tools that people and communities need to protect their health—through health promotion, prevention of disease, injury and disability and preparedness for new health threats.
National Institutes of Health (NIH):	NIH’s mission is to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce the burdens of illness and disability.
Department for International Development (DFID – Great Britain):	Among its key objectives, DFID set out to make global development a national priority and promote it to audiences in the UK and overseas, while fostering a new “aid relationship” with governments of developing countries
GIZ – Deutsche Gesellschaft für Internationale Zusammenarbeit (formerly GTZ – Germany):	Mission: Further political, economic, ecological and social development worldwide, and so improve people’s living conditions. Provides services that support complex development and reform processes
Japanese International Cooperation Agency (JICA):	“Inclusive development” represents an approach to development that encourages all people to recognize the development issues they themselves face, participate in addressing them and enjoy the fruits of such endeavors. Mission areas: 1) address global agenda, 2) reduce poverty through equitable growth, 3) improving governance and 4) achieving human security
U.S. Agency for International Development (USAID):	Supports sustainable development: economic and social growth that does not exhaust local resources; that does not damage the economic, cultural, or natural environment; that permanently increases the cohesion and productive capacity of the society; and that builds local institutions that involve and empower the citizenry. Working in 1) Environment, 2) Population and health, 3) Democracy, 4) Broad-based economic growth and 5) Humanitarian assistance and support for post-crisis transitions.
Private foundations and their Mission Statements (examples)	
Bill and Melinda Gates Foundation (BMGF):	Guided by the belief that every life has equal value, the Bill & Melinda Gates Foundation works to help all people lead healthy, productive lives. In developing countries, it focuses on improving people’s health and giving them the chance to lift themselves out of hunger and extreme poverty
Rockefeller Foundation:	To promote the well-being of people throughout the world. Two fundamental goals: 1) build resilience that enhances individual, community and institutional capacity to survive, adapt and grow in the face of acute crises and chronic stresses; and 2) promote growth with equity in which the poor and vulnerable have more access to opportunities that improve their lives
Selected Partnerships and Initiatives and their mandates	
Global Alliance for Vaccines and Immunization (GAVI):	Mission: Saving children’s lives and protecting people’s health by increasing access to immunization in poor countries
International AIDS Vaccine Initiative (IAVI):	To ensure the development of safe, effective, accessible, preventive HIV vaccines for use throughout the world
Global Fund on AIDS, Tuberculosis and Malaria (GTATM):	The Global Fund is a unique, public-private partnership and international financing institution dedicated to attracting and disbursing additional resources to prevent and treat HIV and AIDS, TB and malaria. This partnership between governments, civil society, the private sector and affected communities represents an innovative approach to international health financing. The Global Fund’s model is based on the concepts of country ownership and performance-based funding, which means that people in countries implement their own programs based on their priorities and the Global Fund provides financing on the condition that verifiable results are achieved.
International Health Partners Plus (IHP+):	The International Health Partnership and related initiatives (IHP+) seeks to achieve better health results by mobilizing donor countries and other development partners around a single country-led national health strategy, guided by the principles of the Paris Declaration on Aid Effectiveness and the Accra Agenda for Action. Launched in September 2007, the IHP+ aims to better harmonize donor funding commitments, and improve the way international agencies, donors and developing countries work together to develop and implement national health plans.

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*(continued)***Presidents Emergency Plan for AIDS Relief (PEPFAR):**

PEPFAR is the U.S. Government initiative to help save the lives of those suffering from HIV/AIDS around the world; it operates according to five goal areas: 1) Transition from an emergency response to promotion of sustainable country programs, 2) Strengthen partner government capacity to lead the response to this epidemic and other health demands, 3) Expand prevention, care, and treatment in both concentrated and generalized epidemics, 4) Integrate and coordinate HIV/AIDS programs with broader global health and development programs to maximize impact on health systems, 5) Invest in innovation and operations research to evaluate impact, improve service delivery and maximize outcomes.

Polio Eradication Initiative (PEI):

The Global Polio Eradication Initiative is a public-private partnership led by national governments and spearheaded by the World Health Organization (WHO), Rotary International, the US Centers for Disease Control and Prevention (CDC), and the United Nations Children's Fund (UNICEF). Its goal is to eradicate polio worldwide.

President's Malaria Initiative (PMI):

Launched in 2005, the President's Malaria Initiative (PMI) is a five-year, \$1.2 billion expansion of U.S. Government resources to reduce the intolerable burden of malaria and help relieve poverty on the African continent. The goal of PMI is to reduce malaria-related deaths by 50 percent in 19 countries in Africa and the Greater Mekong Subregion in Asia with a high burden of malaria by expanding coverage of four highly effective malaria prevention and treatment measures to the most vulnerable populations: pregnant women and children under five years of age.

Roll Back Malaria (RBM):

The RBM Partnership is the global framework to implement coordinated action against malaria. It mobilizes for action and resources and forges consensus among partners. The Partnership is comprised of more than 500 partners, including malaria endemic countries, their bilateral and multilateral development partners, the private sector, nongovernmental and community-based organizations, foundations, and research and academic institutions.

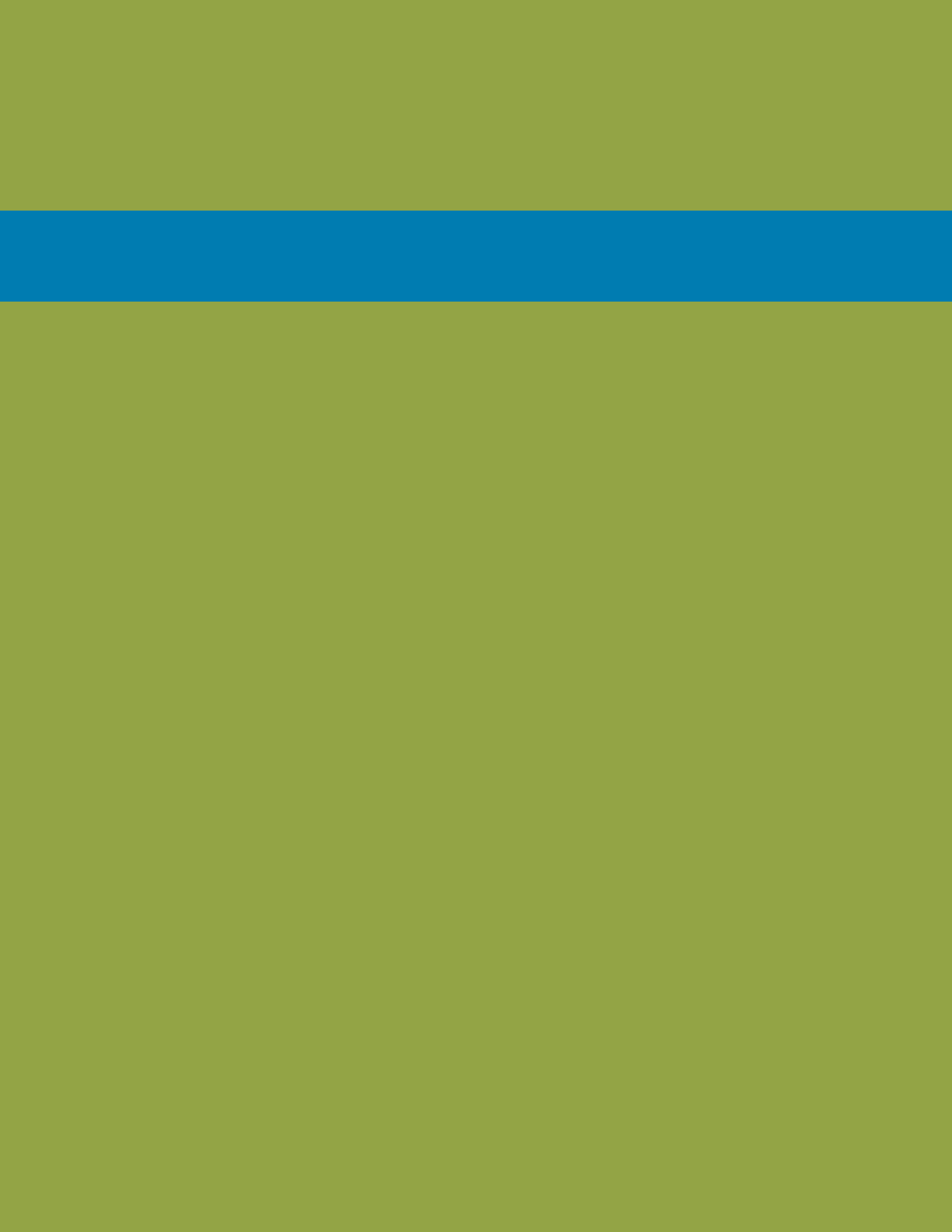
Stop TB:

A Partnership to lead the way to a world without tuberculosis, a disease that is curable but still kills three people every minute. Founded in 2001, the Partnership's mission is to serve every person who is vulnerable to TB and ensure that high-quality treatment is available to all who need it. Nearly 1000 partners are a collective force that is transforming the fight against TB in more than 100 countries. The secretariat is hosted by WHO (Geneva) and seven working groups work to accelerate progress on access to TB diagnosis and treatment; research and development for new TB diagnostics, drugs and vaccines; and tackling drug resistant- and HIV-associated TB.

UNAIDS

Joint United Nations Programme on HIV/AIDS

UNAIDS, the Joint United Nations Programme on HIV/AIDS, is an innovative United Nations partnership that leads and inspires the world in achieving universal access to HIV prevention, treatment, care and support."



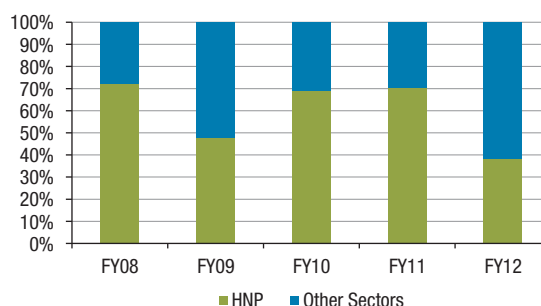
Annex 4: The World Bank's Contribution to Public Health

Lending

Since FY02, the Bank has approved \$25.0 billion in health commitments for 785 country-specific projects in 128 countries and 29 globally- or regionally-focused projects across sectors. Of this amount, \$7.1 billion (28.5 percent) was committed for activities focused on public health.³ Within the Bank, health and non-health sectors have been actively engaged, with 40 percent (or \$5.5 billion) of the \$13.8 billion total health commitments during the last five years being managed by other sector boards, including the top five sectors by commitment amount: Economic Policy, Social Protection, Social Development, Public Sector Governance, and Financial and Private Sector Development. Figure 11 provides the share of other sectors' work in health, and how it has fluctuated each year. It is important to note that, without the Bank's commitments, a significant void would have been left. For example, the Bank's multisectoral commitment of \$1.3 billion towards 72 projects on Avian and Human Influenza (AHI) since 2005 constitutes a third of the global commitment over this period (Figure 12).

Among the 109 active health projects at the Bank, the share of public health components is highest in SAR

Figure 11 • Share of HNP Commitments from HNP and Other Sectors' Projects, FY08 to FY12

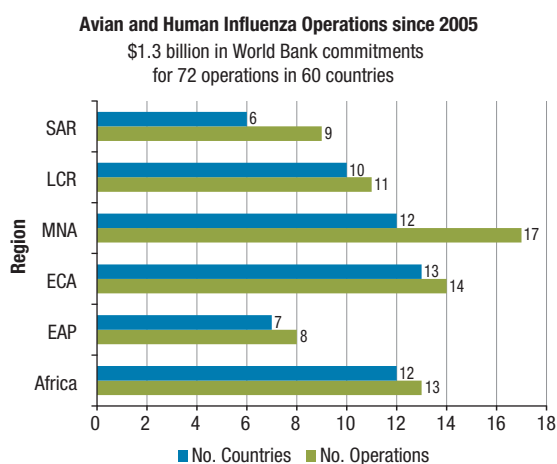


Source: World Bank Business Warehouse, May 2, 2012.

(77 percent), AFR (67 percent), and LCR (58 percent), while public health makes up about 50 percent or less in EAP, ECA, or MENA (Figure 13). As part of its operational work on health, the Bank has supported projects on malaria, HIV/AIDS, and tuberculosis. It has also emphasized and promoted core public health functions and has augmented this with public health gap analyses countries, policy development and country investments (Claeson 2004).

³ In this section the following themes are captured under public health: Nutrition and Food Security; HIV/AIDS; Malaria; TB; other communicable diseases; and injuries/non-communicable diseases. We recognize that there are other projects in the portfolio that address other public health aspects such as public health functions (e.g. surveillance). However, these are not included because a breakdown of projects at that level is currently unavailable.

Figure 12 • Number of AHI Operations by Region since 2005



Source: World Bank 2011d.

Analytic and Advisory Activities (AAA)

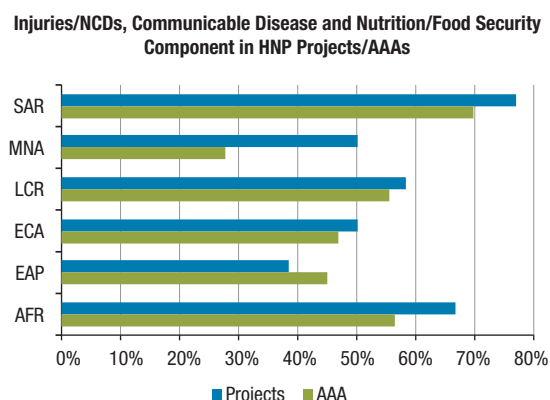
At the core of the Bank's knowledge platform are the Analytical and Advisory Activities (AAAs), which comprise the majority of the knowledge sharing service the Bank provides to clients and partners. Overall, nearly 1,000 (or 10 percent) of the over 10,000 AAA products generated across all sectors within the Bank between FY02 and FY12 addressed health. The steady rise in the proportion of health-related AAAs within the last few years signifies the increasing demand and importance of this instrument in delivering evidence-based findings and key messages. Of the 280 AAAs by health unit throughout the Bank within the last five years, 26 percent focused on HIV/AIDS, leading all other public health topics.

Knowledge Sharing and Dissemination

The Bank has played an active role in generating and spreading knowledge on key public health issues. The health sector produced 189 Discussion Papers over the past decade, aimed at stimulating debate and quickly sharing new knowledge with staff and Bank clients.

The World Bank Institute (WBI) provides an additional and valuable avenue for staff and Bank clients globally

Figure 13 • Public Health in Active Health Sector Projects by Region



Source: Business Warehouse (database), World Bank. Data generated November 29, 2012.

to enhance their knowledge. One of WBI's key strategies entails the sharing of information and experiences through short courses among development practitioners and policymakers, including South-to-South practitioner exchanges. The WBI continues to provide an e-course on Strengthening Essential Public Health Functions, developed in 2002.

Current Engagement Across Sectors and Partnerships on Public Health

As mentioned above, the last ten years have shown that the Bank has the capacity to work successfully across sectors. The Bank contributed to, and often led, intersectoral coordination at country and global levels. Examples of multisectoral collaboration include:

- **Road Safety** – HNP worked with the Transport and Infrastructure sectors in launching the Bank's first standalone safety project in Vietnam, as well as contributing to the WHO Report on road safety.
- **Indoor Air Pollution** – HNP worked with the Environment and Energy sectors and supported operations research in the Africa, South Asia and East Asia Pacific regions that linked health to indoor air pollution as a contributor to respiratory illnesses, cardiovascular diseases, and chronic heart diseases.

- **Water, Sanitation and Hygiene** – HNP worked with the Water, Rural and Infrastructure sectors to launch the Public-Private Partnership on hand washing, and conducted a review of the evidence on the effectiveness of water supply, sanitation and hygiene interventions in improving health outcomes.
- **HIV/AIDS** HNP is working with Transport, Urban and Water, Energy, and other sectors. Two regional projects: the Abidjan/Lagos HIV/AIDS Transport Corridor Project and the Great Lakes Initiative on HIV/AIDS Project, have developed program guides and materials including “The Road to Good Living,” a widely circulated brochure on HIV/AIDS and transportation planning.
- **“One Health”** – HNP contributed to the global “One Health” strategy, which the World Bank, WHO, OIE and FAO presented to ministers of health and agriculture in 2008. This strategy emphasizes prevention of pandemic diseases, nearly all of which are of animal origin, by controlling pathogens at their source in livestock (see Annex Box 1).

To further identify high impact intersectoral interventions for the World Bank and its partners, HNP has collaborated with other sectors as part of its At-A-Glance series fact-sheets on HNP-related issues. These are focused on key public interventions proven to be effective in improving health, or provide knowledge notes to disseminate new findings and lessons learned from the regions, specific to the Bank's role in health. The Bank has also recently established the public health Community of Practice, a multisectoral forum aimed at fostering synergies and actions across sectors.

Despite the positive examples above, the Bank has yet to fully explore its major advantage in intersectoral coordination to promote a systematic shift in mindset and so ensure that all sector policies are “healthy.” Most activities aimed at strengthening the Bank's intersectoral advisory capacities, under the 2007 HNP strategy, have yet to be implemented.

An Important Global Player on Key Public Health Actions

As part of its involvement in the global arena on health, the World Bank has maximized the impact of its analytical and operational work. By engaging in

a range of strategic partnerships, the Bank has positioned itself as a global leader in a number of areas, including:

- **Nutrition.** The Scaling Up Nutrition (SUN) Framework for Action which outlines the principles for scaling up investments in nutrition was launched at the World Bank in April 2010. Endorsed by more than 100 partner organizations, the SUN global movement has expanded rapidly, gaining momentum at global, regional and national levels. In less than two years since the launch, 27 countries have declared themselves to be “early riser” SUN countries, committing to the implementation of national plans to address under nutrition at scale (See Annex Box 2).
- **Malaria control.** The Bank is the third largest financier of malaria control efforts globally, after the Global Fund and the US President's Malaria Initiative. Since 2005, the Bank has contributed close to \$1 billion of IDA and other resources (from donors such as Russia) to malaria control efforts in Africa and India. The Bank is a founding member of the Roll Back Malaria Partnership (RBM), where its role includes assisting in donors' harmonization efforts around national malaria control action plans (see Annex Box 3).
- **HIV/AIDS.** The Bank serves as the current Global Coordinator for UNAIDS. In this role, the Bank is responsible for leading and coordinating the ten UNAIDS partners towards the goal of “Getting to Zero”, or no new infections, the centerpiece of UNAIDS' strategic plan. The Bank's most valuable contribution is through its economic competence in four service lines: namely, improving the efficiency, effectiveness, financing and sustainability of the global AIDS response.
- **Tuberculosis.** The Bank is a member of the STOP TB Board and plays an important role in shaping policies and actions globally to help achieve the objective “zero TB deaths” set forth by the partnership.

The Bank has also engaged in powerful public health partnerships at country level. An illustrative example is the “One Health” approach for preparedness for and response to emerging infectious diseases in China (see Annex Box 1).

Annex Box 1: One Health Approach for Preparedness for and Response to Emerging Infectious Diseases in China

China has been a prominent hotspot for novel infectious diseases. The World Bank has been working with the Government on a series of projects since 2007 in order to assist the country in improving Highly Pathogenic Avian Influenza (HPAI) and other zoonoses prevention and control, and preparedness for and response to human influenza pandemic in China. So far, two phases have been completed and Phase III project will start in June 2012. The total investment from the Avian and Human Influenza Facility (a World Bank administered trust fund with contributions from the European Commission and 9 other donors) will amount to US\$8.8 million. Some highlights of its three phases include:

- Situation and risk assessment: a joint WB-WHO assessment on the national strategic framework for Avian and Human influenza preparedness and response was conducted in December 2005 and endorsed by the Government of China and other international organizations.
- A systematic One Health approach: emphasis was put on the whole of society approach and multisectoral collaboration. In phase I, the participating sectors were only health and agriculture. In the second phase, the two sectors were joined by finance, food and water supply, electricity, public security, transportation, and within the health sector—Centers for Disease Control and Prevention and health service providers.
- A number of innovations have been implemented to facilitate implementation of the “One Health Approach”:
- Government-led HPAI response and human influenza preparedness. A whole of society approach has been adopted by the project provinces and counties. Collaboration between health and veterinary sectors has evolved to multisectoral participation including public security, transportation, food and water supply, as well as local communities;
- A number of tools have been developed: (a) influenza pandemic preparedness assessment; (b) incident response information system for evidence-based emergency management; (c) standard operating procedure for rapid response teams and supply of standardized rapid response kits; (d) risk communication tools, and modules on risk communication for government spokespersons; (e) business continuity plan for pandemic influenza and risk containment plan; (f) manual for drills and exercises; and
- Joint activities such as joint training and drills that involve different sectors have been implemented.

The results to date have been encouraging. By the end of Phase II, the projects have successfully contributed to the revised national avian influenza surveillance strategy, development of a free poultry compartmentalization. Collaboration and cooperation among different sectors has become a norm. A set of generic skills and competencies such as risk assessment, surveillance and field epidemiology, laboratory investigation, clinical management of severe respiratory conditions, emergency management, risk communication, and monitoring and evaluation have been built up at project provinces, and they have benefited the responses to cholera outbreak in Anhui and anthrax case in Liaoning provinces.

In the third phase, China intends to improve collaboration on infectious diseases with neighboring countries such as Mongolia and a number of central Asia countries to further enrich the concept and practices for One Health approach.

Source: World Bank, EASHH

Annex Box 2: Working across sectors to address malnutrition in South Asia: Regional Assistance Strategy for Nutrition (RAS)

- **The challenge of hunger and malnutrition in South Asia is multi-faceted, and requires a multi-pronged approach**, including interventions for greater availability of safe and nutritious food through improved agriculture production; enhanced livelihoods for secure access; education; clean water and sanitation; women's empowerment; social protection; and a focus on infant and child care.
- Despite unprecedented economic growth during the last decade, **South Asia still has one of the highest rates of undernutrition in the world**. The prevalence of child stunting in the region is estimated to be 47% of under five children compared to Sub-Saharan Africa with a stunting prevalence of 39%.^a
- The economic and human development costs of this high burden of hunger and malnutrition in the region are too great to be ignored. Malnutrition slows economic growth and perpetuates poverty through: direct losses in productivity from poor physical status (GDP lost to malnutrition can be as high as 2–3%) and indirect losses from poor cognitive function and deficits in schooling^b (productivity losses to individuals have been estimated at more than 10% of lifetime earnings)
- To address hunger and malnutrition in South Asia, **the World Bank South Asia Regional Management Team adopted nutrition as a regional priority and formulated a Regional Assistance Strategy for Nutrition (RAS) 2010–2015**. The objective of the RAS is to expand the scale, scope and impact of the region's work program on nutrition, while building SAR Bank staff's as well as the clients' commitment to, and capacity for, a multi-sectoral response to the nutrition crisis in the region.
- **RAS is expected to meet its objective through achieving four key results:** (1) improved awareness and commitment by Bank and clients to addressing maternal and child nutrition; (2) increased World Bank lending for operations aimed at improving maternal and child nutrition; (3) increased World Bank funding/management of analytical work to address knowledge gaps in maternal and child nutrition; and (4) successful implementation of a multi-sectoral convergence model project aimed at improving child nutrition indicators.
- **Under the RAS, the South Asia Food and Nutrition Security Initiative (SAFANSI) was established in 2010 as a multi-donor trust fund by a joint undertaking of the World Bank, AusAID, and DFID**. SAFANSI was formed with the recognition that ending the South Asia Enigma—*how chronic malnutrition remains intractable despite high economic growth*—will take wide-spread reform and innovation in policies and programs. SAFANSI has the objective of fostering the cross-cutting actions that will lead to measurable improvements in food and nutrition security.

^a Table 2: Nutrition, The State of the World's Children 2012.

^b Repositioning Nutrition as Central to Development: A Strategy for Development, 2006, The World Bank, Washington DC.

Annex Box 3: The World Bank Involvement in Malaria Control: Delivering Results

The World Bank is the third largest financier of malaria control globally, after the *Global Fund* and the *U.S. President's Malaria Initiative*. Overall, the World Bank has committed close to \$1 billion to malaria control:

- In Africa from 2005 to 2011, the Bank committed \$772.8 million to the fight against malaria in 20 countries—more than a ten-fold increase since 2000–2005. This financing helped support, among other activities, 73.8 million insecticide-treated mosquito nets (ITN) and 25.3 million doses of effective malaria medication.
- In India, the Bank has allocated close to \$190 million to malaria control efforts as part of a broader vector control project, and has financed 6.1 million ITN, as well as a substantial amount of rapid diagnostic tests and effective drugs.

The Bank uses a two-pronged approach to support malaria control efforts: first, by scaling up effective interventions and second, by strengthening aspects of systems, for example related to supply chain, human resources, and monitoring and evaluation. The Bank has successfully leveraged its *IDA* resources to bring non-traditional donors to the fight, including the Russian Federation, which has co-financed World Bank malaria control activities (\$16 million) in Zambia and Mozambique.

The Bank's malaria strategy also extends to sectors other than health. For example, a \$42 million malaria program covering the Senegal River Basin (including Senegal, Mali, Mauritania, and Guinea) was embedded in a larger Water Resource Development Project covering the same countries. Likewise, in D.R. Congo, the Bank financed \$13 million for the purchase of mosquito nets as part of an Emergency Urban and Social Rehabilitation Project. Through a grant from the Exxon Mobil foundation, the Bank has worked with countries to strengthen monitoring and evaluation capacity and conduct surveys to monitor progress and identify bottlenecks. Additionally, the Bank has launched evaluation work on the impact on malaria in Kenya and Senegal (school-based programs); Nigeria (impact of community distributors' and patent vendors' training); and India (improving malaria control outcomes through evidence-based, program design).

Results include:

- **Rwanda:** Bank support has led to a 63 percent increase in the use of ITNs; a 62 percent decrease in malaria incidence; and a 30 percent decrease in child mortality
- **Ethiopia:** 90 percent of children under five slept under ITNs in 2010, compared to 5 percent in 2003
- **Zambia:** The annual number of malaria deaths in the country decreased by 50 percent in 2000–2008, during which period the population rose by 30 percent, thus amounting to a reduction in the death rate of over 60 percent. These outcomes contributed to the reductions in the mortality of under-fives (29 percent) and infants (26 percent) observed between 2002 and 2007. During the years 2006–2008 (when IDA was a major financier of the National Malaria Control Program), under-five malaria deaths decreased from 3,235 to 2,680 (17 percent), indicating significant progress toward achieving the health-related Millennium Development Goals
- **Sierra Leone:**
 - ITN Ownership – Household ownership of at least one ITN increased from 33 percent in 2010 to 87 percent in June 2011
 - ITN Use – 68 percent of all household members slept under an ITN the night preceding the survey

Source: World Bank 2012

Annex 5: Ten Notable Achievements in Public Health

In an exercise published by the U.S. Centers for Disease Control and Prevention, (CDC2010) a panel of experts was asked to nominate the most notable achievements of global public health over the first decade of the millennium. The ten items highlight these achievements but also reveal the considerable gaps that remain:

1. **Reductions in child mortality.** Global under-five mortality has dropped by 40 percent since 1990 from 87 deaths per 1,000 live births to 53 per 1,000 live births in 2010 (World Development Indicators, World dataBank, World Bank), mostly thanks to simple public health interventions—micro-nutrient supplementation, immunization, safe water, sanitation and insecticide-treated bed nets—and to highly cost-effective therapies such as oral rehydration therapy. The increasing availability of antibiotics and antiretroviral therapy for AIDS has also made an impact. Despite this, in 2010, 7.6 million children under the age of five died, predominantly from infectious diseases for which effective intervention is available—especially diarrhea, pneumonia, malaria and HIV (often combined with under-nutrition).
2. **Vaccination against preventable diseases.** Immunization currently averts an estimated two-three million deaths every year in all age groups from diphtheria, tetanus, pertussis (whooping cough) and measles (WHO immunization monitoring global health database). Since the implementation of the Global Polio Eradication Initiative (GPEI) there has been a sharp decline in cases. Polio eradication efforts have reduced the number of endemic countries to Pakistan, Nigeria, Afghanistan and India. New vaccines for the agents which cause pneumonia, diarrhea, meningitis and cervical cancer (amongst others) are increasingly available and financed. Despite this, significant gaps remain in coverage in many of the poorest countries and WHO estimates that 1.5 million children die yearly from diseases preventable by vaccines.
3. **Access to safe water and sanitation.** The availability of clean drinking water has virtually eliminated water-borne diseases such as typhoid and cholera in the developed world. However, much remains to be done in low and middle income countries (LMIC)—diseases spread by inadequate water, sanitation and hygiene remain the second leading cause of infant mortality worldwide (CDC 2010). There are also huge disparities between urban and rural areas. Progress in sanitation has not matched advances in access to safe water and the MDG targets for sanitation will not be met. By the end of 2010, 2.5 billion people still did not have access to safe sanitation among whom 1.1 defecate in the open (UNICEF 2012). In many countries in Sub-Saharan Africa and South Asia, sanitation coverage is less than 50 percent.
4. **Malaria prevention and control.** Global efforts have led to a decline in malaria deaths of 38 percent worldwide (WHO, 2011b). Sub-Saharan Africa, which bears the heaviest cost of malaria deaths, deserves special emphasis with an estimated 1.1 million children saved from malaria over the

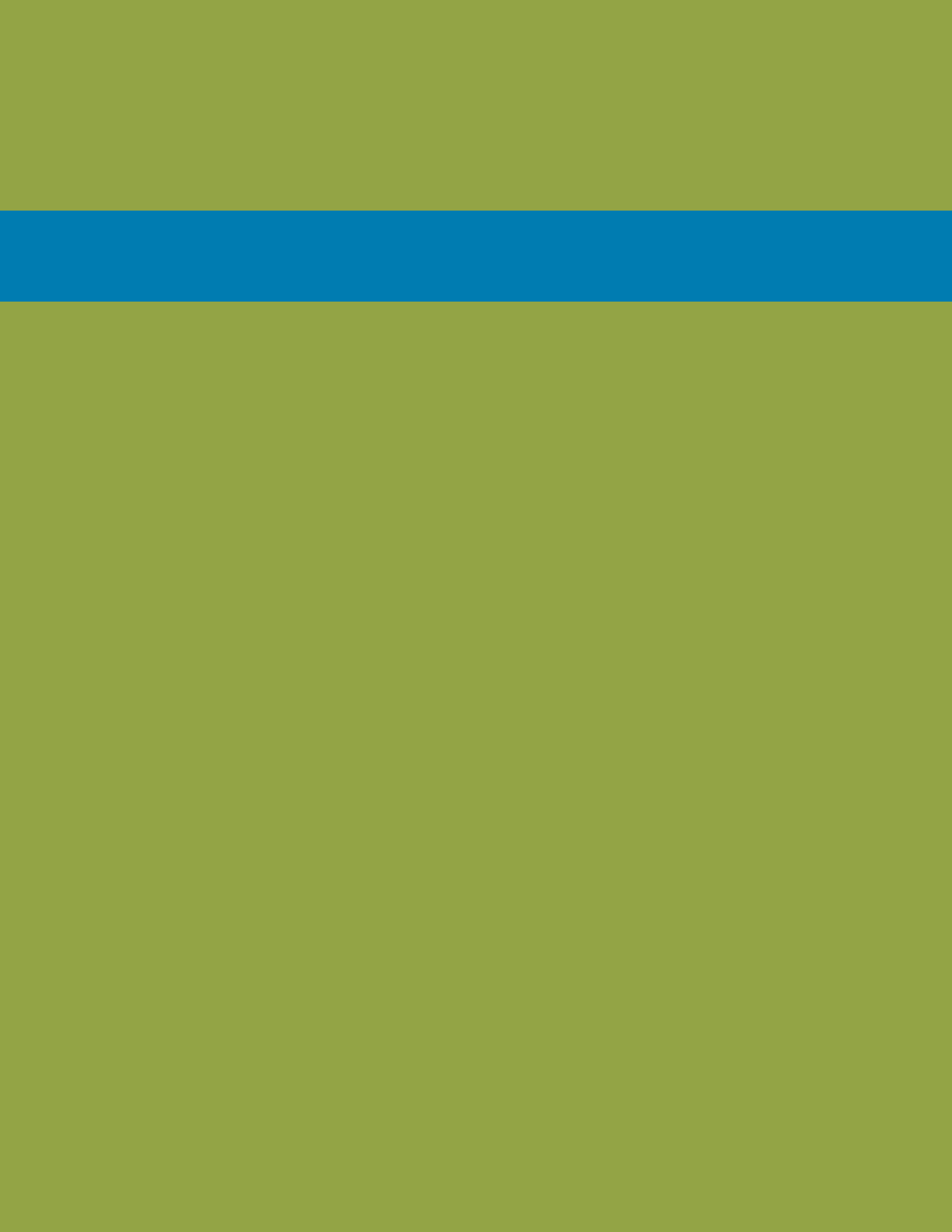
last decade. The Roll Back Malaria Partnership was launched in 1998 by WHO, UNICEF, UNDP and the World Bank to provide a coordinated global response to the disease. Since that time the financial resources available for malaria programs have increased from \$100 million to \$1.8 billion. These investments have supported public health interventions and curative health services that have greatly increased the reach of protective interventions (particularly insecticidal treated bed nets). However, much work remains to scale up effective treatment and assist countries in moving toward elimination. At the same time, emerging drug and insecticide resistance are a major concern.

5. **Prevention and control of HIV/AIDS.** After years of unrelenting expansion, the global epidemic of HIV has stabilized and the annual rate of new infections is declining (UNAIDS global report). In 33 countries, HIV incidence fell more than 25 percent between 2001 and 2009. This has been at least partly due to significant international investments in prevention and treatment, which by 2010 had resulted in an unprecedented scale-up of HIV/AIDS services. Driven in most countries by international assistance, more than 6.5 million people were receiving antiretroviral therapy at the end of the decade, resulting in a decline in mortality from AIDS. Highly effective interventions to prevent mother to child HIV transmission have almost eliminated vertical spread of the virus in most developed countries, with coverage increasing dramatically in LMICs. Despite this success, global prevalence remains high—34 million people were living with AIDS at the end of 2010. At the end of 2009, only 36 percent (about 5.2 million) of those who need it were receiving antiretroviral therapy in LMICs. Also, insufficient attention is paid to prevention in high-risk groups.
6. **Tuberculosis control.** The WHO's directly observed short course (DOTS) strategy for TB control was launched in 1995 and has resulted in substantial global progress against the disease. For example, in China between 1990 and 2010, prevalence rates were halved, mortality rates fell by almost 80 percent and TB incidence rates (i.e. new cases) fell by 3.4 percent per year (CDC 2010). The absolute number of TB cases has been falling globally since 2006, incidence rates have been falling since 2002, and all of WHO's six client countries are on track to achieve the MDG target that TB incidence rates should fall by half by 2015. However, significant challenges remain. In 2010, there were 1.45 million deaths from TB. HIV fuels TB and about 13 percent of TB cases occur among people living with AIDS. Further, health system weaknesses such as inadequate health worker training, and poor quality drugs lead to a rise in cases of highly drug resistant TB.
7. **Control of Neglected Tropical Diseases.** More than one billion of the world's poorest 2.7 billion people (defined as those who live on less than \$2.00 a day), are affected by one or more neglected tropical diseases (NTD) (WHO and Carter Center 2008). These are communicable diseases named for the relative failure to provide proper care or attention to their victims, in spite of great impact on individual livelihoods and communities. Of all NTDs, 90 percent could be treated with medicines that are administered once or twice annually. There is insufficient effort to combat NTDs, they are traditionally under-reported and existing research methods make accurate data collection difficult. Improving the quality of the data and an overall commitment to combat these diseases more effectively has been identified as an important priority. WHO released a road map for combating NTDs in early 2012.
8. **Tobacco control.** Tobacco use represents the largest preventable cause of disease and death in the world, leading to nearly six million deaths annually, projected to rise to more than eight million by 2030. Despite increasing international consensus around the importance of tobacco control, consumption of tobacco products is increasing globally. Nearly 80 percent of the world's one billion smokers live in low- and middle-income countries. In 1999, the World Bank published a landmark study, *Curbing the Epidemic: Governments and the Economics of Tobacco Control*. The analysis concluded that tobacco control brings unprecedented health benefits without cost to economies. In force since 2005, the WHO Framework Convention on Tobacco Control is now ratified by 172 countries.
9. **Road safety.** Each year, 1.3 million people are killed on the world's roads. The loss of disability adjusted life years (DALYs) due to road injuries surpasses

malaria as a global burden of disease. Road accidents disproportionately harm the poor and 90 percent of casualties occur in developing countries. Consequent injury and death can plunge families into poverty and represent a substantial drain on country resources (World Bank Global Road Safety Facility). This large and increasing burden was recognized in 2011 by the United Nations, with the launch of a “Decade of Action for Road Safety” that aims at stabilizing and then reducing global road deaths by 2020 (WHO Decade of Action for Road Safety 2011–2020: global launch 2011). The Bank has established “The Global Road Safety Facility,” housed within the Transport, Water, Information & Communication Technologies Department, working to scale up efforts to stop the silent epidemic on roads, particularly in poor countries.

10. **Prevention of pandemics such as SARS and influenza.** Human health and economies benefit when zoonotic disease outbreaks—from pathogens that often originate in livestock—are controlled so that

epidemics and pandemics do not develop. The last decade has seen remarkable progress. A SARS pandemic was thwarted, though at high economic cost. A major international effort was mounted to control the highly pathogenic H5N1 virus at its animal source (through the culling of up to 1 billion poultry) and to help developing countries prepare for a pandemic. The Bank has contributed \$1.3 billion to the \$3.9 billion global program, leadership on a rapid and flexible global funding strategy, and coordination for and assistance to, integrated animal health-human health programs in 60 countries (World Bank 2011d). To date, no severe flu pandemic has emerged and countries are better prepared now than 10 years ago. But there are significant risks that these gains are not being sustained. OIE has identified priority investments required to bring animal disease prevention and control systems in developing countries to minimum standards, emphasizing the importance of collaboration between animal and human health services.



Annex 6: Illustrative Role of Different Sectors in Strengthening Public Health Programs and Results

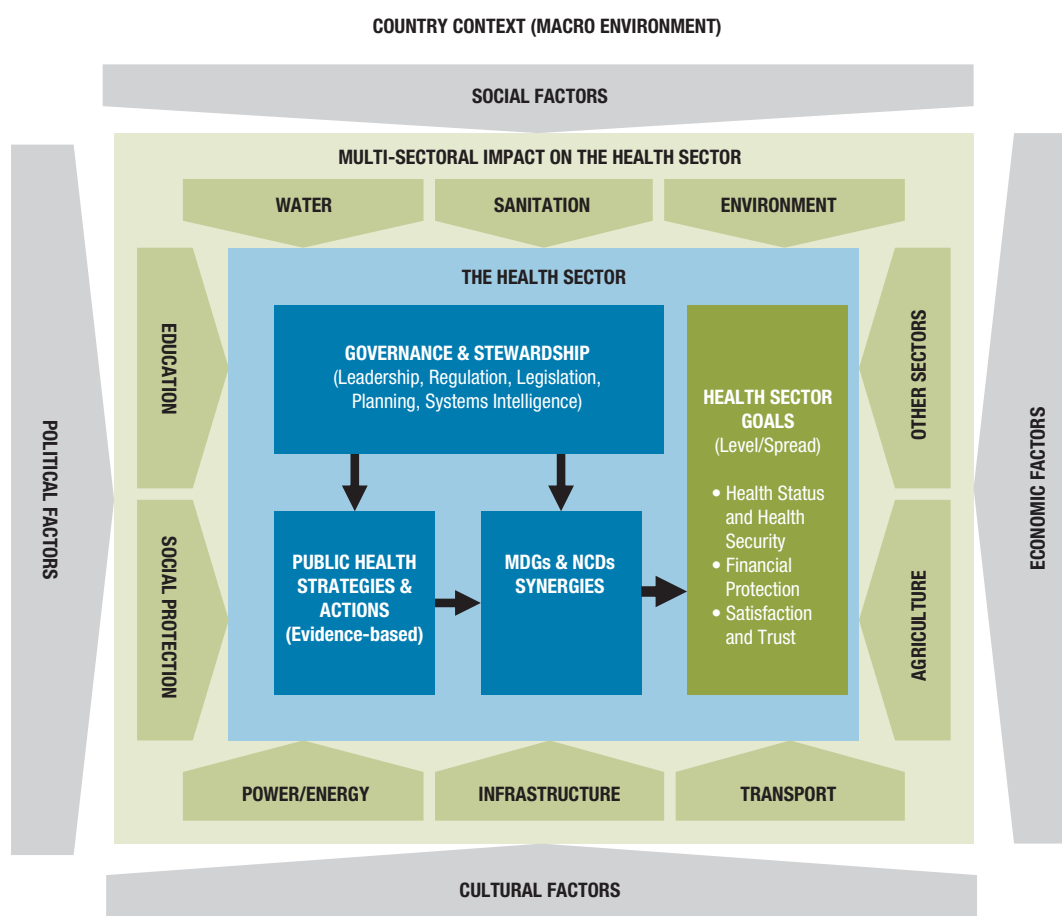
Sector/Ministry	Public Health Actions
Finance	<ul style="list-style-type: none"> Increasing taxes/prices for tobacco, alcohol and sugar Removal of subsidy for products harmful to health, such as tobacco leaf and tobacco products
Agriculture	<ul style="list-style-type: none"> Support and promotion of local varieties of fruits and vegetables for homestead gardens Work with veterinary services to reduce risks of zoonotic diseases, jointly address disease outbreaks, and systematically share information Promotion of high-yielding varieties of basic crops (e.g. rice and wheat) to meet demand Maintaining adequate land and water bodies for agriculture and food systems, especially fisheries Crop substitution to promote food diversity Development of enriched foods BCC activities by agricultural extension workers at the community level to build awareness on food diversification and food security
Food Industry	<ul style="list-style-type: none"> Production and marketing of healthy food Salt reduction in processed and semi-processed food; reduction of trans-fat in food Food fortification—iodine to salt, vitamin A to edible oil, micronutrient to rice (extruded) and flour Improve food storage capacity to facilitate broader distribution of agricultural products
Infrastructure, Transportation, Public Works	<ul style="list-style-type: none"> Planning for road, transport, and housing to reduce environmentally noxious emissions Improve road planning and maintenance to reduce traffic accidents and injuries Expand a reliable road network to improve accessibility to health services Improve transport, including cycling and walking opportunities, building safer and more livable communities, and accessible facilities for physical activities Improve rural roads for improved maternal and child health care. Enforcement of drunk-driving, seat belts and helmets laws
Education	<ul style="list-style-type: none"> Physical activity program among schoolchildren School food and nutrition programs Production of an adequate number of health professionals with needed skills for NCD prevention and care Provision and maintenance of sanitation and hand-washing with soap facilities in schools Promotion of hand-washing, personal hygiene and other healthy habits for school children Deworming program in schools

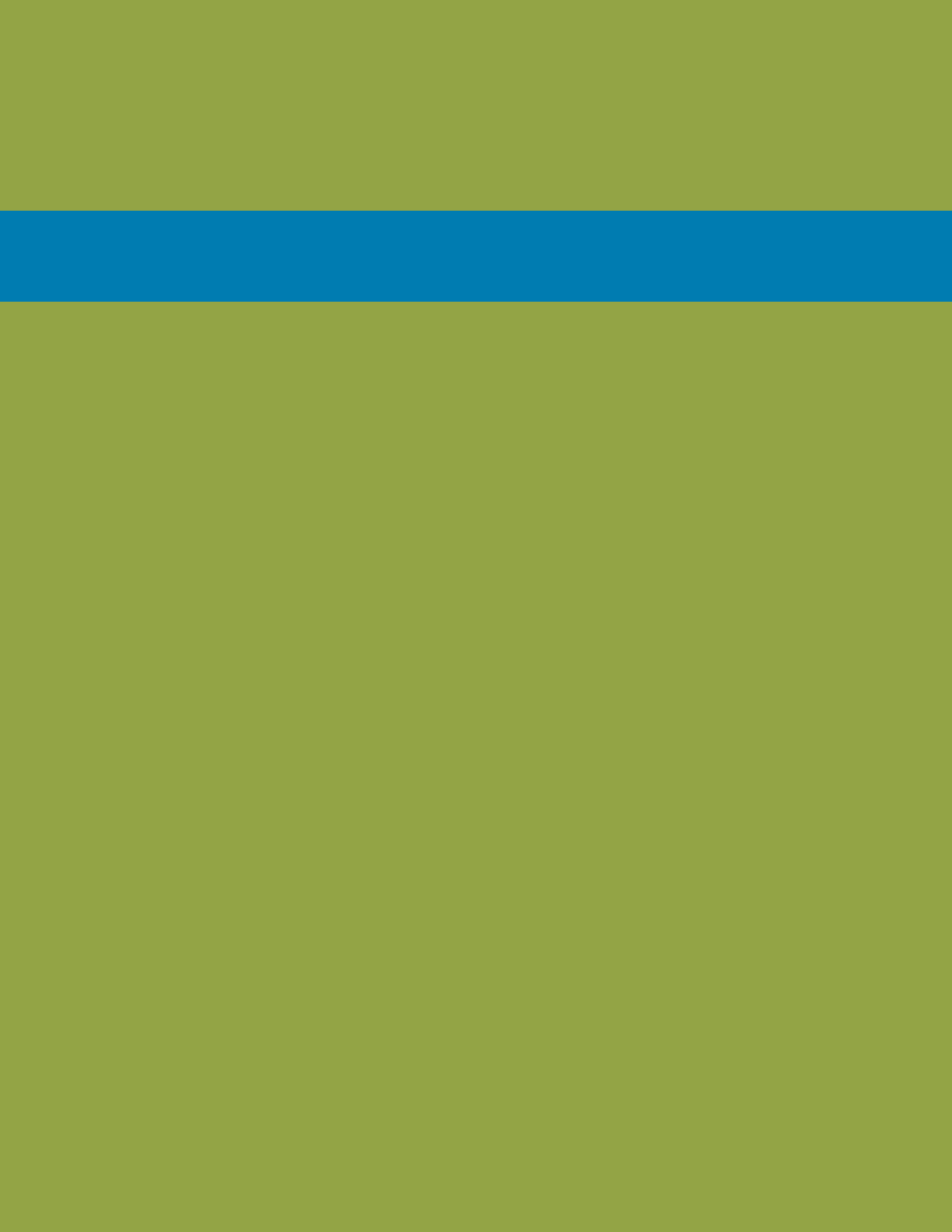
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Sector/Ministry	Public Health Actions
Social protection	<ul style="list-style-type: none"> • Explore CCTs to modify individual and family behavior • Expand/improve social safety net programs to improve access to food, especially during the lean seasons • Use fortified food and other safety net programs to effectively address micronutrient deficiency among the poorest population
Justice	<ul style="list-style-type: none"> • Development and enforcement of pro-health policies and regulations on drunk driving, home violence, and a smoke-free environment • Enforcement of anti-air pollution legislation • Enactment of laws and regulations to protect the rights of patients and increase voice and accountability
Science and Technology	<ul style="list-style-type: none"> • Strengthen scientific and industrial research to effectively monitor quality of fortified food available in the market • Invest in R&D for low cost health technology
Environment	<ul style="list-style-type: none"> • Enforce environment standards particularly for indoor and outdoor pollution • Real estate developers can be encouraged or mandated to include physical exercise facilities in their projects • Regulate indoor and outdoor air pollution
Water and Sanitation	<ul style="list-style-type: none"> • Improve water and sanitation networks to prevent diarrheal diseases • Fund demand creation programs for improved sanitation and facilitate development of private sector to provide affordable quality products and services
Information, Media	<ul style="list-style-type: none"> • Promotion of change in social norms and behaviors concerning smoking, being sedentary, and alcohol abuse and advocating healthy lifestyles • BCC and mass campaign awareness on a) early detection and long-term impacts of malnutrition, b) adequate food diversity and quantity for infants and young children, c) hand washing with soap and other healthy behaviors • Dissemination of key nutrition messages (e.g. breastfeeding, etc.) through mass media • Educate journalists on the national and provincial pandemic response plans and share with them the country's risk communications plan
Ministry of Interior	<ul style="list-style-type: none"> • Enforcing certification of vehicle safety and driver competency • Enforcing seat belts and helmets • Establishing a hotline for medical emergencies
Telecommunication	<ul style="list-style-type: none"> • Increase access to mobile technology to facilitate access to health information and increasing awareness • Facilitate the connection of health facilities to communication networks
Private sectors	<ul style="list-style-type: none"> • Occupational health and work safety • Workplace wellness programs • Promote and expand social corporate responsibility for health interventions • Expand public private partnerships in areas of technology innovations and service delivery • Encourage preparation of emergency response plans, including for pandemics. • Voluntary reduction of unhealthy food additives

Annex 7: Multisectoral Impact on Health





Annex 8: Illustrative Actions to Advance the World Bank's Work in Public Health

Pillar I: Fostering Multisectoral Interventions to Maximize Returns on Investments in Health

To advance multisectoral engagement, a specific **set of actions** will be implemented on parallel tracks:

1. **Design and test the MCA tool** in a group of countries in order to make it available to TTLs in their dialogue both within the Bank and at country level in FY14, and position action across sectors as a way to strengthen country governance and stewardship functions. The MCA tool would provide a methodology for leveraging investments in non-health sectors, assisting the public health community to engage early in country assistance strategy (CAS) discussions with country directors and country teams. It will also guide dialogue with policy makers at country level on this important topic. The tool can thus be a powerful catalyst for a shift in mindset for improving health outcomes.
2. **Assist sectors in the preparation of a conceptual framework**, emphasizing the actions which can have the highest impact in improving health outcomes. This would help the broader country team in making any necessary trade-offs by evaluating the relative merits of different sector programs for the pursuit of health objectives.
3. Based on the above, **assist client countries in identifying windows of opportunity in sectors' project pipeline portfolios** to incorporate health objectives and engagement of the country's public health authorities in project design and implementation. The HNP anchor will track these multisectoral experiences and make the information on approaches available to the public health community and others.
4. **Assist client countries in implementing actions aimed at mitigating the major NCDs risk factors**: primary focus will be placed on working with PREM to introduce tobacco taxation in new DPLs and engaging with the relevant sectors on addressing salt, alcohol, and fats as major risks factors. In addition to DPLs, efforts will be placed on supporting World Bank task team leaders in their policy dialogue at country level to implement the key pillars of the Framework Convention for Tobacco Control. There is already substantial demand for such work across regions, and the HDNHE Public Health Cluster will benefit from the support of two economists, seconded by CDC to the World Bank to carry it out.
5. **Convene a high level event** within the Bank to feature good practices on multisectoral action for health outcomes.

Pillar II: Identifying Country-specific, Cost-effective Actions to Help Countries Face the Dual Challenge of Meeting MDGs and Addressing NCDs

In assisting countries in making cost effective decisions to address NCDs and the MDGs, **priority actions** by the Bank will include:

1. **Carrying out a review of evidence and case studies** (during FY13) in selected countries across regions which face the dual challenge of meeting MDGs coupled with the growing burden of NCDs. The review of the evidence aims to identify a number of key priority interventions and policy approaches that can be shown to promote positive synergies to address both MDGs and NCDs simultaneously. The main idea is to carry out an in depth review including published literature, ongoing experiences on pilots at country level and the Bank tacit knowledge to produce a range of interventions according to the relative degree of synergy in addressing MDGs and NCDs. This will be complemented by country-level case studies that will assess the likely impacts at country level if such interventions were brought to scale, focusing on the impact on health expenditures, prevention and health outcomes for both NCDs and MDGs of expanding the interventions identified by the review of the evidence.
2. **Initiating in the medium term, analytic work on health system adaptation** in health care service delivery in a selected group of countries to identify key priority interventions that will equip countries to better address the changing pattern of burden of disease. This will include assessing which types of low-cost adaptations in service delivery are needed to make sure that the prevention and treatment are effectively integrated into different levels of care, including primary health, secondary care and higher complexity health care, as well as surveillance systems of laboratories and diagnostic services.
3. **Prepare regional briefs on the changing health landscape** during FY13, to assist the regions in their discussions in country team meetings.
4. **Preparing and disseminating best practices** to influence the dialogue at country level.

Pillar III: Strengthening Governance and Leadership to Anticipate, Address and Manage Public Health Challenges

In supporting government capacity to perform the essential public health functions, and to connect systems, **priority actions** by the Bank will include:

1. Engaging in a dialogue with governments to strengthen essential public health functions by **establishing National Public Health Institutes (NPHIs)** or similar institutions. Implementing this activity will take into account the local context in order to meet countries at their point of need. For example, in low income settings, particular emphasis could be placed on some critical core functions (surveillance and response, population health assessment; health education and promotion, public health work force development) as an initial step, while the engagement in middle-income countries could focus relatively more on other areas, including strengthening the regulatory capacity and promoting equitable access to health services. Moving forward, stimulating the dialogue at country level on building public health capacity will be supported by the development of a strong collaboration with technical agencies such as the CDC and WHO, to bring together their technical expertise and the Bank's substantial investments in countries where it is developing a public health portfolio. This collaboration will focus on technical assistance, knowledge generation, high level dialogue at country level, and convening global and regional activities on public health.
2. Assisting TTLs in **integrating Public Health components in future operations** by providing them with the technical support and the tools they need in designing these components taking into account the local context. As new projects are being designed, ensuring that they include a basic package of public health activities as discussed above—underpinning the core principles of public health—will be an important contribution to “demonstrate public health” at country level and induce the shift in mindset necessary to achieve health outcomes.

3. Working with AES to **develop an operational framework for the implementation of One Health approaches**. The main objective would be to review and analyze the concrete steps and resources necessary to strengthen animal health and human health systems, and how these systems work together effectively and efficiently. In this context, the Bank will work jointly with WHO, OIE and FAO to develop an operational framework—using the existing and forthcoming tools—which could be used by task team leaders working on public health to properly address the interfaces between the functions performed by animal and human health services, to improve early detection and prompt control of diseases at the animal source. This framework will be implemented in a group of pilot countries and the lessons learned would add significant value to future relevant Bank operations.

Cross-cutting Theme: Economic Analysis to Underpin Decision-making

Specific actions in this regard will include the following:

- **Identifying and conducting specific analyses** to assist regions and countries in gathering the economic evidence they need to support their dialogue and mobilize adequate resources on specific public health issues with World Bank country directors and ministries of finance. Although compelling evidence on the economic impact of investing in public health is a vital piece of information to influence decision makers, so far this is not widely available. Efforts will be devoted to support new analytical work to produce leading-edge analyses and data on the economics of Public Health, including for example analyses on: return-on-investment, economic impact, benefit-incidence and fiscal and financial sustainability. To leverage ongoing initiatives, close collaboration with other institutions in this area.
- Further, the economics research and analytical efforts will be complemented by **knowledge management activities** to make sure that the new evidence generated is easily available and understood by policy makers, including the use of innovative communication strategies and compelling graphic visuals.



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