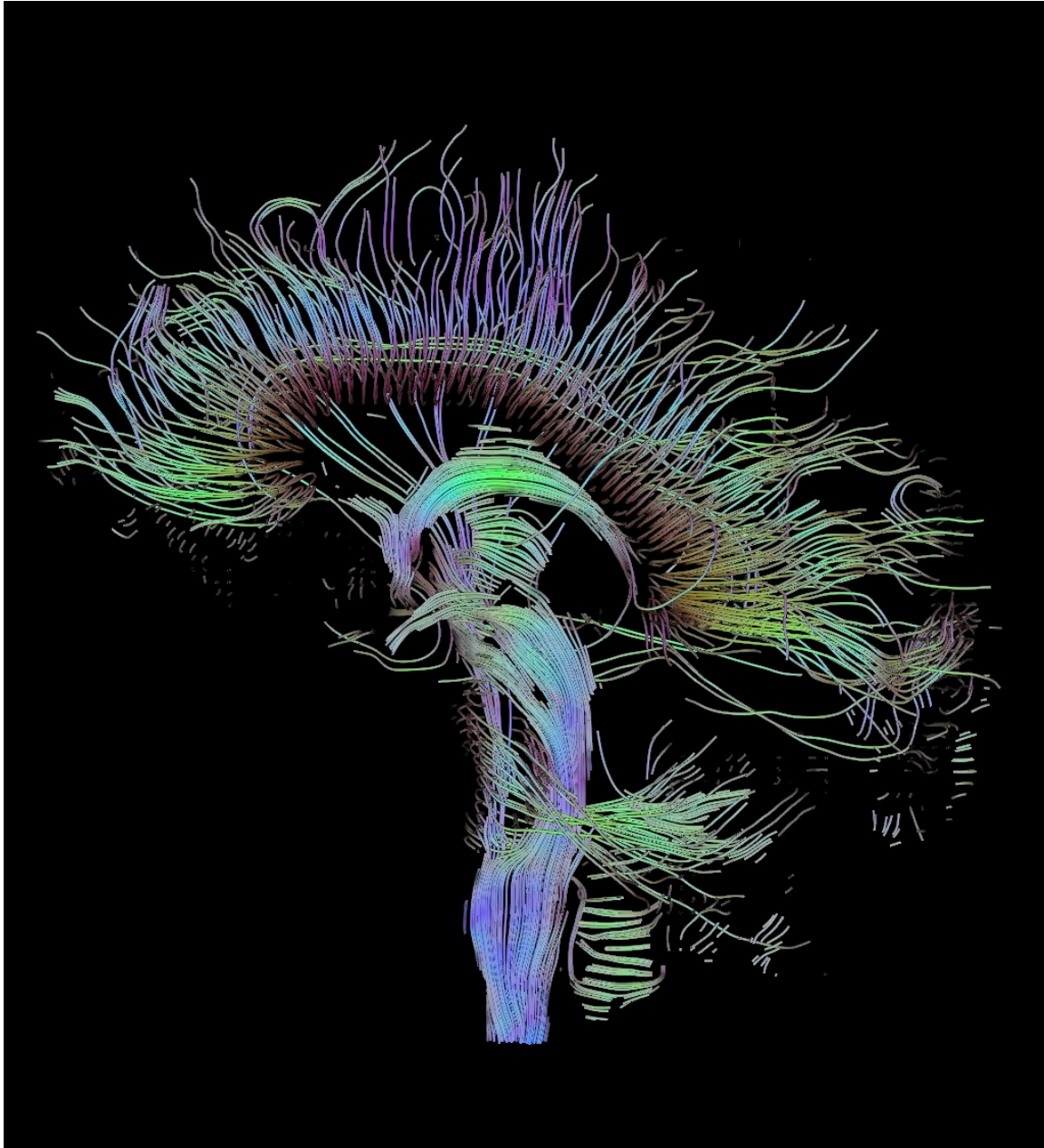


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# The Future of World Health

Module 7 • i2P • Expedition India

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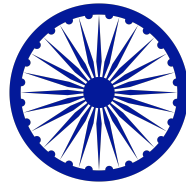


Visualization of a human brain (source: [Thomas Schultz](#))

### Take Home Points

- The Millennium Development Goals set out clear goals for improving world health.
- There are two principle means of improving the health status of a population:
  - a) preventing illness
  - b) improved the treatment of illness
- Immunizations and use of Health Information Technology are two strategies for preventing illness and improving medical treatment.

“There can be no real growth without healthy populations. No sustainable development without tackling disease and malnutrition. No international security without assisting crisis-ridden countries. And no hope for the spread of freedom, democracy and human dignity unless we treat health as a basic human right.”



Gro Brundtland

### TOPIC

A look at the future of health care and how services around the world can be sustained and improved.

### MILLENNIUM DEVELOPMENT GOALS

As we have learned throughout this series on world health, health care is a finite resource that is unequally distributed around the world. We have observed that depending upon:

- the size of a population,
- the wealth or poverty of a population,
- the fitness and nutrition status of a population,
- the manner in which the government manages health care, and
- the status of the environment,

that access to quality health care differs greatly around the world. Those who lack quality health care are severely disadvantaged when it comes to facing the challenges of our competitive and sometimes hostile world.

The health Millennium Development Goals aim to ensure that every individual on Earth has a foundation of wellness. The issue is; are these goals achievable, and if so how?

There are two principle means of improving the health status of a population:

- preventing illness
- improved the treatment of illness

### PREVENTING ILLNESS

Preventing illness provides a cost effective means of improving health status. Let us consider polio, and infectious disease (a virus) that can cause permanent disability in those infected. Polio is spread from person to person by faecal-oral transmission (in other words from the bowel movements of an infected person to the mouths of another, through the unsanitary handling of food and water). There is no treatment for polio once an individual is infected, and the disease can cause death and long-term disability. There there is however, a vaccine - developed about 60 years ago - that can prevent the disease.

#### School Exercise

Please review the activity of the World Polio Eradication Initiative

see: [World Polio](#)

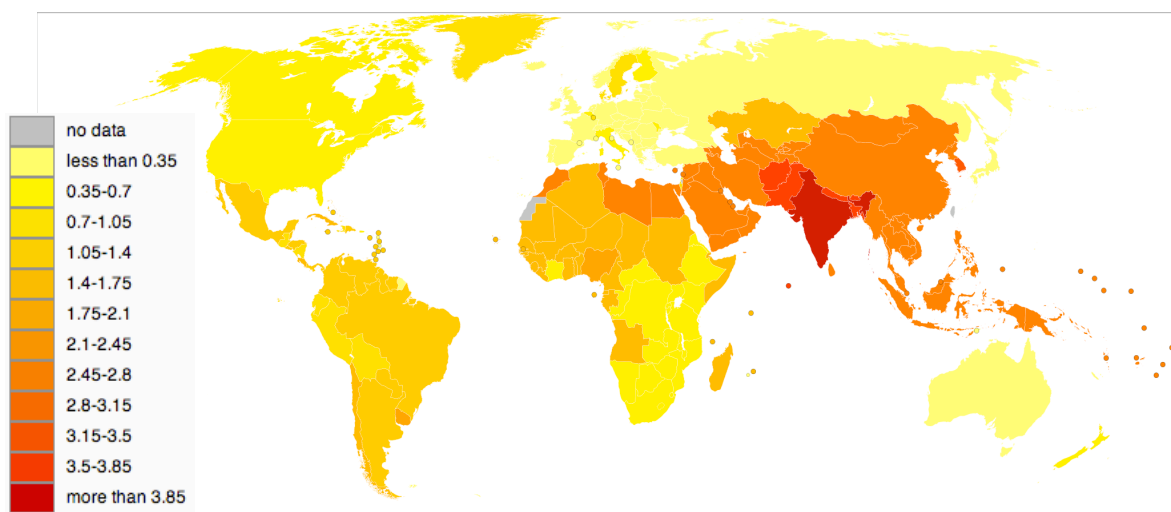


Figure 1: disability adjusted life year (DALY) rates for Poliomyelitis by country (per 100,000 inhabitants). (source: [wikipedia](#))

## Did You Know?

One of the best ways a country can improve its health is by making sure its children are immunized against measles, polio and other life-threatening illnesses. But immunization rates in India are significantly lower than in other developing nations.

see: [Immunization India](#)

Through the widespread use of the polio vaccine many areas of the world have been declared polio free. As of 2006 polio was endemic (occurring naturally) in only four countries: Nigeria, Pakistan, Afghanistan and India. Although it would seem a relatively simple task to eliminate the remaining disease by vaccinating the population of these four countries, the matter is not so easy. War in Afghanistan and Nigeria are impairing these efforts, as have opposition to vaccines by some governments and religious groups. In India the obstacle to polio eradication appears to be higher rates of polio transmission set against lower vaccine response. Nonetheless the polio eradication program in India is succeeding and as of November 5<sup>th</sup> 2011 there had not been a new case of polio reported in India since January 13 2011.

Millennium Development Goal programs have successfully expanded childhood immunization programs in many nations, preventing significant disease and death. Immunizations are but one means of disease prevention. Other Millennium Development Goal strategies that have proven successful in preventing illness are:

- promoting breast-feeding
- distributing mosquito nets in malaria zones
- improving access to clean water
- improved sanitation

The United Nations and other organizations are involved in further projects that will prevent the burden of illness by:

- combating poverty
- improving standards of education
- improving nutrition and physical activity
- providing uniform access to health services
- ensuring a stable natural and built environment

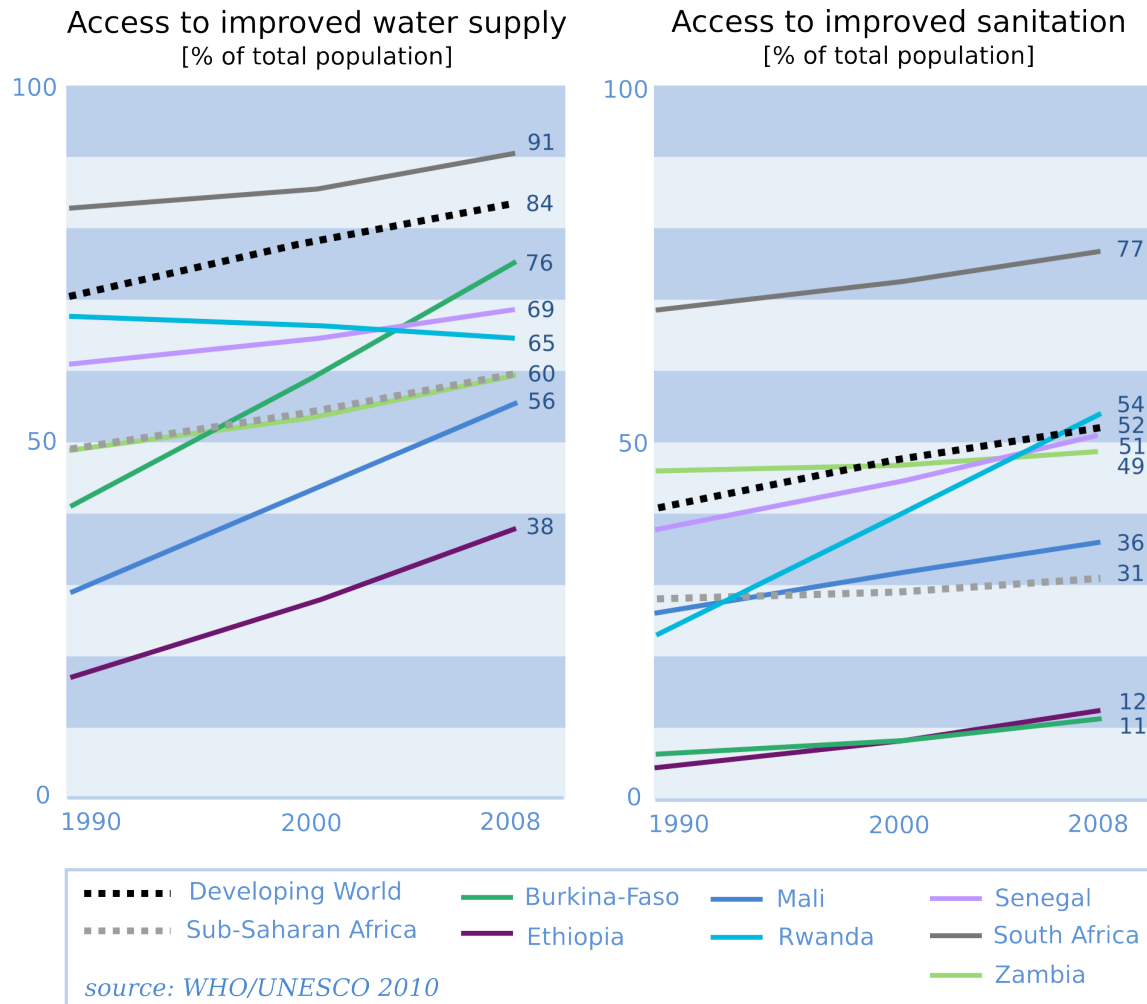


Figure 2: The impact of Millennium Development Goal projects on clean water and sanitation for selected countries and regions.

#### IMPROVED TREATMENT

Although preventing illness is an important strategy, human beings will always become ill and require treatment. One challenge facing world health is how to provide reliable, accessible quality health care to people the world over. Health care costs in the developed world are becoming prohibitive and countries including Canada and the United States are struggling to determine how they will pay for the growing health care costs of their citizens. For developing nations with limited financial resources the cost of instituting comprehensive health care service is daunting.

Technology is providing an opportunity to develop strategies to deliver health care to under-served regions in a more effective way. An example is the Malaria treatment

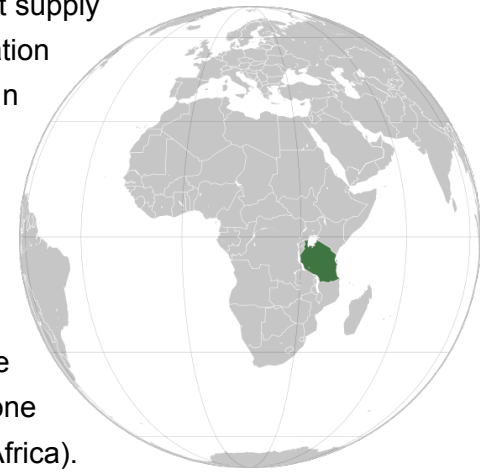
## Did You Know?

Health personnel in the private sector are often untrained and largely unregulated, even if we leave out the bhopas (traditional healers). According to their own report, 41 percent of those who called themselves “doctors” do not have a medical degree, 18 percent have no medical training whatsoever, and 17 percent have not graduated from high school.

Source: [health care resources India](#)

program in the African nation of Tanzania. Malaria - a major public health problem in Tanzania that can cause both illness and death - is a completely treatable infectious disease, and one of the targeted diseases of the Millennium Development Goals.

The difficulty is that the medication needed to treat it is often in short supply and consequently many citizens go untreated. Historically, in a nation like Tanzania with poor roads and limited communication infrastructure, the distribution of antimalarial medications proved difficult as there were limited means of knowing which communities were out of the drug, and an effective delivery system.



Now officials have instituted a novel and ingenious tool to ensure the proper distribution of the essential drugs. In recent years, cell phone technology is universal in Tanzania (and indeed across much of Africa).

The health service has established an automatic text message that prompts the cell phone of employees at health centres across the nation that asks about the supply of antimalarial drugs. Responses from all the health centres are automatically processed

by a program that prompts distributors to send more drugs to those health centres running low on medication. This system of text messages on mobile phones is very inexpensive, has dramatically improved the supply of antimalarial drugs, saved lives and decreased the burden of disease.

The use of mobile phone technology is but one example of how communication technology can be used to delivered health information

## Did You Know?

The number of children in developing countries who died before they reached the age of five dropped from 100 to 72 deaths per 1,000 live births between 1990 and 2008.

\* Almost nine million children still die each year before they reach their fifth birthday.

\* The highest rates of child mortality continue to be found in sub-Saharan Africa, where, in 2008, one in seven children died before their fifth birthday.

\* Of the 67 countries defined as having high child mortality rates, only 10 are currently on track to meet the MDG target.

see: [Childhood Mortality](#)

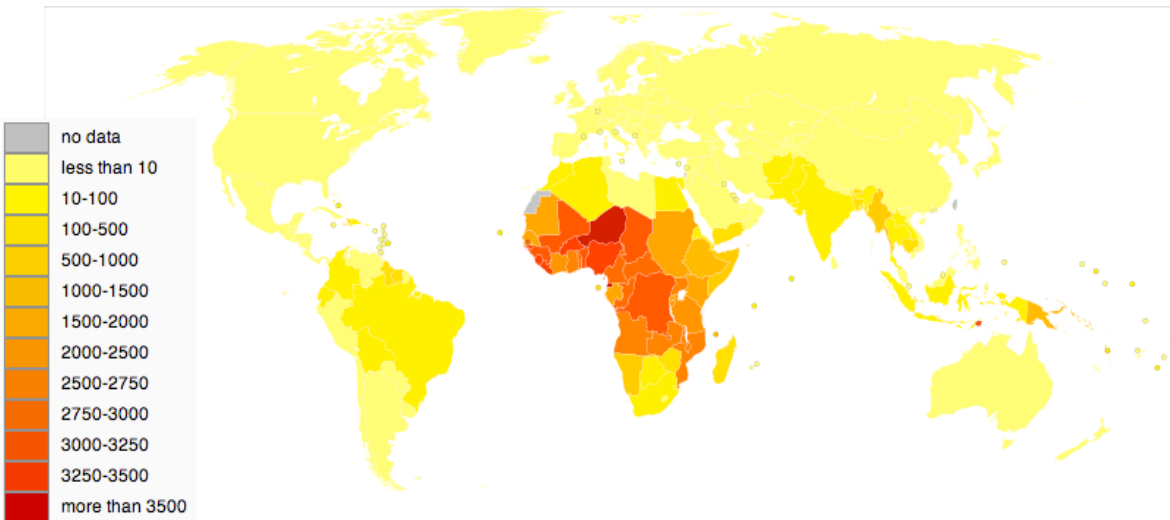


Figure 5: Disability adjusted life year (DALY) rates from **Malaria** by country per 100,000 inhabitants. (source: [Lokal Profil](#))

quickly and effectively to populations around the world. Technology now exists that permits the remote viewing of a full scope of health information that if properly deployed will allow the remote delivery of health service to people around the world. Although some of this technology is complex and expensive, the use of text messaging to save lives in Tanzania illustrates that simple cost effect solutions do exist.

Health Information Technology is but one of many strategies for improving the quality of health service. There are many strategies, such as; improving infrastructure, staffing and equipment but many require a significant injection of money. With current global financial constraints a creative approach to improving health service is required based upon evidence of quality of care.