

Swiss TPH



Swiss Tropical and Public Health Institute
Schweizerisches Tropen- und Public Health-Institut
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Health economics and policies in
low and middle income countries

Health systems in the global health landscape: challenges for low and middle income countries

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Attributes of a sustainable health system

Affordability

- Patients and families
- Employers
- Government

Acceptability

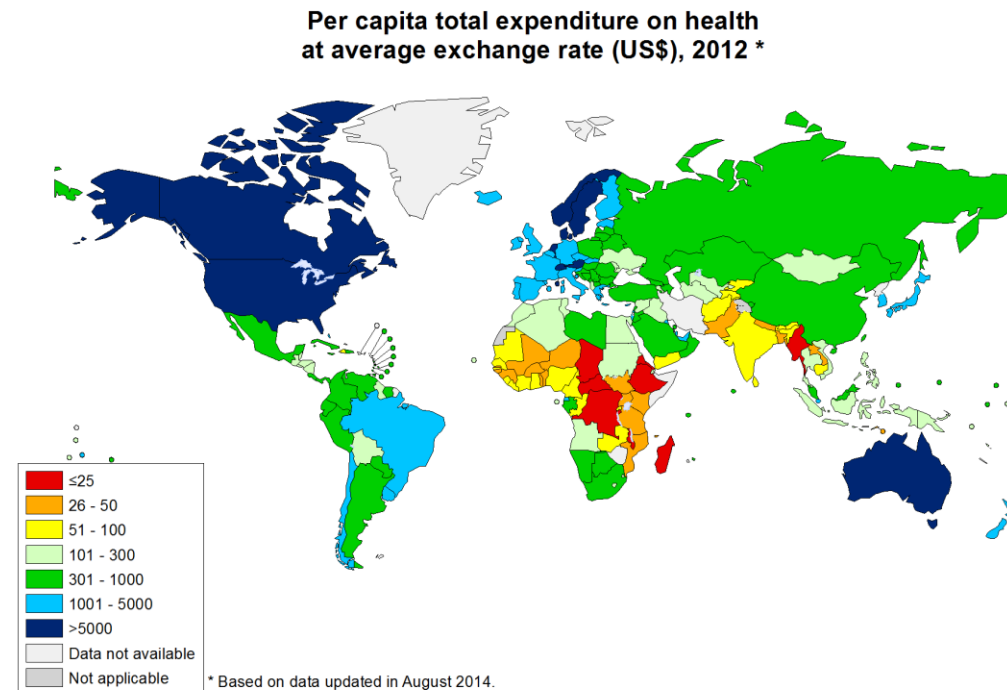
- to key constituents – e.g.
 - patients
 - health professionals

Adaptability

- Health and health care needs are not static

Health systems affordability is a major concern

Global Health Expenditure 7.18 trillion US\$ in 2012
– 10% of global GDP – huge differences across countries



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: Global Health Observatory, WHO
Map Production: Health Statistics and Information Systems (HSI)
World Health Organization



Inefficiencies in health systems

- World Health Report 2010 estimated inefficiencies account for up to 40% of health expenditures
- US Institute of Medicine (2010):

"The growth rate of health care expenditures is unsustainable, with waste that diverts major resources from necessary care and other priorities ..". Sources of inefficiencies include:

Scientific uncertainty about effectiveness and cost, especially of newer test and treatments

Cultural predisposition to believe that more care is better



Some key challenges for health systems

1) Demographic changes:

- Population ageing in HIC and increasingly in MICs
- High fertility rates in LICs

2) Epidemiological changes

- Increase in burden of chronic diseases and conditions and problems linked to wellbeing—e.g. obesity
- Double burden of disease in LICs



Some key challenges for health systems

3) Raising expectations of people for their health and for the benefits of health care

4) Innovations - technological

- Second cause of health expenditure growth – need to be governed

5) Economic sustainability

- Health expenditure grows more than GDP



Some key challenges for health systems

6) Changes linked to globalization

- **International risk transfers- infectious diseases, lifestyles, consumptions**
- **Mobility of health professionals**– brain drain from South to North
- **Increasingly also South-South**

Global health workforce, by density

WHO region	Total health workforce	
	Number	Density (per 1000 population)
Africa	1 640 000	2.3
Eastern Mediterranean	2 100 000	4.0
South-East Asia	7 040 000	4.3
Western Pacific	10 070 000	5.8
Europe	16 630 000	18.9
Americas	21 740 000	24.8
World	59 220 000	9.3



Developing countries??

Economies are divided according to GNI per capita

<http://data.worldbank.org/about/country-and-lending-groups>

<http://data.worldbank.org/income-level/LIC>

World Bank classification (2014)	GNI per capita
Low Income Countries (LICs)	< US\$1045
Middle Income Countries (MICs)	US\$1045 - US\$12.736
Lower MICs	<US\$4,125
Upper MICs	US\$4,125- 12,736



Main challenges for health systems in DCs

1. (double) Burden of disease

- Unfinished agenda with communicable diseases
- Emerging of non communicable diseases
- (+ Pandemics)

Global Burden of Disease study - IHME

<http://vizhub.healthdata.org/gbd-compare/>

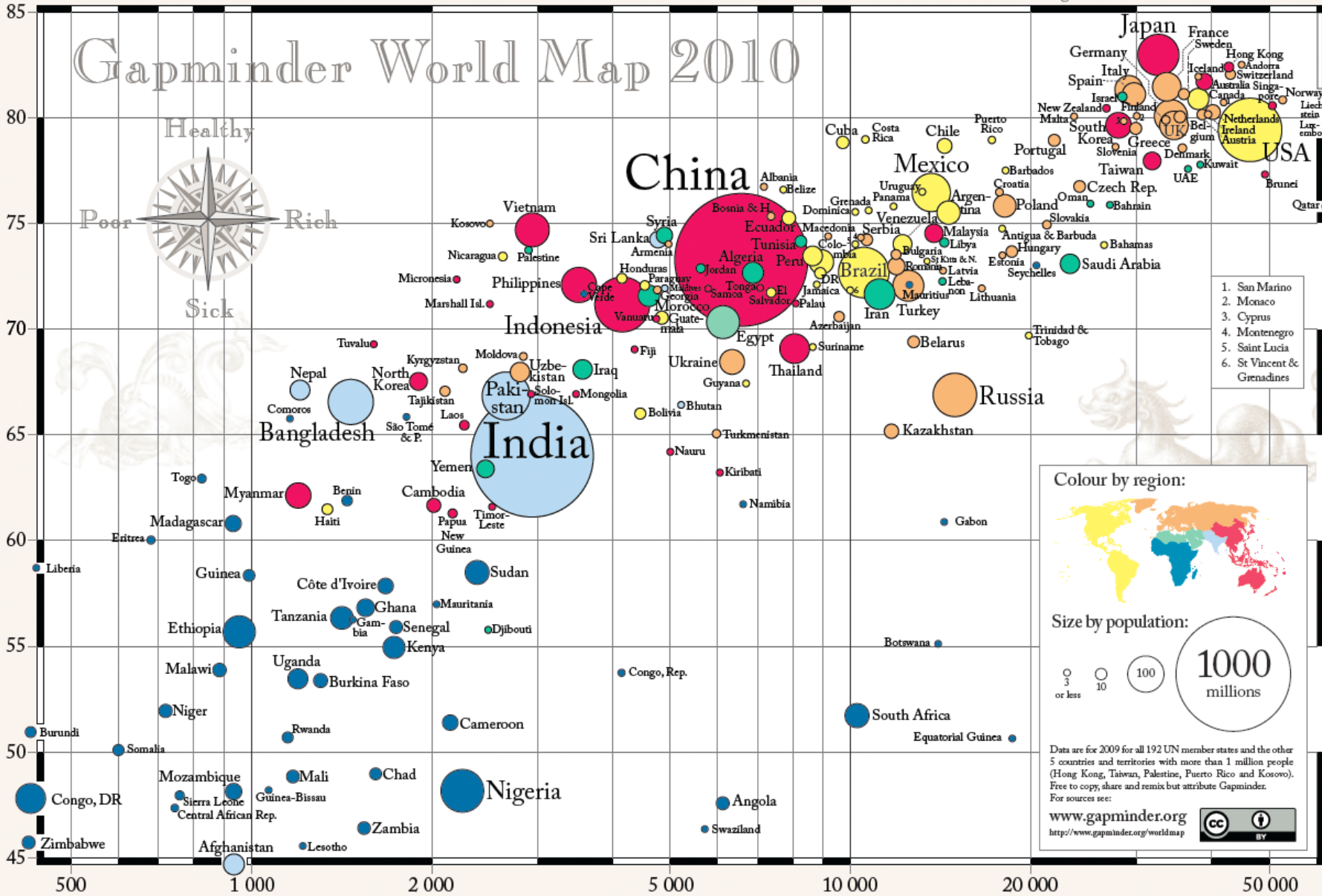
Low-income countries

Middle-income countries

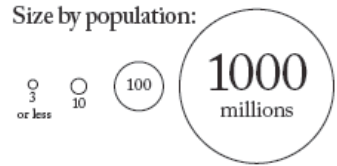
High-income countries

Gapminder World Map 2010

Health Life expectancy at birth (years)



1. San Marino
2. Monaco
3. Cyprus
4. Montenegro
5. Saint Lucia
6. St Vincent & Grenadines



Data are for 2009 for all 192 UN member states and the other 5 countries and territories with more than 1 million people (Hong Kong, Taiwan, Palestine, Puerto Rico and Kosovo). Free to copy, share and remix but attribute Gapminder. For sources see: www.gapminder.org <http://www.gapminder.org/worldmap>

Money GDP per person in US dollars (purchasing power adjusted) (log scale)

GAPMINDER



Main challenges for health systems in DCs

Example: Ghana burden of disease profile

<http://www.healthdata.org/ghana>

Shift in the disease burden towards non communicable diseases

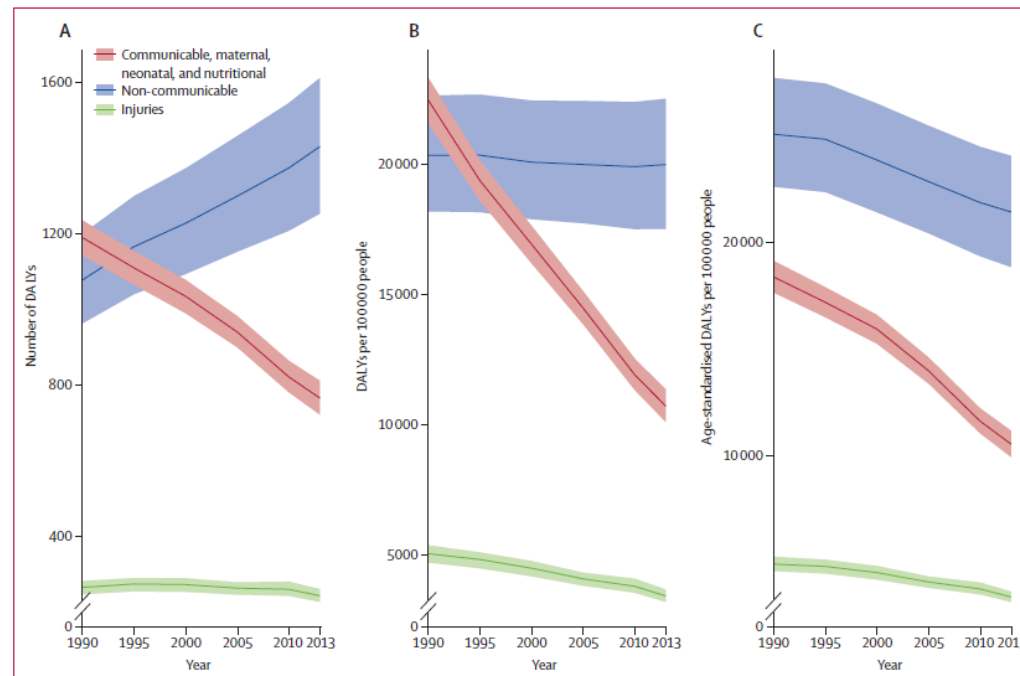


Figure 2: Total DALYs, crude DALY rates, and age-standardised DALY rates from 1990 to 2013

Changes in global DALYs caused by communicable, maternal, neonatal, and nutritional disorders, non-communicable diseases, and injuries shown in terms of numbers of DALYs (A), DALY rates per 100 000 people (B), and age-standardised DALY rates per 100 000 people (C). The difference in trends between A and B is caused by population growth and the difference between B and C because of changes in the percentage distribution of the population by age. Shaded areas show 95% uncertainty intervals. DALY=disability-adjusted life-years.

Global, regional, and national disability-adjusted life years (DALYs) for 306 diseases and injuries and healthy life expectancy (HALE) for 188 countries, 1990-2013: quantifying the epidemiological transition. *Lancet*. 2015 Aug 27.



Shift in the disease burden towards non communicable diseases

- High social burden – prolonged disability, less resources within families, reduced productivity
- More complex ways to deliver services – e.g. coordination of care, integration of different levels of care, integration of health and social care
- The “**medical-industrial complex**” response to NCDs is expensive



NCDs WHO Global Health Observatory

- **Policy: Existence of operational policy/strategy/action plan for cardiovascular diseases**

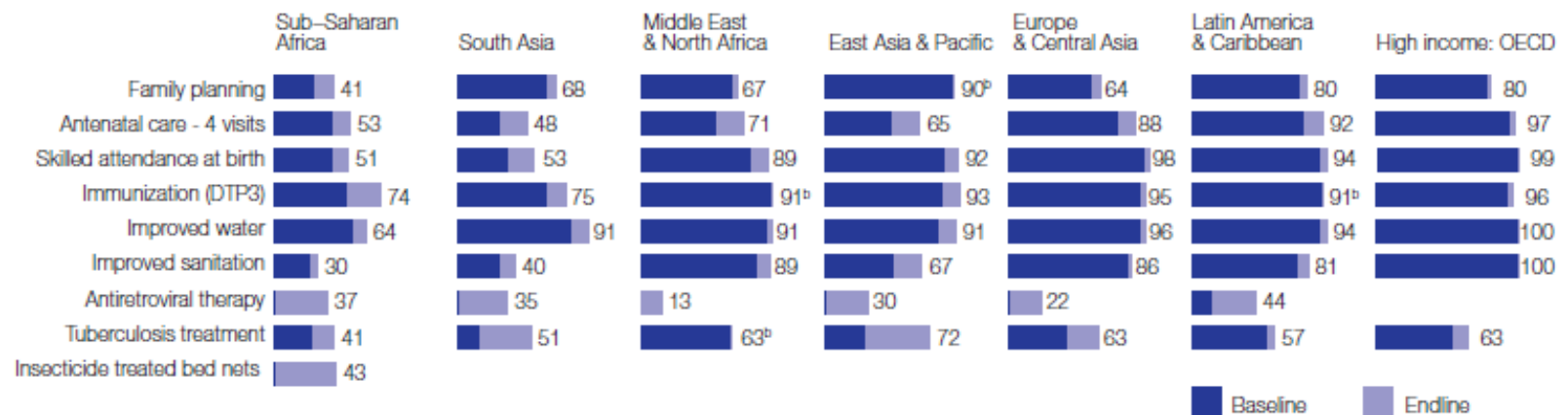
http://gamapserver.who.int/gho/interactive_charts/ncd/health_systems/policy/atlas.html

- **Surveillance: Existence of an NCD surveillance and monitoring system in place to enable reporting against the nine global NCD targets**

http://gamapserver.who.int/gho/interactive_charts/ncd/health_systems/surveillance/atlas.html

Low coverage of key interventions – access

Figure 2.2. Regional coverage in 2000 (baseline) and 2013 (endline; unless otherwise noted) for essential health services^a

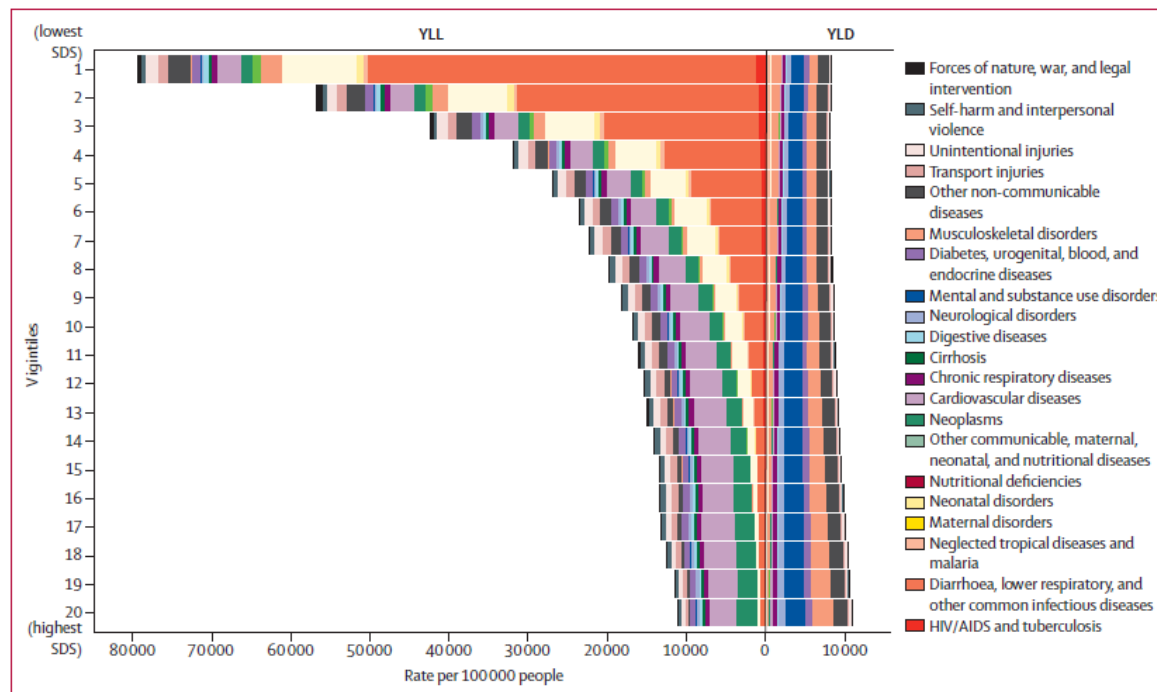


a ART coverage shown for 2003 and 2013; improved water and sanitation shown for 2000 and 2012.

b Coverage decreased slightly in this region.

Low coverage of key interventions – access – in low and middle income countries

- Most of the BoD suffered by vulnerable groups is for **communicable diseases, neonatal, maternal, nutritional conditions** – that can be prevented or treated with “available” interventions relatively inexpensive

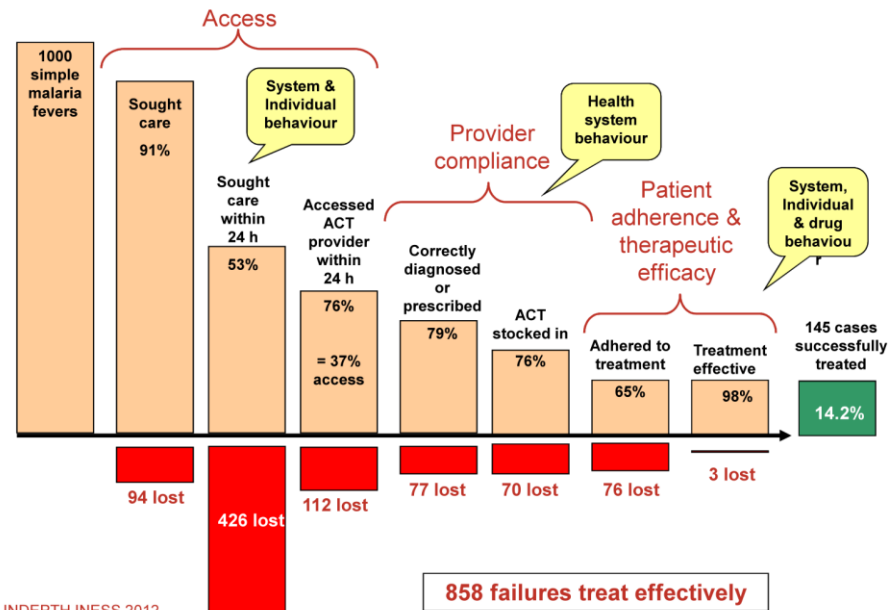




Effective coverage of malaria case management

A few studies estimated low effective coverage of malaria case management in malaria endemic areas in Africa (e.g. INESS <http://indepth-network.org/projects/iness>)

System effectiveness of artemether-lumefantrine in Tanzania

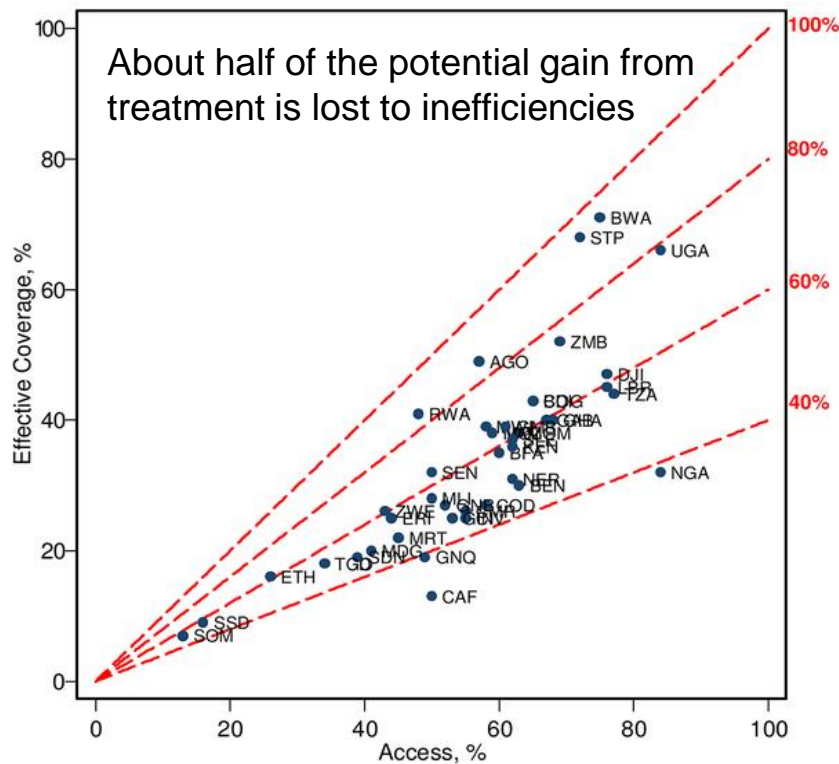


Source: INESS <http://indepth-network.org/projects/iness>

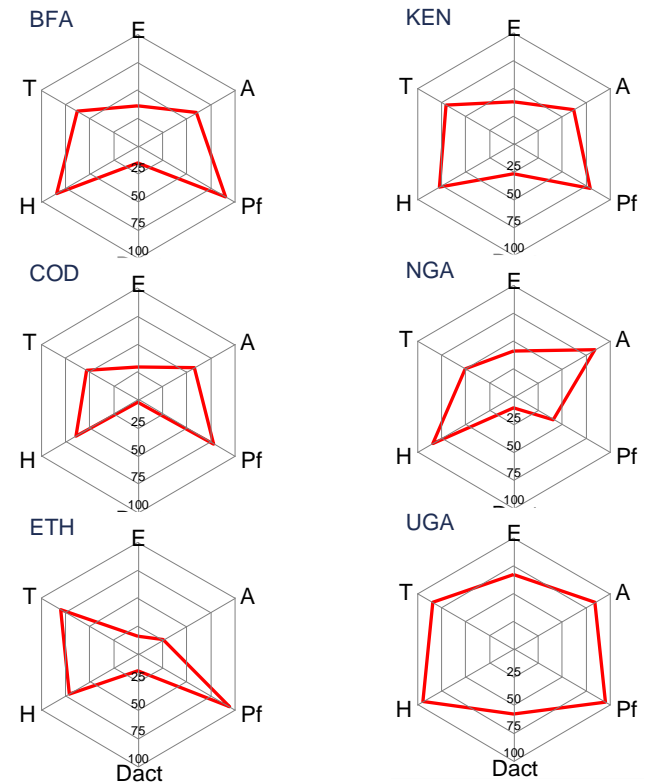
Effective coverage of malaria case management

We used Demographic Health Surveys and published sources to estimate effective coverage of Malaria Case Management in 43 high burden African Countries

Effective Coverage (E) and Access to Any Provider (A) by Country (%).



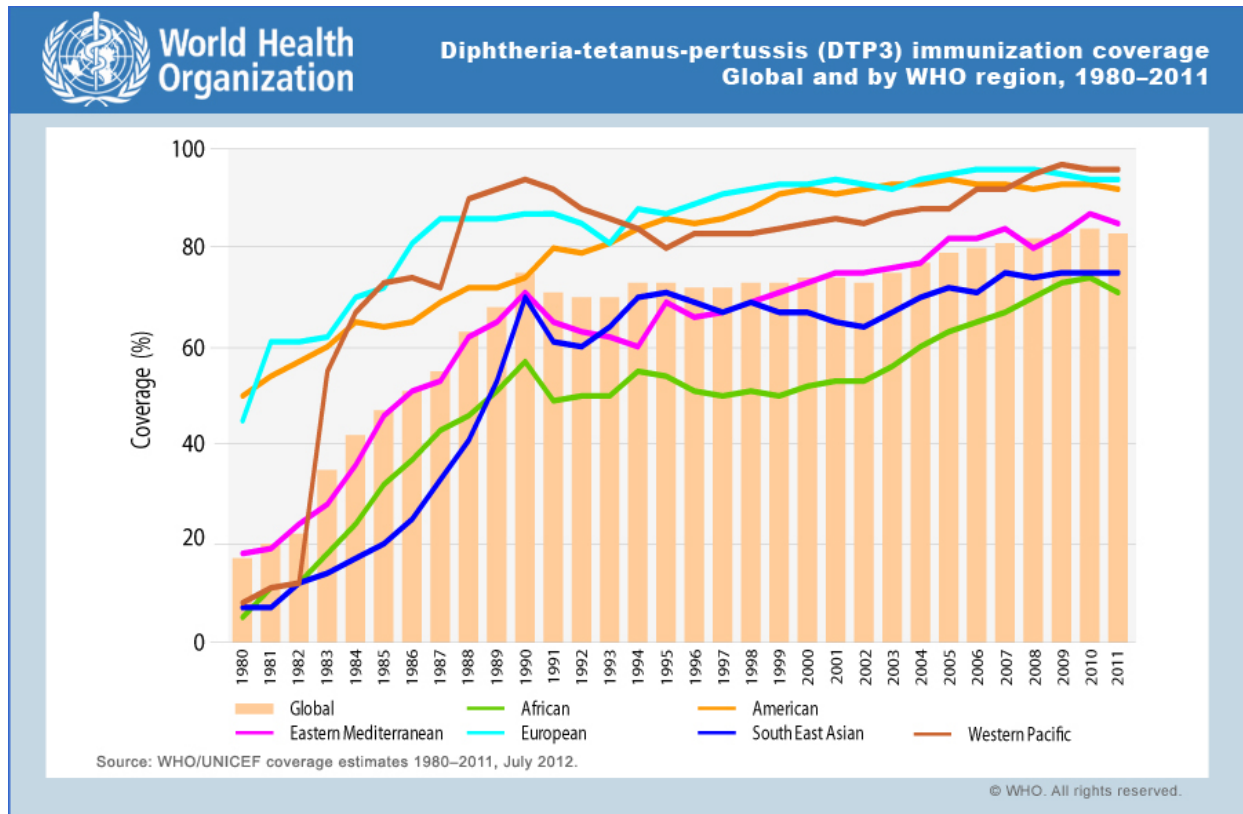
Effective coverage and malaria service indicators





Low coverage of key interventions – access

http://www.who.int/entity/gho/immunization/immunization_005.jpg

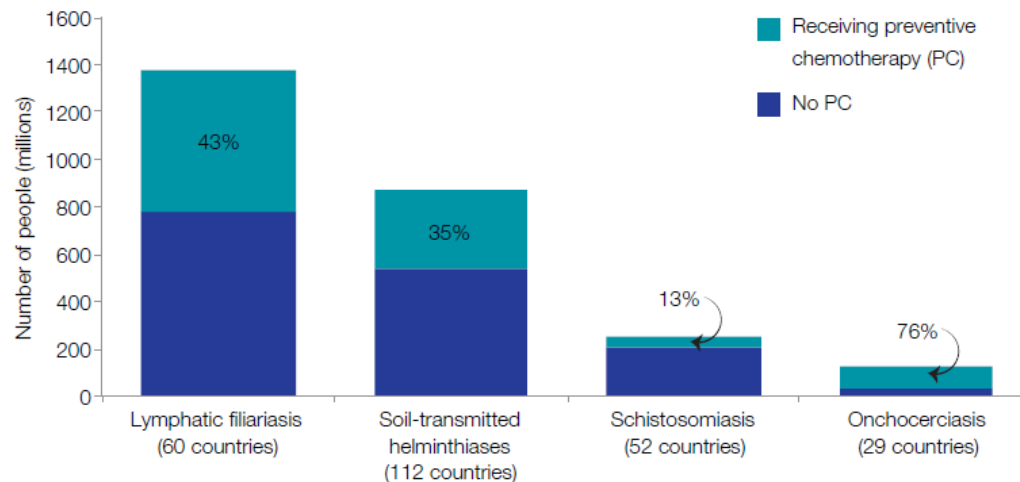




Neglected Tropical Diseases

- Neglected Tropical Diseases affect vulnerable people mainly in marginalized areas of low and middle income countries
- Many of them could be prevented or treated with relatively simple interventions – e.g. preventive chemotherapy

Figure 2.13. Number of people (millions) requiring preventive chemotherapy for selected neglected tropical diseases with intervention coverage and number of countries requiring preventive chemotherapy



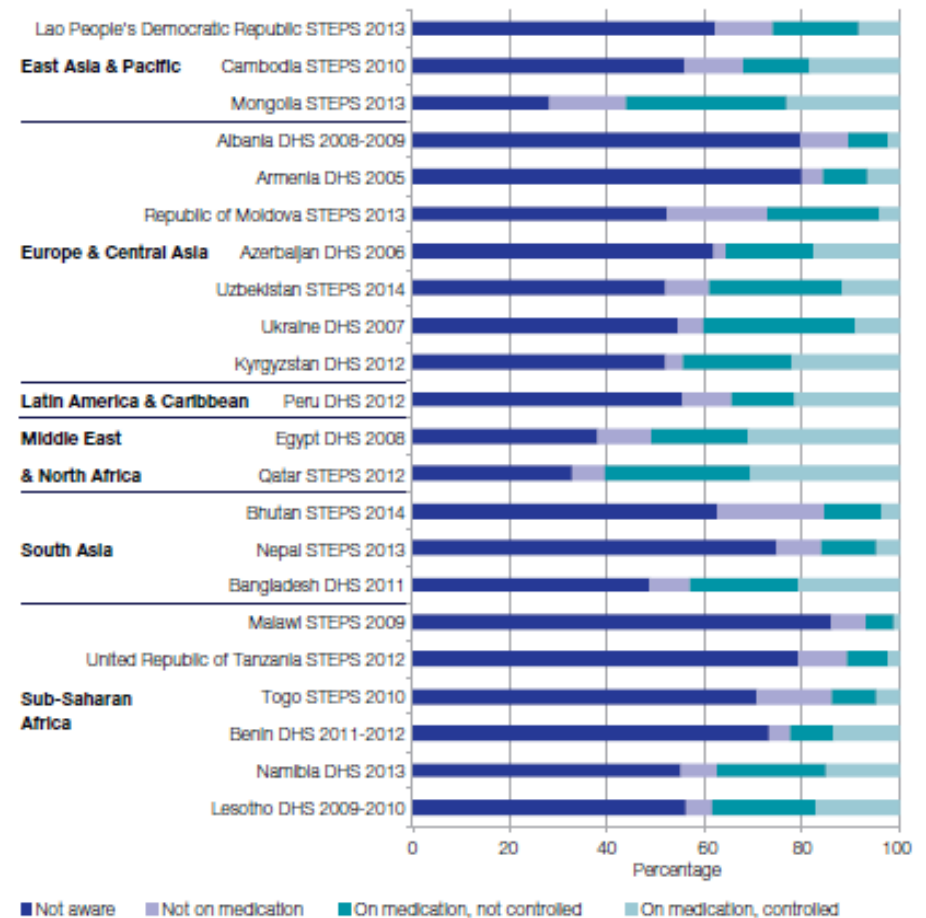
WHO-WB Tracking universal health coverage: first global monitoring report
http://www.who.int/healthinfo/universal_health_coverage/report/2015/en



Hypertension treatment coverage

- Low awareness
- Very low % of people on “controlled” medication”

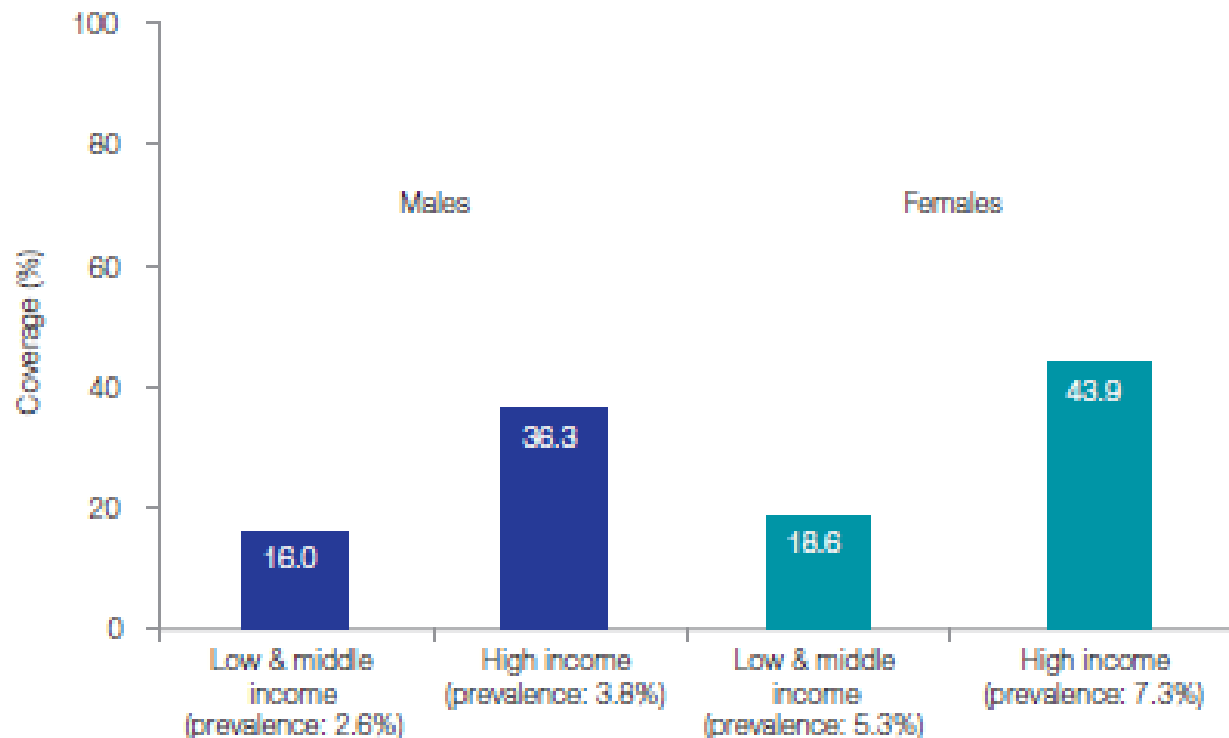
Figure 2.6. Adults with raised blood pressure^a or on medication for hypertension, disaggregated by diagnosis and treatment status^b





Mental health: depression treatment coverage

Figure 2.11. Treatment coverage for major depressive disorder from the 23 national and subnational WHO World Mental Health Surveys conducted during 2001–2012^a



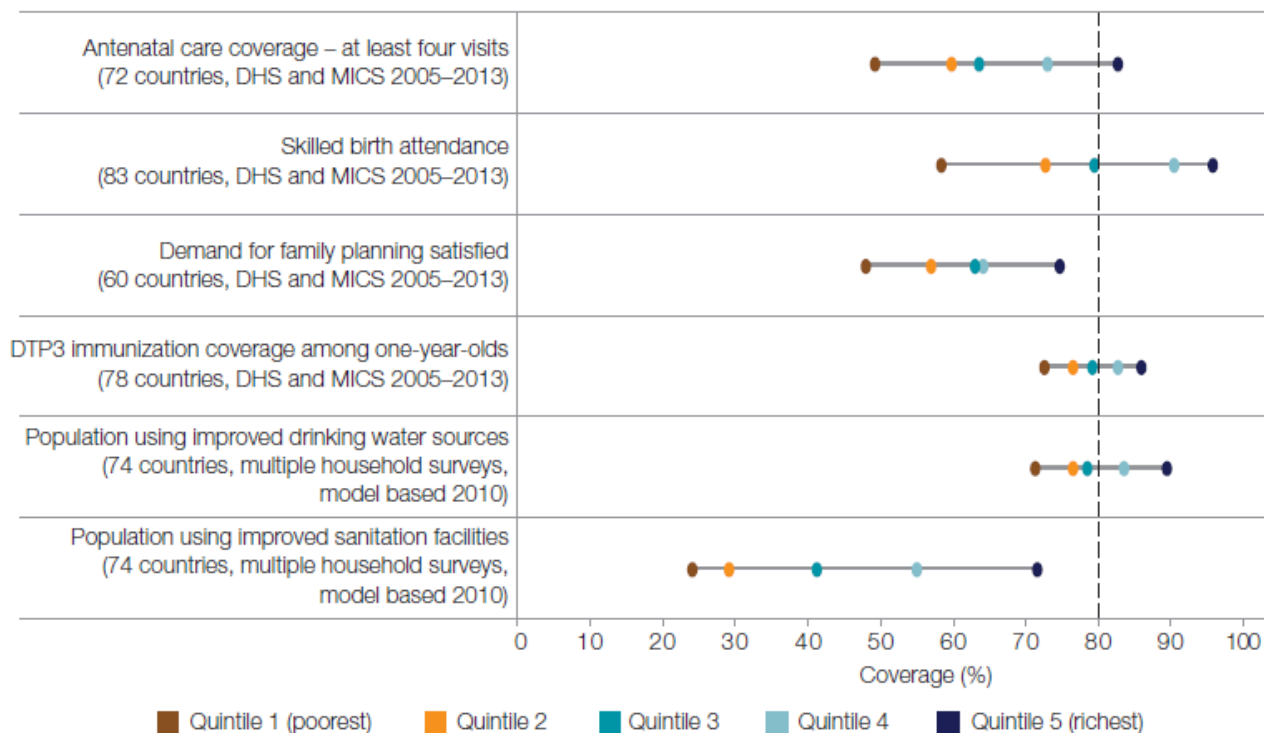
^a The population-weighted average of survey estimates is shown.



Main challenges for health systems in DCs

3. Inequalities - equity in access to care

Figure 2.4. Median coverage of selected interventions by wealth quintile, in low- and middle-income countries





Hypertension treatment coverage

Figure 2.7. Percentage of adults with raised blood pressure^a or on medication for hypertension, who are currently taking medication for hypertension, by wealth quintile^b





Main challenges for health systems in DCs

3. Inequalities - equity in access to care

- Wealthy groups often benefit more than the poor from government spending

Table 3. Benefit incidence of public spending on health in selected countries

Country	Quintile shares of							
	Primary facilities		Hospital outpatient		Hospital inpatient		All health	
	Poorest	Richest	Poorest	Richest	Poorest	Richest	Poorest	Richest
Africa								
Côte d'Ivoire (1995) ^a	14	22	8	39			11	32
Ghana (1992)	10	31	13	35	11	32	12	33
Guinea (1994) ^a	10	36	1	55			4	48
Kenya (1992) ^{a, b}	22	14	13	26			14	24
Madagascar (1993) ^a	10	29	14	30			12	30
United Republic of Tanzania (1992–93)	18	21	11	37	20	36	17	29
South Africa (1994) ^a	18	10	15	17			16	17
Others								
Indonesia (1990)	18	16	7	41	5	41	12	29
Viet Nam (1993)	20	10	9	39	13	24	12	29

^a Hospital subsidies combine inpatient and outpatient spending.

^b Rural only.

^c NA = not available.



Main challenges for health systems in DCs

3. Inequalities - equity in access to care

- Private sector – philanthropic and commercial-
important in service delivery in developing countries
 - e.g. Over 50% of febrile illness episodes in many African settings are treated through retailer - pharmacists, drug shop staff with minimum qualifications, shopkeepers and street vendors (Goodman et al 2004)

- Differential treatments –the poorest often receive the poorest quality of care within the private sector



Main challenges for health systems in DCs

4. Lack of resources

Total expenditure on health as % of GDP, 2010 (WHO)

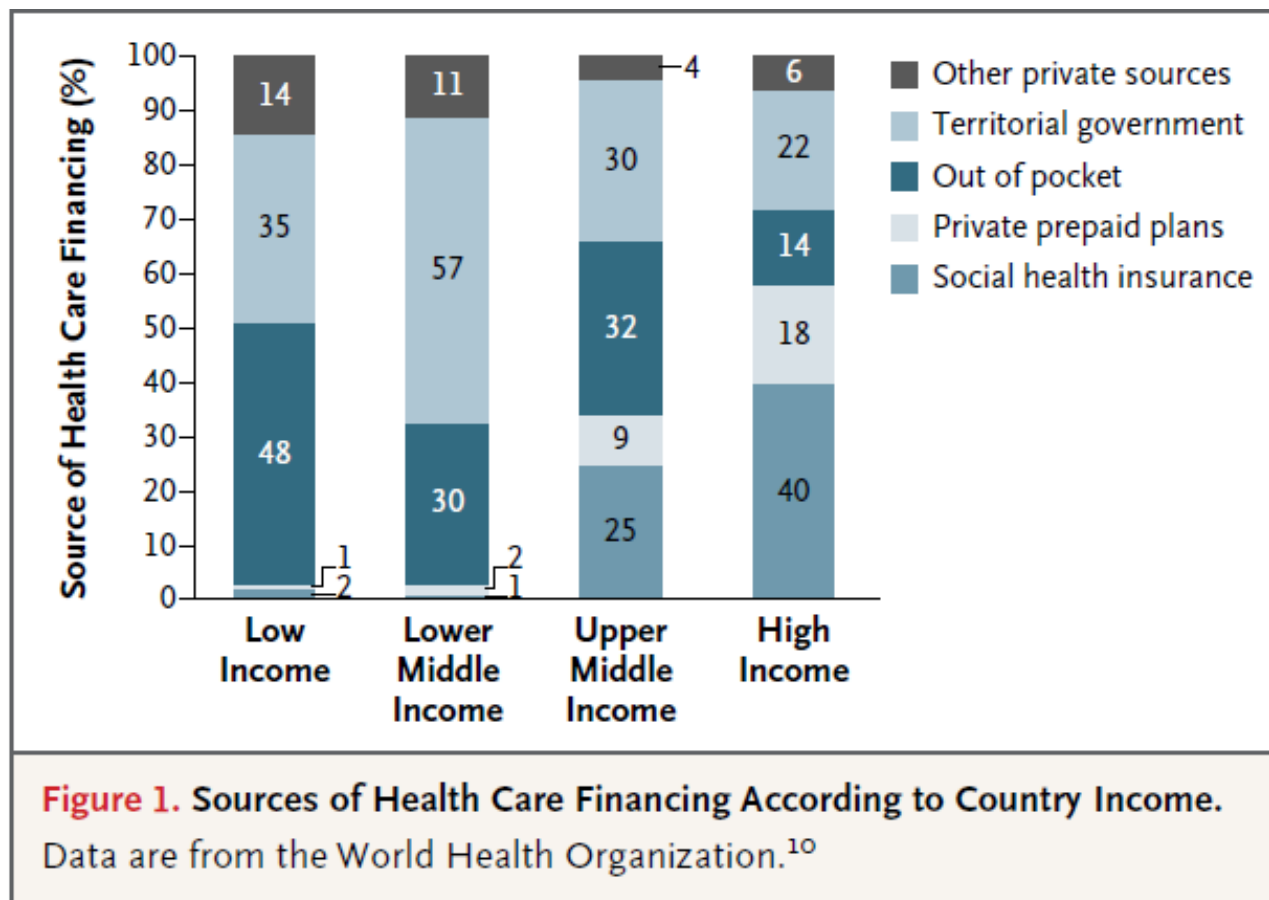
Total Health Expenditure (THE) per capita in US\$

–	2000	2012
Low	13	37
Low Middle	46	146
Upper middle	200	496
High	1303	3035
World	452	1068



Main challenges for health systems in DCs

4. Lack of resources





Burden of medical expenditure on households and societies

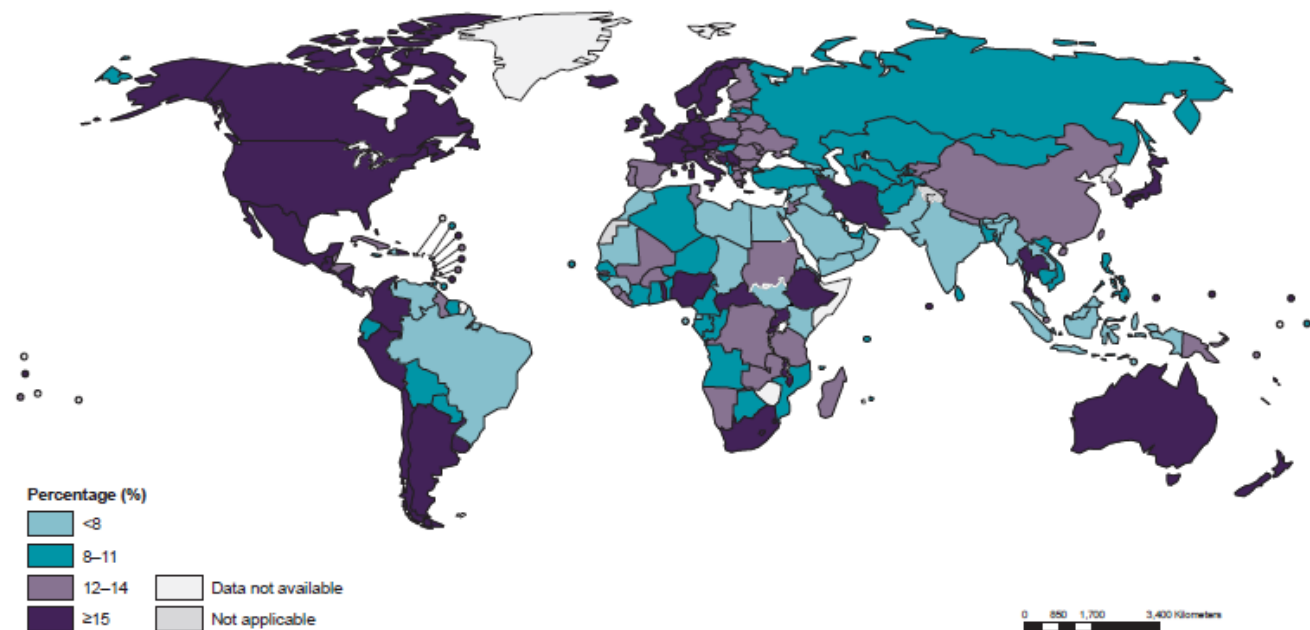
- 1. Micro- households level:** Impoverishing effects of medical expenditures:
 - Every year 100 million are pushed into poverty and 150 million people suffer financial catastrophe because of out-of-pocket expenditure on health services - Xu K, Evans DB, et al (2007)
 - **About a quarter of households in low income and middle-income countries borrow money or sell items to pay for health care** - Kruk ME et al (2009)
- 2. Macro level:** Global Health Expenditure 10% of global GDP in 2013 – huge differences across countries unrelated to burden of disease



Main challenges for health systems in DCs

4. Lack of resources

Figure 3.1. General government expenditure on health as a percentage of total government expenditure, 2013

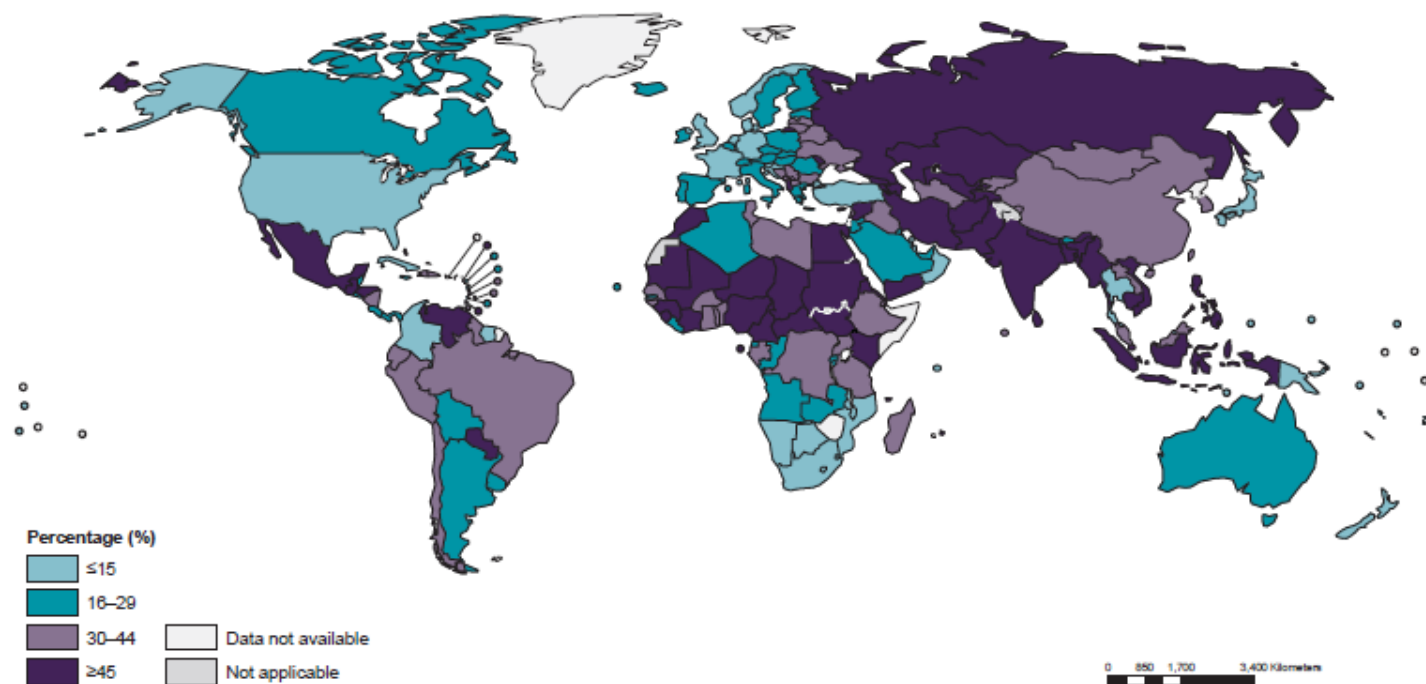




Main challenges for health systems in DCs

4. Lack of resources

Figure 3.2. Out-of-pocket expenditure on health as a percentage of total expenditure on health, 2013

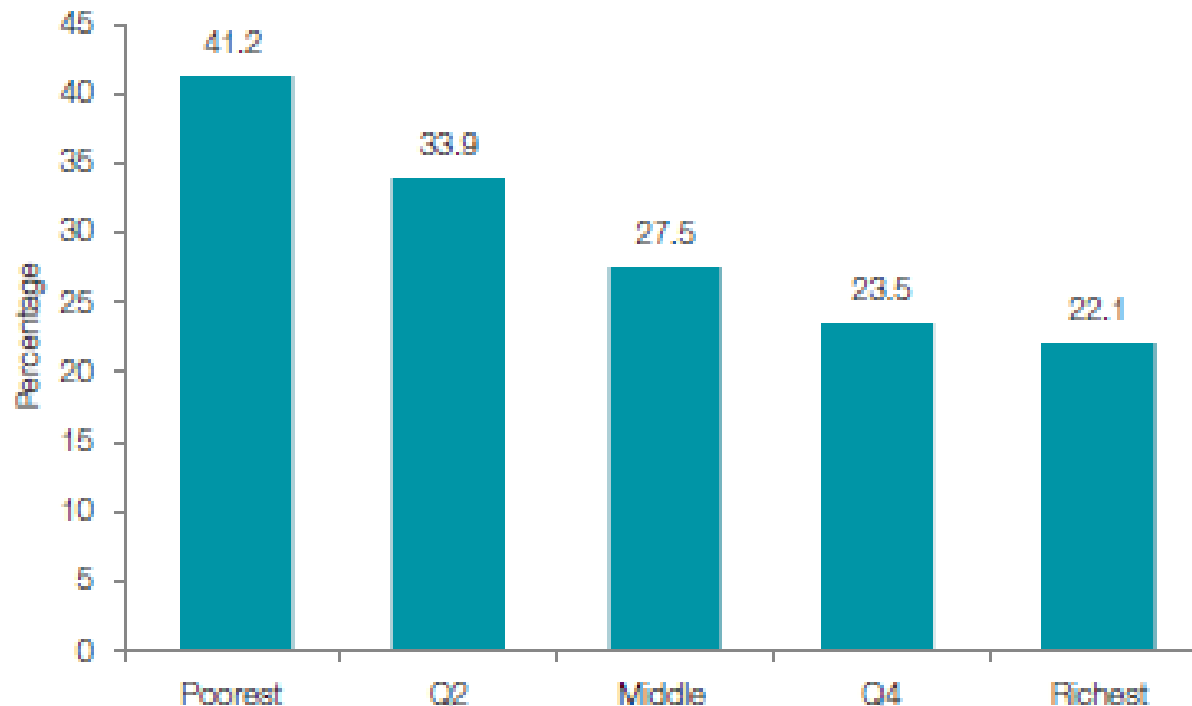




Main challenges for health systems in DCs

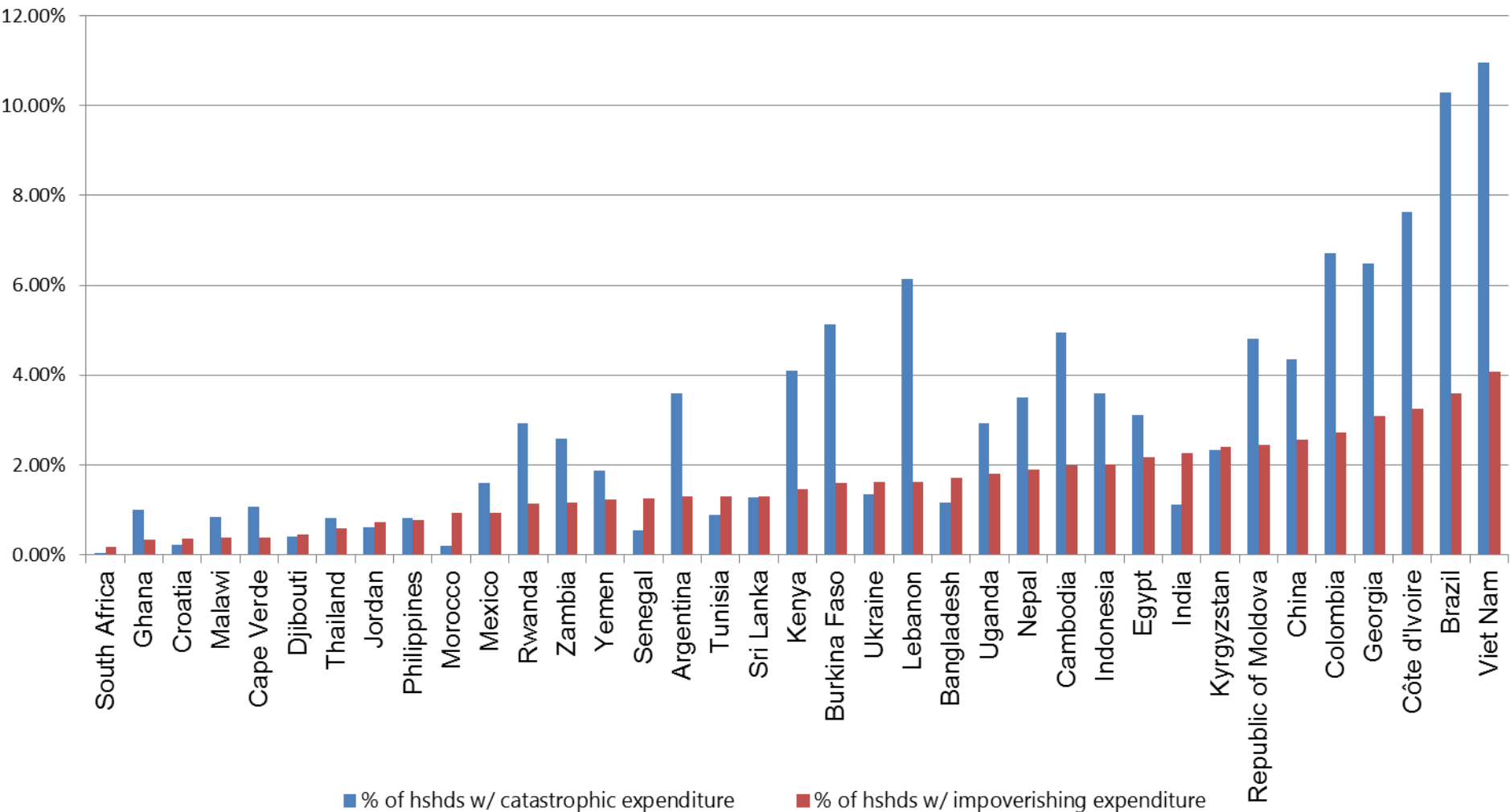
4. Lack of resources

Figure 3.5. No health spending by expenditure quintile (Q), median values of 37 countries (headcount ratio, percentage)





Globally each year: 150 million people face catastrophic expenditure 100 million people face Impoverishing expenditures





Main challenges for health systems in DCs

4. Lack of resources

- Human resources for health....workforce crisis
- http://www.who.int/gho/health_workforce/en/

Global health workforce, by density

WHO region	Total health workforce		Health service providers		Health management and support workers	
	Number	Density (per 1000 population)	Number	Percentage of total health workforce	Number	Percentage of total health workforce
Africa	1 640 000	2.3	1 360 000	83	280 000	17
Eastern Mediterranean	2 100 000	4.0	1 580 000	75	520 000	25
South-East Asia	7 040 000	4.3	4 730 000	67	2 300 000	33
Western Pacific	10 070 000	5.8	7 810 000	78	2 260 000	23
Europe	16 630 000	18.9	11 540 000	69	5 090 000	31
Americas	21 740 000	24.8	12 460 000	57	9 280 000	43
World	59 220 000	9.3	39 470 000	67	19 750 000	33

Note: All data for latest available year. For countries where data on the number of health management and support workers were not available, estimates have been made based on regional averages for countries with complete data.

Data source: World Health Organization. *Global Atlas of the Health Workforce* (<http://www.who.int/globalatlas/default.asp>).

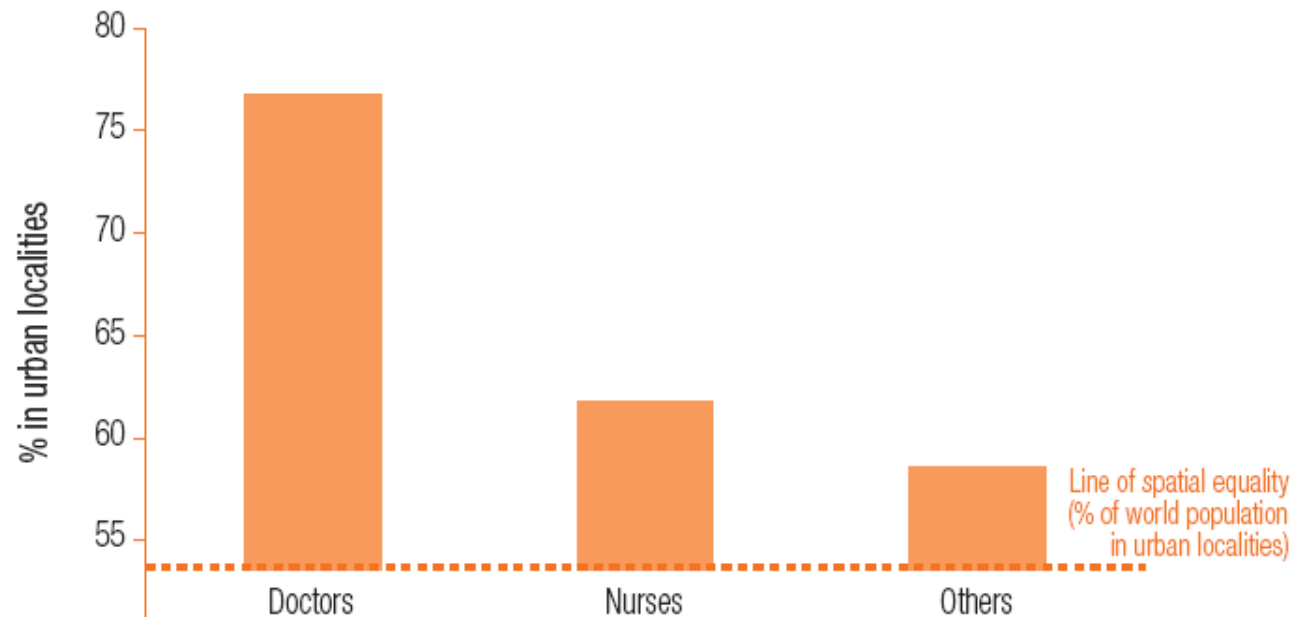


Main challenges for health systems in DCs

4. Lack of resources

- Human resources for health....workforce crisis

Figure 1.3 Rural–urban distribution of health service providers



Data sources: (3, 22).