



DISEASE CONTROL
PRIORITIES PROJECT



Prioritizing Cost-Effective Interventions While Strengthening Health Systems: Balancing Vertical and Horizontal Programs

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INVESTING IN GLOBAL HEALTH "BEST BUYS" AND PRIORITIES FOR ACTION IN DEVELOPING COUNTRIES

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What is the DCP2?

An alliance of organizations facilitating the review, creation and dissemination of information on improving health in developing countries.

Fogarty International Center
World Health Organization
World Bank

Population Reference Bureau
Bill & Melinda Gates Foundation

Epidemiology and Disease Burden

- ❖ Deaths
- ❖ Disability-Adjusted Life Years (DALYs)
- ❖ Risk Factor Assessment

Global Burden of Disease (GBD): Goals

- ❖ Measure loss of health due to comprehensive set of disease, injury, and risk factor causes in a comparable way
- ❖ Inject non-fatal health outcomes into health policy debate
- ❖ Use a common metric for burden of disease assessment with summary measure of population health and cost-effectiveness analysis
- ❖ Decouple epidemiological assessment and advocacy

Disability-Adjusted Life Years (DALYs)

Burden of Disease on a Defined Population

- ❖ Aggregate of **premature mortality, morbidity, and disability**
- ❖ Adjustments made for
 - **life expectancy**
 - long-term **disability** (weighted)
- ❖ Valid indicator of **population health**
- ❖ Tied to effectiveness of **interventions**

Burden of Disease and Risk Factors

- ❖ Role of established risk factors greater than commonly thought
- ❖ Risks are widespread – all risk factors have global impact, and the burden of many occurs almost exclusively in developing countries
- ❖ Large and often unrecognized potential for prevention
 - Full impact of risks often under-measured, and hence under-appreciated
 - Many more at risk:
 - nearly one-quarter of children and mothers in the United Republic of Tanzania would be in better health if they were well nourished
 - nearly one-third of adults in Mauritius would be in better health if they had lower blood pressure
 - nearly two-thirds of adults in Zimbabwe would be in better health if they avoided unsafe sex



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Cost-Effective Interventions What works?

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Improve Quality of Health Spending

- ❖ Provide information on the “price” of buying health through different interventions
- ❖ Policymakers can combine this information with other considerations to determine how best to improve health

The Best Health Interventions

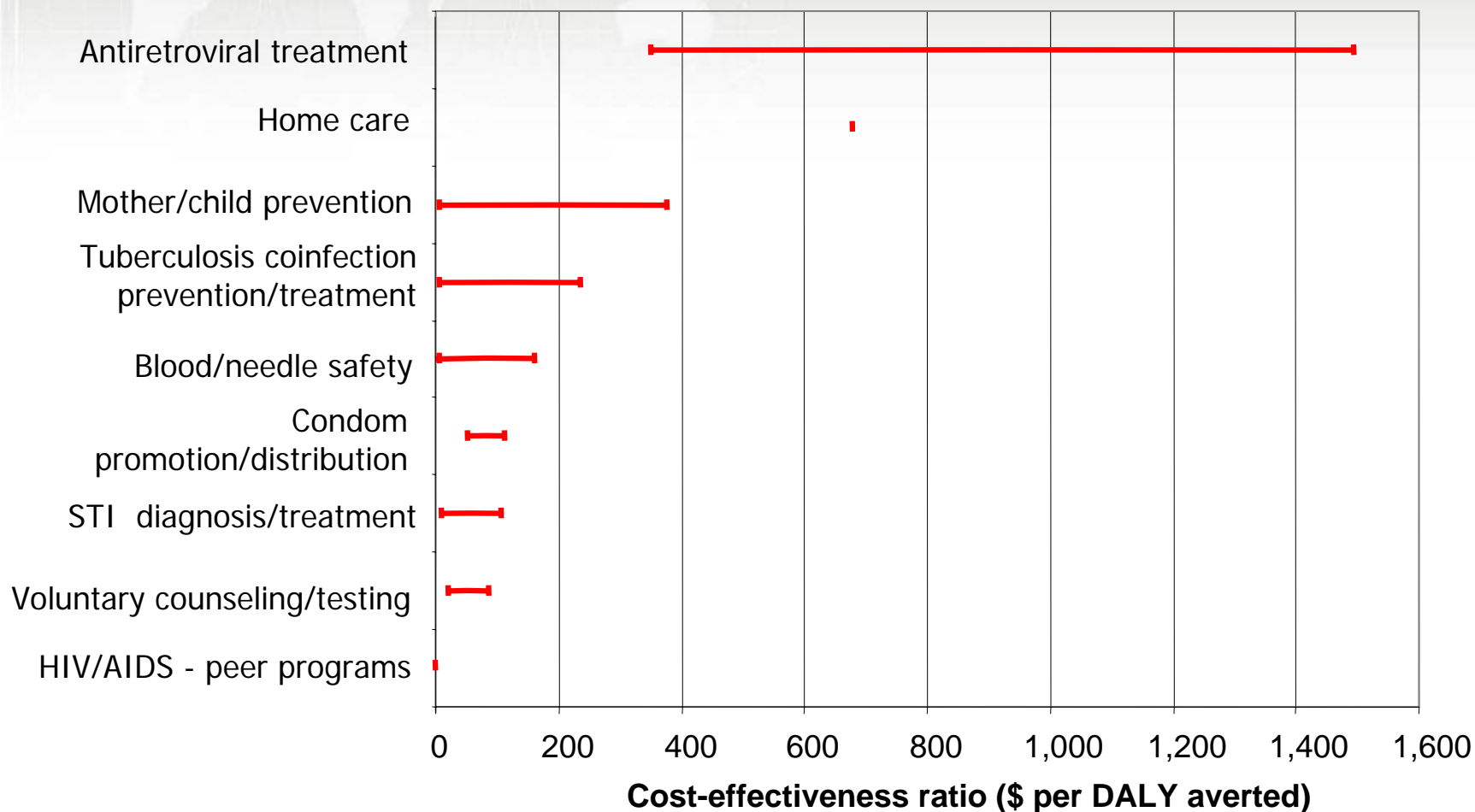
- ❖ Target major causes of death, disability and illness in developing countries;
- ❖ Are cost-effective; and
- ❖ Can be scaled up.

Stop the AIDS pandemic

Forty million people are infected with HIV—26 million are in sub-Saharan Africa.

- ❖ Offer voluntary HIV counseling and testing.
- ❖ Promote 100 percent condom use among high-risk populations (i.e., sex workers, injecting-drug users, and men who have sex with men).
- ❖ Treat other sexually transmitted infections.
- ❖ Advocate school-based programs to educate teens about STIs and HIV.

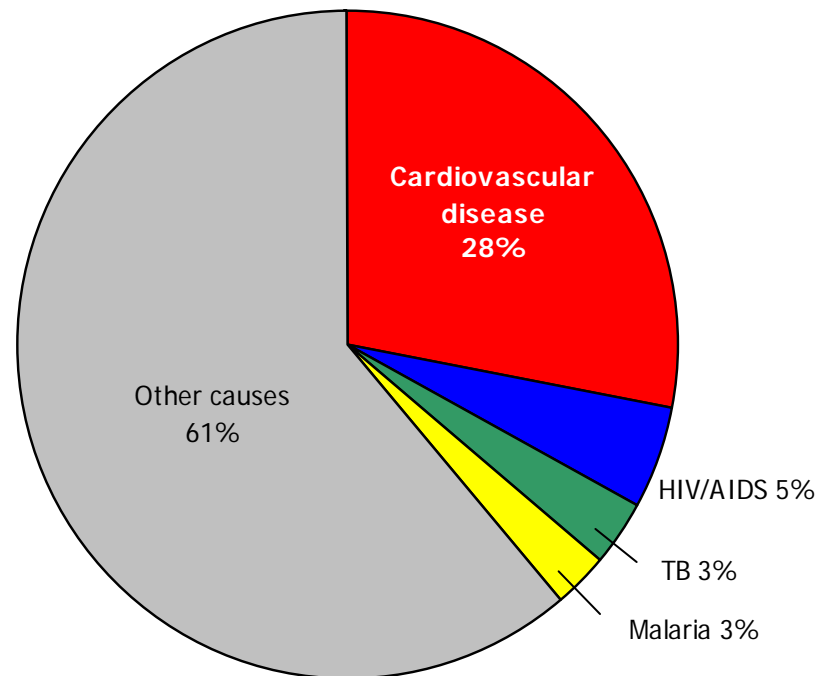
Cost-Effectiveness of Interventions Against HIV/AIDS in Sub-Saharan Africa



Laxminarayan et al (DCPP authors), 2006, in Jamison et al, *Disease Control Priorities in Developing Countries*

Cardiovascular disease is the leading cause of death in low- and middle-income countries.

Deaths in Low- and Middle-Income Countries by Selected Causes, 2001



Reduce Deaths from Cardiovascular Disease

Cardiovascular disease is the leading cause of death worldwide.

- ❖ Promote the use of aspirin and other inexpensive drugs to treat and prevent heart attack and stroke.
- ❖ Substitute 2% of trans fat with polyunsaturated fat through regulation.
- ❖ Help smokers quit through higher cigarette prices and cessation therapy.

Cost-effectiveness of Medical Therapy for Heart Attacks, By Region

Intervention	Incremental Cost-effectiveness (cost per DALY averted)					
	East Asia/ Pacific	Europe/ Central Asia	Latin America/ Caribbean	Middle East/ North Africa	South Asia	Sub- Saharan Africa
Aspirin	\$13	\$19	\$20	\$17	\$9	\$9
Aspirin and anti-hypertensive drug (atenolol)	\$15	\$21	\$22	\$20	\$11	\$11
Aspirin, antihypertensive drug (atenolol), and anticlotting agent (streptokinase)	\$672	\$722	\$734	\$715	\$638	\$634
Aspirin, antihypertensive drug (atenolol), and anticlotting agent (tissue plasminogen activator)	\$15,867	\$15,878	\$15,887	\$15,893	\$15,860	\$15,862

Note: The intervention in the first row is compared with the baseline of no treatment. Each successive intervention is compared with the intervention directly above it.

Source: *Disease Control Priorities in Developing Countries*, second edition, 2006, Table 33.2

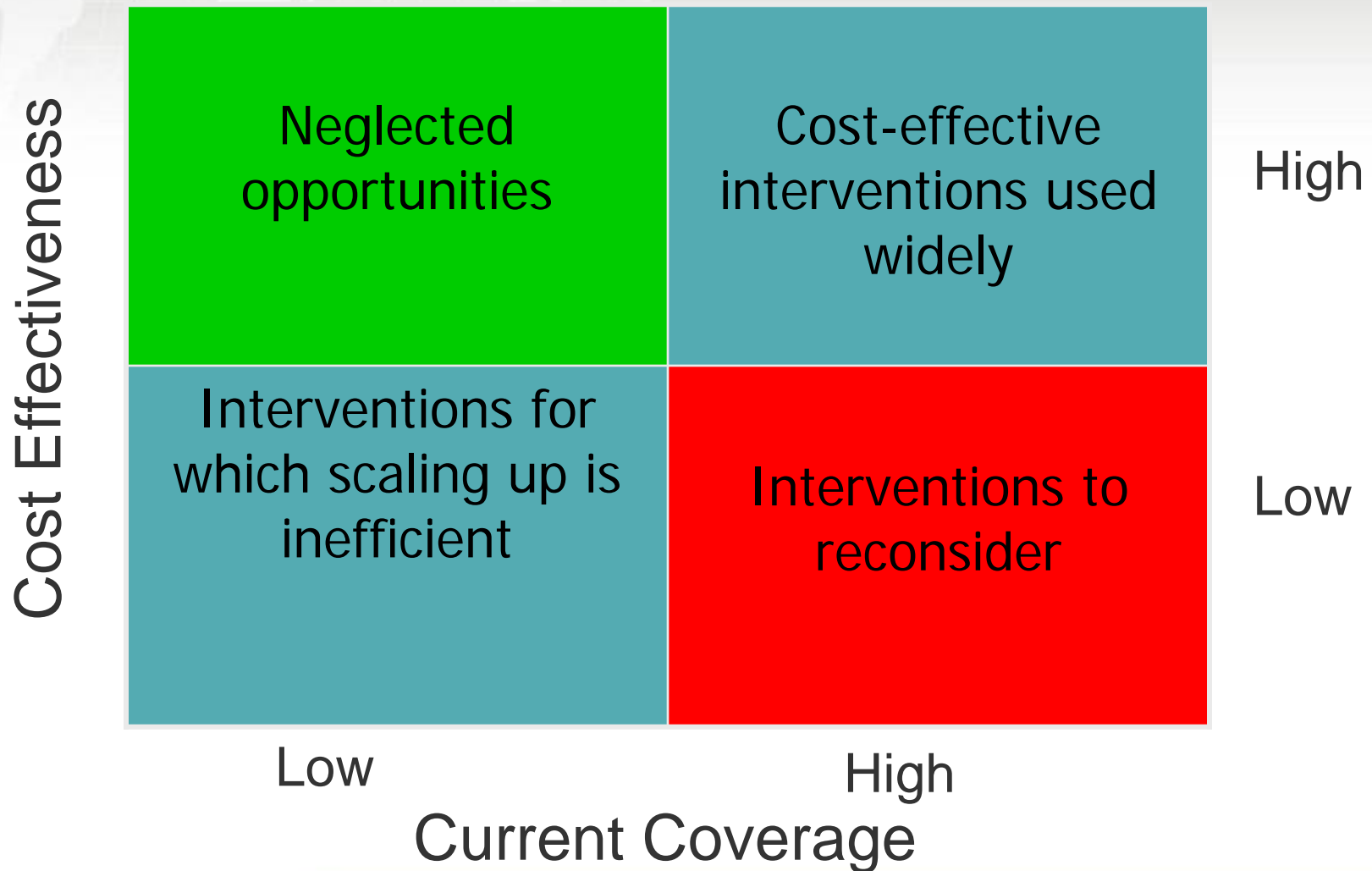
Cost-effectiveness of Interventions for Cardiovascular Disease in Africa*

Strategy	Incremental Cost-effectiveness (cost per DALY averted)
Prevention: Legislation to decrease salt content of processed foods and/or health education through mass media to reduce cholesterol	Less effective and more costly than comparator strategies
Targeting risk factors: Treating high blood pressure or high cholesterol**	Less effective and more costly than comparator strategies
Absolute risk strategy: Assessing the 10-year risk of cardiovascular disease and providing treatment	
> 35 percent risk	\$42
> 25 percent risk	\$295
> 15 percent risk	\$639

Notes: *High child mortality and very high adult mortality. **Treating systolic blood pressure greater than 140 mmHg or 160 mmHg or total cholesterol greater than 5.7 mmol/l or 6.2 mmol/l.

Source: *Disease Control Priorities in Developing Countries*, second edition, 2006, Table 45.4

Identifying the efficiency of current and potential interventions





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Health Systems Strengthening Vertical or Horizontal Approach!

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How do we prioritize health interventions within a health system?

- ❖ Evidence on burden of disease and cost-effectiveness is important for policy
- ❖ But interventions usually delivered through a service infrastructure
- ❖ Cost-effectiveness evidence usually reflects a good level of technical efficiency – may not be readily achievable in real life
- ❖ Need to know how best to strengthen health systems to deliver interventions

Health Systems

The organisations, institutions and resources primarily concerned with improving health.

They ensure:

- Provision of services
- Generation of financial, physical and human resources
- Effective management and governance

Health System Constraints

<i>Community and household</i>	Inadequate demand for effective interventions; barriers to use of effective interventions
<i>Health services delivery</i>	Shortage and maldistribution of qualified staff; low pay; poor motivation; inadequate availability of drugs and medical supplies
<i>Health sector policy & strategic management</i>	Weak drug policies and supply systems; weak management systems; competing donor programmes
<i>Public policies across sectors</i>	Government-wide rules and regulations; limited communications and transport infrastructure
<i>Environmental characteristics</i>	Governance issues; instability; unfavourable physical environment

Health System Constraints and Possible Disease-Specific and Health System Responses

Constraint	Disease-specific Response	Health System Response
Patients' inability to pay for services	Price reductions for specific diseases	Risk-pooling strategies
Distance to facility	Outreach for specific diseases	Planning for new facilities
Poorly skilled staff	Training on specific diseases	Revising medical curricula
Poorly motivated staff	Financial incentives for delivering priority services	Reviewing salary structures and promotion procedures
Weak planning and management	Training workshops in planning and management	Restructuring ministries of health, developing cadre of dedicated managers
Lack of inter-sectoral action and partnership	Cross-sectoral committees to address specific diseases	Building systems of local government with representation from various sectors
Poor-quality care among private sector providers	Specific training for private sector providers	Developing accreditation and regulation systems

Enhancing Health Systems Performance and Mobilising Resources

- ❖ Stewardship/regulation
- ❖ Organisational arrangements
- ❖ Quality assurance
- ❖ Targeting resources
- ❖ Financing

NB:

1. Lack of evidence
2. Effectiveness of approaches depend on starting point - need to be assessed in local context

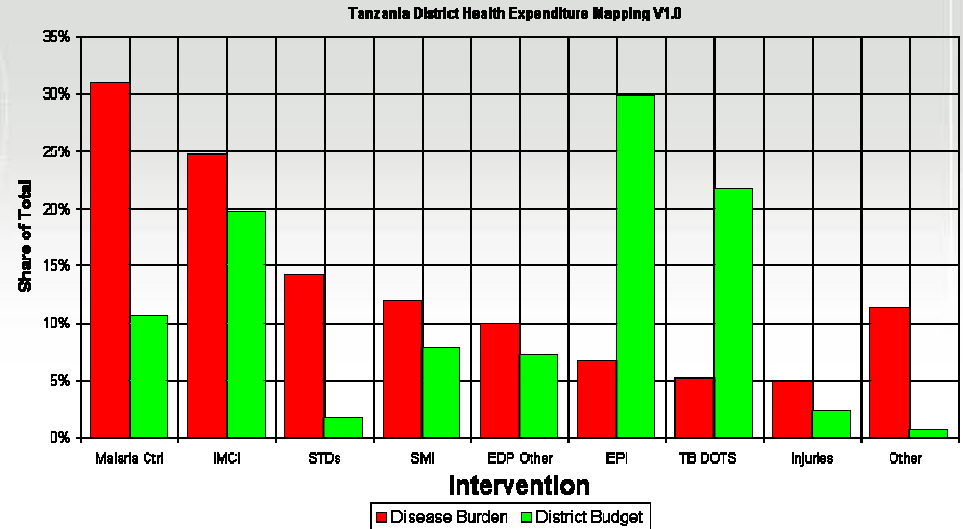
The Tanzania Essential Health Interventions Project (TEHIP)

(de Savigny et al 2004)

- ❖ Provided tools for district level decision makers to influence resource allocation
- ❖ Linked burden of disease data with expenditure on interventions
- ❖ Showed improved match between disease burden and district budget

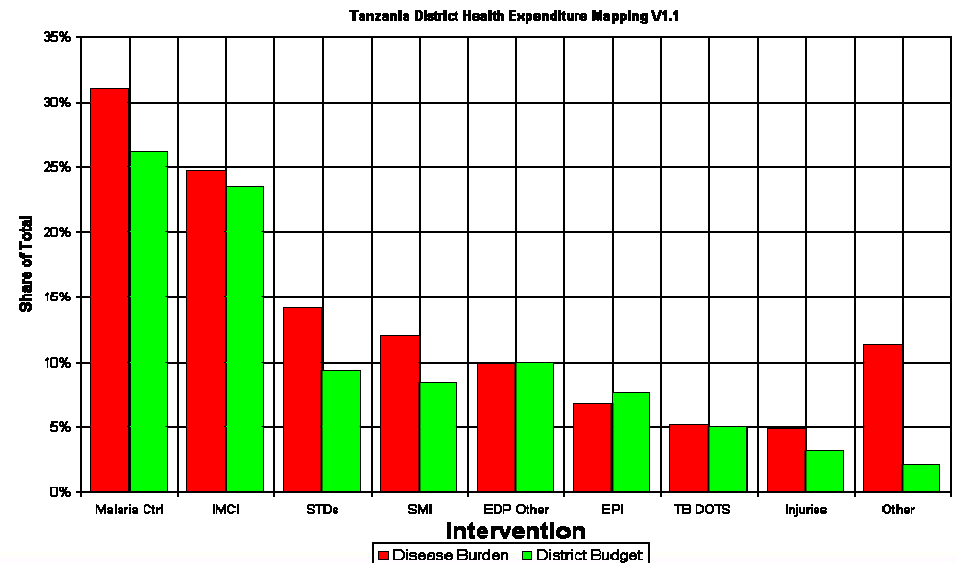
Intervention Expenditure Shares
Moro Rural District Health Plan 1996-97

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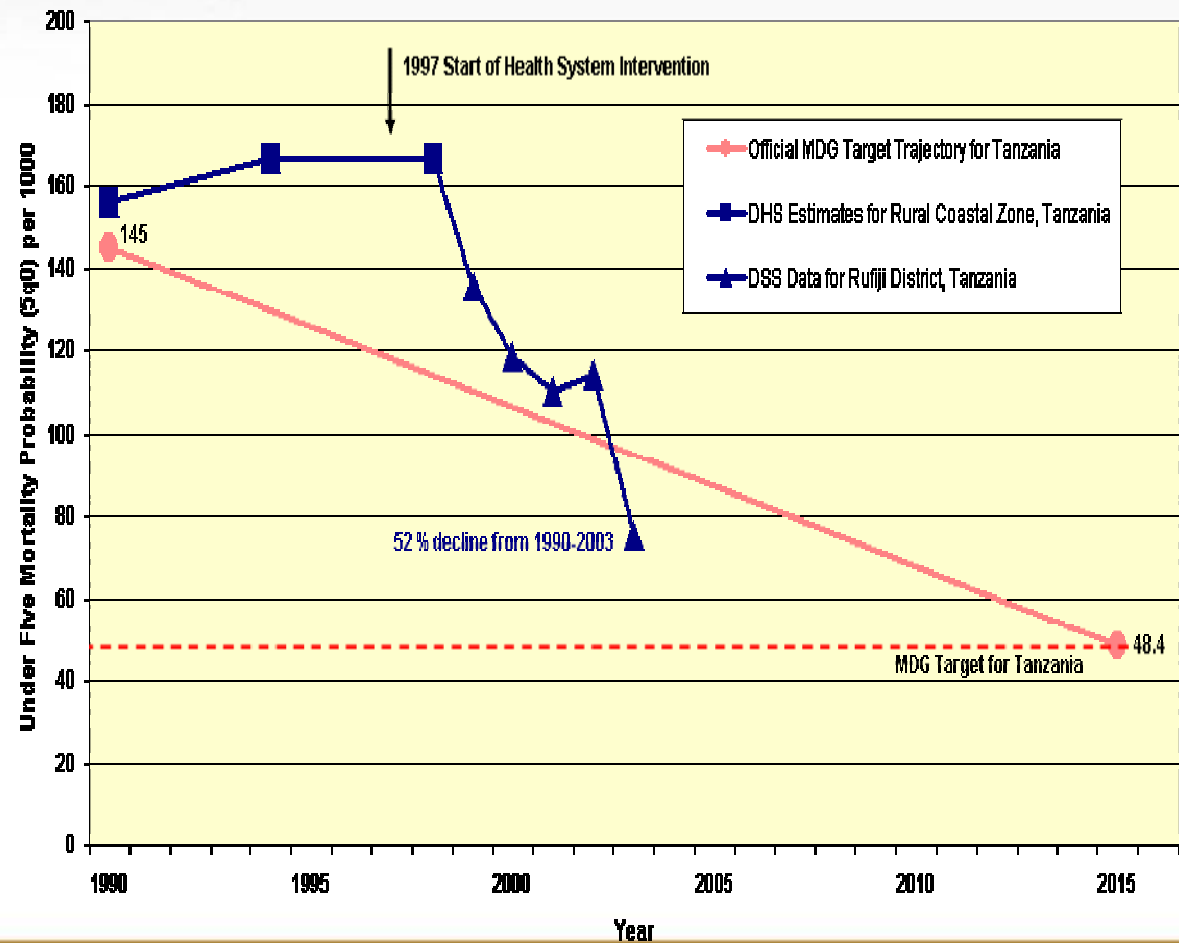
Intervention Expenditure Shares
Morogoro Rural District Health Expenditure 00-01

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The Contribution Of TEHIP to Improved Health Outcomes

Reversing the Trend in Child Mortality Impact of District Health System Interventions in Rufiji District Tanzania



Key Messages - 1

1. Keep the health of the system in mind whenever major new programmes are put in place
2. Ensure focused disease-specific efforts contribute to system strengthening, not detract from it
3. **Reforms affecting organisational structures and human resource management more likely to be successfully implemented if they are incremental and gradual**

Key Messages - 2

4. Organisational reforms must support health systems to prioritise user demands, primary and first level hospital care, quality of care, and technical back-up to disease control
5. Capacity strengthening required at all levels
6. Evaluate policies to improve evidence-base

Vertical Versus Horizontal

- ❖ The vertical approach—focusing on specific disease priorities
- ❖ The horizontal approach—focusing on strengthening the overall structure and functions of health systems
- ❖ What about diagonally?

A Diagonal Approach

- ❖ What works best in your country/region?
- ❖ Identify clear disease priorities and use them to drive generic improvements in the health system – **evidence based** (GBD, DALYs, CEA)
- ❖ Each disease intervention becomes an opportunity and a building block in strengthening the health system as a whole – **incremental progress**

Closing Thoughts

- ❖ DCP2 provides tools for priority setting
- ❖ Policymakers can vastly improve quality of health spending
- ❖ Improving quality of health spending should be complemented by increased spending
- ❖ A diagonal approach to prioritizing health interventions can assist in meeting both disease-specific and system-specific goals and initiatives (i.e. MDGs, Abuja Declaration)
- ❖ In ECSA, what are the best means by which to build the health system while addressing key disease priorities?