Choosing health interventions and setting priorities:

A district-level perspective

Tanzania is testing the feasibility of an evidence-based approach to decentralized health planning that would ration, concentrate and focus the use of this public funding on the highest disease burdens for which cost-effective interventions were available. The experiences of the Canadian-Tanzanian Essential Health Intervention Project, called TEHIP, have shown how improved but simple planning approaches can massively affect health outcomes.

*By Don de Savigny and TEHIP Team**

The real question left unanswered by World Development Report 1993 on ”Investing in Health” was how to do this, since practical tools for district level priority setting and resource allocation did not exist. This is addressed through a research and development demonstration project pursued in a joint initiative of Tanzania’s Ministry of Health and Canada’s International Development Research Centre. This work took place in the Districts of Rufiji, Morogoro and Mvomero of South East Tanzania between 1996 and 2003 with an initial beneficiary population of about 750,000 people. The project, known as the Tanzania Essential Health Interventions Project (TEHIP), resulted in the development and testing of a tool kit containing a number of tools and strategies for strengthening the district health system. This paper focuses on two of the tools that were designed to assist decentralized priority setting and guide resource allocation, especially in light of additional resources from the SWAp basket.

Setting Intervention Priorities

Overview of approach. District Health Systems should be more concerned about planning and managing their health systems for overall public health impact, and less about responding to individual diseases. An over reliance on a disease-driven focus only serves to fragment the performance ability of the system to reach the scales of coverage necessary to achieve the meaningful public health impacts. The challenge for TEHIP was to find a way to translate the new metrics for prioritizing burden of disease (e.g. the DALY) in a way that would not introduce yet another disease-focused mentality. Up to now in many countries, priorities are set on the basis of the most frequent conditions seen in health facility attendance statistics; the ”top-10-diseases”. However these rarely reflect the actual disease burdens experienced at the community and household level and are simply the ”top-10-attendances”. Who does not attend, and why they do not attend is even more important for priority setting than attendance data. Even in Tanzania, which has highly utilized government health services, over 80% of those who die, do so at home, and half of those die without contact with any formal health service in the illness leading to death. Still in Africa, many people are born, live and die without leaving a trace in the official record. What is needed is a new kind of evidence base that

is rooted in community health needs and translates directly into intervention priorities. The real question for the publicly funded health sector is: what are the most important interventions that a District must ensure to be available at high coverage?

Fortunately Tanzania, and an increasing number of African countries, benefit from the presence of growing networks of sentinel populations monitored by standard methods of demographic and health surveillance (DSS). Typically a DSS setting prospectively monitors a large population (e.g. 80,000 people) and provides vital event registration services that are not yet feasible or available to the whole population. Everyone in a DSS area has birth and death registration and cause of death certification linked to ICD10 classification. Regular rounds of household surveillance generate a wealth of household level parameters followed longitudinally. This community-based system provides a continuous barometer for the detailed health and socio-economic circumstances of large areas of a country and is useful far beyond the area of the sentinel population and for purposes beyond the health sector.

TEHIP has taken advantage of Sentinel DSS sites in Tanzania to develop a burden of disease based ***Intervention Priority Profile***, a tool that generates an annual ”snap-shot” of the burden of disease as seen in each sentinel, converting it to intervention addressable shares of the burden of disease. The tool uses standard DALY age-weighted and discounted years of life lost (YLLs) aggregated by the diseases addressed by each intervention. Although it is based on mortality, it has been found that modeling in years lived with disability (YLDs), does not change the shape of the profile, or the relative ranking of the interventions it prioritizes. This profile is distributed at planning time as an annual document to all the districts served by the respective sentinel to provide an intervention priority profile. The profile itself is contained in a booklet which contains a wealth of other information from the sentinel DSS concerning population health, such as mortality, fertility and dependency rates, seasonality of births and deaths, trends, and specific information about each prioritized health intervention.

Stakeholders. Most DSS sites are currently supported in the frame of research projects, however the increasing utility of the sites for routine surveillance information for the health system means that in future, they could become part of the Health Management Information System and Poverty Monitoring System of Government. The Tanzanian Ministry of Health has established a National Sentinel System to provide the architecture to harness the 11 district DSS sites in the country for such purposes. The NSS in future could take on the task of processing and distributing the intervention profiles each year. Stakeholders for the Profiles themselves include the Ministry of Health, who maintain the guidelines for the National Package of Essential Health Interventions, and the District Health Management Teams (DHMTs) who use the profile to guide thinking on the choices and priority from the National Package.

Some results. The good news is the profile shows that over 90% of the household burden of disease can be addressed by a handful of existing, cost-

effective, integrated interventions or strategies that are suitable for primary health care delivery. Figure 1 shows the relative potential reach of each of these interventions. If these interventions could be scaled up and offered to at least 80% of the population one can expect major impacts on the population burden of disease. The problem is that until now, in districts that do not have such profiles, spending is not proportional to these relative priorities, and in fact, much spending routinely goes to non-essential interventions addressing only the 5-10% of the burden for which cost effective interventions are lacking, and for which, reduction would have little overall impact on the total burden of disease.

Figure 1. A typical intervention priority profile graphic. (One of about 30 graphics from a sentinel profile). IMCI is Integrated Management of Childhood Illness; AFI is Acute Febrile Illness requiring malaria case management, intermittent presumptive treatment in pregnancy and insecticide treated mosquito nets; SMI is Safe Motherhood Initiative with interventions for perinatal and maternal mortality; EPI is Expanded Program for Immunization; EDP is Essential Drugs Programme; TB DOTS is TB Directly Observed Treatment by short course.

The demonstration districts quickly took on board the messages embodied in these annual profiles and made major changes, through their district plans, to bring their investment priorities more in line with the intervention profile. They reduced funding on the non-essentials, and used Sector Wide Approach (SWAp) basket funding strategically to ramp up support to the higher priority interventions that had previously been grossly under funded (e.g. IMCI, malaria interventions, etc.). Almost immediately, the local DSSs started to document declines in the burden of disease at much faster rates than was seen in comparison districts doing conventional (non-evidence-based) planning. For example, between 1999 and 2002 infant mortality declined 31.2%, under-five mortality declined 18.8% and adult mortality declined 7.4% in a country where elsewhere, such mortality trends were relatively stagnant or slowly increasing over the same period.

Resource Allocation

How do districts know whether their spending priorities are roughly in synchrony with the intervention priorities? This was achieved using the second companion tool for resource allocation, the District Health Accounts Tool.

Overview of Approach. Planning and budgeting for the health sector for typical Tanzanian Districts of several hundred thousand population is a complex undertaking. One of the most detailed components of any District Health Plan is the budget. District budgets often exceed 25 pages of detail and can contain in excess of a thousand budgeted items or activities, with hundreds of sub-totals, and dozens of major line items. These budgets are often built up from detailed operational activities and aggregate to total figures that typically run to hundreds of millions of Tanzanian shillings

(hundreds of thousand USD). At the end of the process it is difficult for District Health Management Team (DHMT) members, and even the District Health Planning team itself, to have a good ”feel” for the proportional content of their own budgets and plans. Since resource allocation within budgets reflects, to a large extent, the priorities of the District Health Plan, it is important that the District Health Planners can examine the final product of their plan in terms of how they have actually allocated their limited resources. Moreover, it is important at the end of the fiscal year, for the planners to be able to apply the same analysis to see whether the planned allocations were achieved in actual expenditure allocations. This need prompted TEHIP to start working in 1997 together with the DHMTs to develop a simple tool for analyzing District Health Plan budgets and expenditures.

The ***District Health Accounts*** tool was thus developed initially in response to a District need and demand for a one-page summary and a graphical "picture" of their annual District Health Plan. This tool is intended to help Districts understand the accumulated total financial resources they have budgeted (or expended) in their plan; the respective sources from which they obtain their revenue; and the major interventions and activities to which these funds are allocated.

The tool is based on entering summary budget or expenditure data into a matrix relating activities to financial resources such that these health sector allocations can be determined at a glance. The tool is a ”point-and-click” computer application that calculates both the proportional shares of investment and the absolute per capita investments in the District Health Plan in terms of all funding partners, and in terms of all core essential health interventions and health system support activities. In anticipation of the National Sentinel System of demographic surveillance sites for burden of disease estimates, it also integrates a relevant *District Intervention Priority Profile* to provide a graphical comparison of the intervention addressable disease burden and the intervention priorities as selected and reflected in District Health Plan budgets and expenditures. The tool further calculates the relative shares for curative vs. preventive/promotive expenditure; capital vs. recurrent expenditure; and direct support for health service delivery vs. general health system support. Finally, the tool provides additional basic statistics and specific graphs for the SWAp Council Health Basket Grant portion of the District Health budget and expenditure.

The tool is re-distributed annually with up-dated intervention profiles and other key data to be communicated from the Central Ministry such as drug prices, capitation funds, and spending guidelines. The district simply enters their budget sub-totals in the matrix and obtains the analyses. They can then do ”what-if” adjustments to bring their spending more in line with their priorities.

Stakeholders. The main stakeholders of this tool are the District Health Management Teams who use it to tune their budgets, and analyze their expenditures. They also use it to provide clear graphical displays of their spending priorities for their other stakeholders, the Local Government

District, the local health partners and NGOs, their donors, and the Ministry of Health who need to understand and approve their plans. The tool has been popular with both the District planners and the Central Ministry of Health because it makes possible a rapid appreciation of the essential content of the plans and their priorities in a standardized format. No additional staff or particular skills are required to apply these approaches however a training / orientation of 2-3 days for one to two DHMT members is being used for new districts starting to apply the methods.

Some Results. We conducted an analysis of 30 recent District Health Plans via the District Health Accounts Tool for Districts that have not yet had access to either the Intervention Profile Tool or the District Health Accounts Tool. Almost every plan shows poor concordance of intervention spending with intervention priority. In most cases budgets are distributed rather equally across all available interventions. The consequence of this is that important interventions are under-invested, while the single largest investment accumulates support for marginal non-essential health interventions (Figure 2). This means, that in the absence of such tools, there are gross allocative inefficiencies with regard to current spending, and a low likelihood of public health impact. However, districts that have had access to the tool quickly bring their investments in line with the intervention priorities (Figure 3) and start to have impact.

Figure 2. A typical district budget priority in a District not using the Intervention Priority Profile or the District Health Accounts tools. Spending is roughly equal across all interventions with a heavy emphasis of support to other non-essential interventions (far right column).

Figure 3. Actual expenditure pattern in a District using an Intervention Priority Profile in the District Health Accounts tool.

Problems and challenges faced. Because the tools were developed and improved iteratively in close collaboration with the users, there has been relatively little problem with their acceptance and use at the pilot district level. To some extent, these districts have learned as they went. The new challenge is with the rollout and scaling up of the use of the tools to districts nation-wide and beyond.

The main challenge to face is to recognize that there is a need for some fundamental re-thinking with regard to the nature of routine health information systems (HMIS). Facility based health statistics cost Tanzania's government an estimated $0.06 USD per capita per year to generate. Much of that cost is incurred in producing questionable burden of disease data. However a typical household based DSS site costs less than $0.01 USD per capita per year. It is conceivable that HMIS data needs could be scaled back to collect only the information needed to truly manage the facility and free up resources to support sentinel DSS sites who would in turn provide the burden of disease monitoring at sentinel community level and at the same time provide annual intervention priority profiles. Both the Intervention Priority Profile and the District Health Accounts Tool will depend on functional sentinel DSS sites, at least one rural and one urban, per country.

Future agenda for testing approaches. Presently the Ministry of Health in Tanzania, through its Zonal Training Centres, is moving vigorously to train the DHMTs in each district in the use of the District Health Accounts tool and will require DHA printouts with each District Health Plan submitted from trained districts this year. This will provide a much-enlarged experience with the use of the tool under a range of typical settings and hopefully will suggest further improvements as it goes into routine use. Based on that experience, decisions can be taken on whether to consider adapting the tool to health systems in other countries in Africa, initially those already hosting their own DSS sentinels.

The main conclusion of this work is that gross technical and allocative inefficiencies exist and can be corrected relatively easily and early in the process of scaling up resources for health.

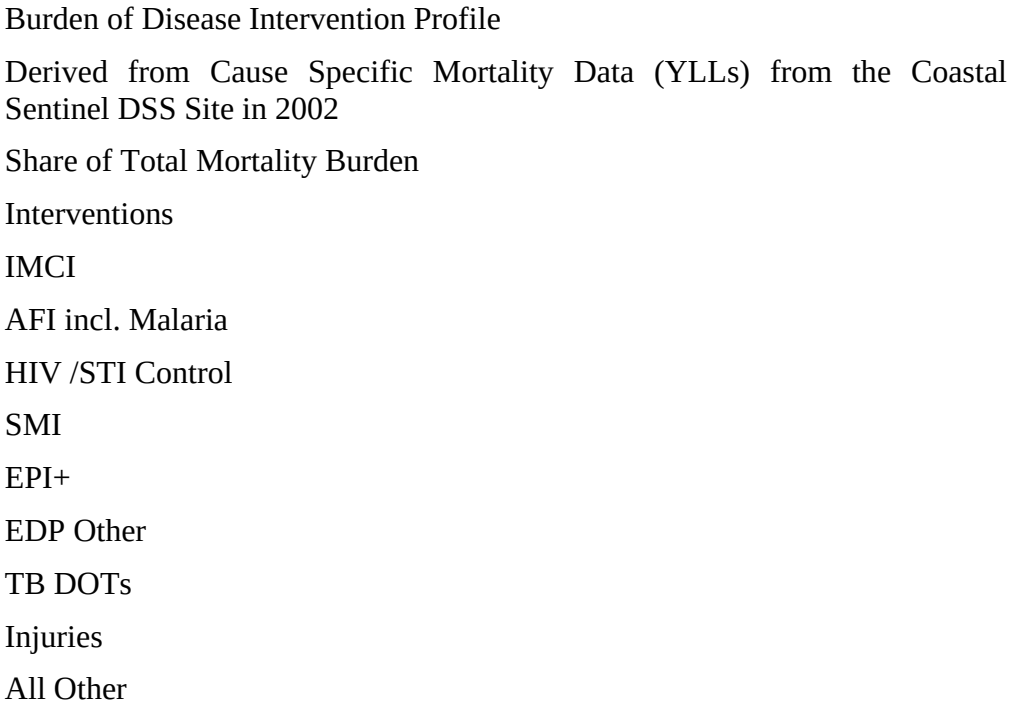
---

*Don de Savigny, Ministry of Health / IDRC, Tanzania Essential Health Interventions Project (TEHIP), with and on behalf of the TEHIP team: Dr. Harun Kasale, Dr. Conrad Mbuya, Ms. Rose Lusinde, Mr. Godfrey Munna, Mr. Honorati Masanja, Dr. Leslie Mgalula, and Dr. Graham Reid. Further information is available at www.idrc.ca/tehip. Contact: desavigny@tehip.or.tz

Acknowledgements:

TEHIP is grateful to Dr. Harun Machibya and Dr. Saidi Mkikima, the District Medical Officers of Morogoro District and Rufiji District and their respective District Health Management Teams for their dedicated collaboration throughout the efforts to develop and pilot test these tools. We also thank the TEHIP Rufiji DSS site, led by Dr. Eleuther Mwageni and the Morogoro DSS site of the Adult Morbidity and Mortality Project, led by Dr. Philip Setel for providing the data on which the Morogoro intervention priority profiles are based. We are obliged to Dr. Raphael Kalinga of the Ministry of Health for providing District Health Plans from other districts and encouraging the widespread use of these tools in Tanzania. Finally we are most grateful to Mariam Mwaffisi, Permanent Secretary, Dr. Gabriel Upunda, Chief Medical Officer, and Dr. Ali Mzige, Director of Preventive Services of the Ministry of Health for their continuous support and guidance of these efforts. Canada's International Development Research Centre and the Tanzania Ministry of Health provide financial support for this work.

Figure 1:



Figures 2 / 3