

DFID Bilateral Aid Review (BAR) in Health: How to estimate the costs and results of health related activities

Draft 4 - August 3

Introduction

The BAR team has asked country offices to prepare an initial set of proposals for the next spending round, 2011/12 – 2014/15. The proposals are due by end of August 2010. This note is intended to assist country offices in preparing the health components of their proposals.

The ideal would be to present a costed plan of support that fits within the national plan for the health sector and demonstrates value for money. Ideally the costing would be based on country realities, include all the relevant cost elements and be an approach that is comparable across countries. However, in the time available for response, there may need to be a mixed approach based on what is available in the country. It will be important to spell out what assumptions have been made including what has, and has not, been included in estimating costs and results.

The approach suggested is geared to being pragmatic and quick while enabling some comparability across countries. It assumes the reader may not be a health adviser (who will probably have much of the information indicated).

Country offices are encouraged to identify priorities for support with a particular interest in the ministerial priorities of malaria and reproductive, maternal and neonatal health including family planning (RMNH). This does not necessarily mean that the proposals have to be projects, tied funding or commodities in those areas: for example, support to health systems or demand generation can be proposed if the proposed outputs can be linked to results in those areas. Innovative and intersectoral approaches are also being encouraged.

Step 1: Identifying need and setting the context

The commissioning note asks for data on needs. Progress towards the health MDGs (child and maternal mortality) is part of this. In terms of defining scope for action and priorities to improve the health MDGs it is probably useful to look at the coverage rates for key interventions, as these are both an outcome measure and an indicator of the scope for improvement. Country assessments and health plans are also an obvious source. Useful sources for recent and internationally comparable data, that will allow comparisons with other and 'statistical neighbour' countries, include:

- Countdown 2015 - provides country by country data on RMNH issues with data sources, see [Countdown 2010 report](#)
- On malaria see [malaria in children 2009 report](#) and [childinfo malaria tables](#)
- Comparator table on BAR health teamsite offers regional comparators of key indicators

The figures in the global databases may not match those in the country documents. This is partly due to different measurement approaches - international sources tend to use household survey data (e.g. from demographic and health surveys (DHS) or malaria indicator surveys (MIS)) while Ministries of Health tend to use service data from the management information system (HMIS). In some cases the global data is adjusted to give a best estimate (e.g. immunisation coverage data). At least, the proposal should cite the source of data used.

However, evidence of need is not necessarily a sufficient condition for intervention. Any offer should provide a clear justification going back to first principles to set out whether/how any approach is addressing a market failure or meeting the needs of the poor. A summary table is provided in annex 1 – taken from the Health chapter of the Economist's Guide where more details are available.

Step 2: Defining the offer: what interventions are you proposing?

This can be tackled in the three stage process:

2a: Is there a health sector plan that can be used as a basis for support?

The national health plan should identify the strategies proposed to address priorities. Typically RMNH and malaria are priorities within these plans (in countries where malaria is relevant). The approach might be to:

- a) Identify whether there is a suitable national plan in place or under development and how well it addresses key priorities for the MDGs including malaria and RMNH. There may also be more detailed plans for these areas, and other priorities such as human resources, that underpin the health plan and include more detailed costings.
- b) Review how far the sector plan is funded and discuss with key partners the critical funding gaps.
- c) Identify areas that DFID might support that would impact on the health MDGs and in particular, whether they could be expected to benefit malaria and RMNH. This might include for example, strengthening health worker performance through training, remuneration or supervision; improving logistics and procurement of commodities; contracting with non-state providers for delivery care or to provide basic services in remote areas; demand generation or inputs for malaria or RMNH services, or work in other sectors – such as education, WATSAN or infrastructure..

2b: Is there a national malaria plan and/or a maternal mortality reduction/ RMNH sub-sector plan which could provide a basis for support?

If such plan(s) exist, they can be used as the basis for the proposed support. The following steps are suggested:

- a) Review the sub-sector plan(s) and find out which elements are already funded and where there are funding gaps. Likely sources for malaria funding are Global Fund, US President's Malaria Initiative (PMI) and World Bank malaria booster programme, so it would be worth talking to the national malaria programme manager, USAID and World Bank. For RMNH and family planning, contacting UNFPA, the MOH Planning and MCH departments and USAID would be a useful starting point.
- b) Identify activities for support and identify what share of the expected outcomes could be attributed to this support.

2c: If there is not an existing plan, identify areas for support with partners.

The coverage data may help to indicate where there are the greatest gaps in the most cost effective interventions. The WHO Choice data gives an assessment by region of the priorities in terms of the packages of interventions- see the BAR commissioning minute annexes page 18 for the summary for Africa Region E (high child and very high adult mortality countries), and [WHO CHOICE results](#) for more details and other regions. See also the Guide to DALYs on the BAR Health teamsite.

Step 3: Identifying the results - develop the results chain and identify what results might be expected from the inputs proposed.

The proposal needs to estimate the outputs and outcomes that DFID support will contribute. The IHP+ framework for defining outputs and outcomes may be useful for reference on the BAR health teamsite and the suggested indicators in the BAR commissioning annex (pages 10-11) are consistent with this.

Figure 1 shows the results chain for a reasonably complex systems intervention. It includes some activities (training for RNMH and malaria) specifically aimed at improving malaria and RNMH outcomes but most of the focus is on general system strengthening activities including supplementing health worker salaries. The schematic shows the pathway through which

activities are expected to affect health outcomes. In this case the interventions are expected to increase the use of malaria services by 20% and RMNH services by 25%.

In the case of malaria this might equate to an additional 20,000 children sleeping under bednets and 2,000 children treated promptly with effective medicines which might increase the % of children treated promptly by X. For RH the programme might result in 100,000 women accessing effective contraception which could increase contraceptive prevalence by Y%, avert Y unplanned pregnancies which, in turn, could reduce maternal mortality by Z. (See Guttmacher LIST and UNFPA tools for computing outcomes and impact)

The approach to paying providers can have a major influence on results but can also create distortions. For example if providers are 'paid for performance' (e.g. \$1 paid to health staff for each bed net delivered), this may lead to increases in malaria specific results, but the providers may neglect other services e.g. immunisation which do not get specific rewards. In this case, considering results only in terms of malaria impact could overestimate total benefits. The schematic also shows that some of the results will fall outside malaria and RMNH outcomes. For example, there might be an increase in lower priority services as well as high priority services.

Thus in assessing the results it is important to consider all programme results. Looking only at the specific malaria and RH results is likely to under estimate or overstate the overall results. The statement of results expected should highlight this, even if the other changes in results cannot be quantified.

Figure 1

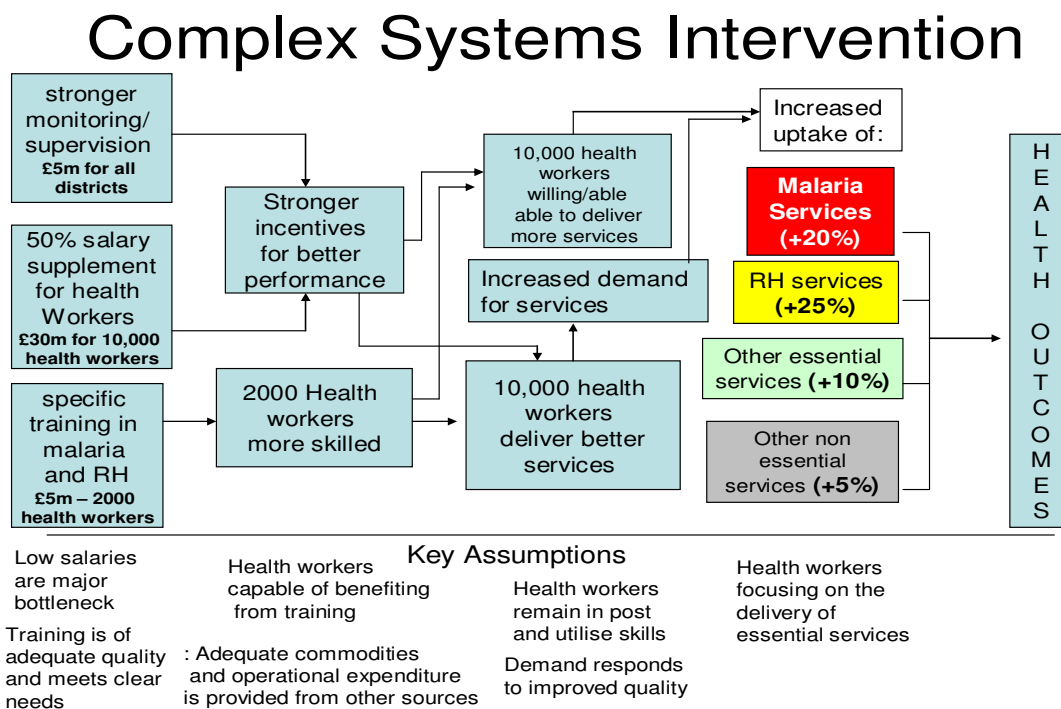
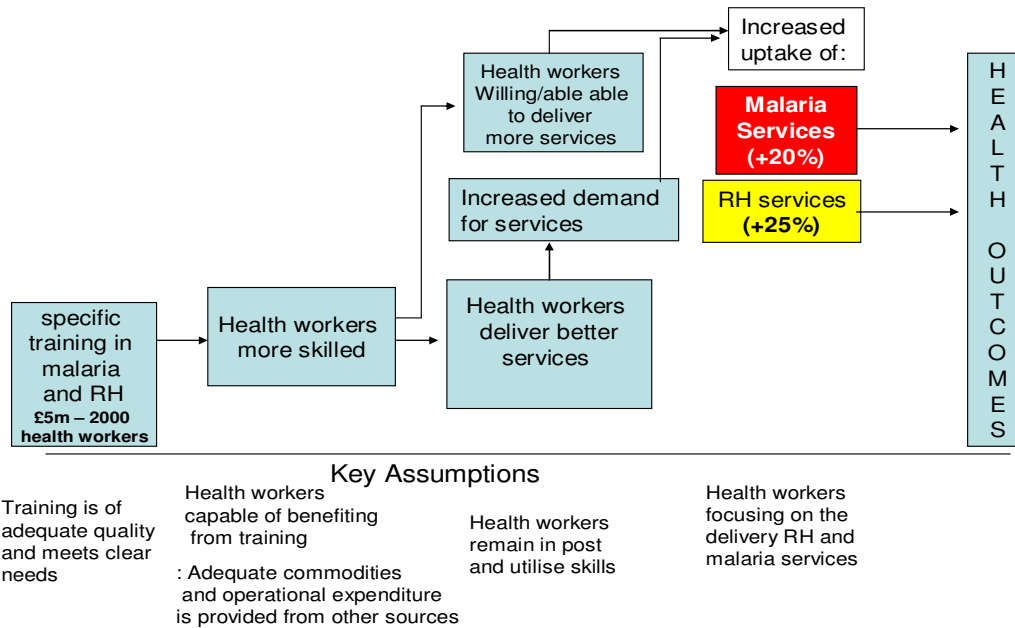


Figure 2 shows the results chain of a simpler, more disease-specific programme aimed at RH and malaria.

Figure 2

Simple Intervention



Step 4: Identifying the costs

Having defined areas proposed for support, the next step is to identify how to cost proposed activities/interventions that DFID might support. Possible sources of cost data are:

- The targets, costing and financing projections in the existing plans. Analyse how the plan is costed, in particular whether it includes the basic system costs, additional system costs to get the system working or just the additional costs for the malaria/RMNH activities. In particular, does it include the costs of increasing staff productivity, e.g. additional staff or hardship allowances in rural areas? See annex 2 for a possible costing structure.
- There may be a clear link between the costing and targets, for example where a marginal budgeting for bottlenecks (MBB) costing has been carried out (see annex 2). However there may be limited linkage and huge funding gaps.
- If there is not data available locally, options could be
 - to draw on the WHO costing in 2009 (see annex 2)
 - To use other proposals e.g. to Global Fund.
 - To use the malaria and RH specific costing tools (see annex 2).

The costing approach should in general, use **full costs** (disease specific + system strengthening costs) rather than partial (disease specific) costs, except where specifically justified.

The next question is how far it is reasonable to attribute the results (outputs and outcomes) to the DFID funded inputs, or whether other interventions are contributing. There may be rare circumstances where DFID can achieve results by contributing only disease specific contributions, such as fully funding a bed net distribution campaign or a group of NGOs to provide family planning services and advocacy. In that case, it will be sufficient to look only at the DFID programme costs and set these against the programme results.

In most cases other contributions are playing a role in achieving the outcomes. In such cases, the costing would need to **include the cost of the other inputs that help achieve the results** (whether funded by Government, individuals or other donors). It would be

reasonable for DFID to claim results in proportion to their financial contribution, e.g. where DFID is joint funding a sector or sub sector programme.

Ideally the costing would include only be the **incremental costs** of achieving the **improvement/increase in results** (incremental benefits), in line with normal DFID guidance for economic appraisals. As such country MBB analyses may be helpful, as they estimate incremental costs and link them to results. However it may be difficult to identify incremental results; e.g., if the plan is to continue sector budget support, and it is not known what would happen to results without that support. In that case total costs and total benefits could be used e.g. if DFID is funding 5% of the health sector budget for primary care, then it could claim 5% of the outcomes. As discussed in the annex, this gives a different measure of value for money.

Step 5: Assess value for money and the evidence that the interventions and results proposed are credible and measurable

The proposal needs to present evidence on **value for money** of the proposed approaches. Country specific cost effectiveness studies would be ideal but are extremely rare. As discussed above, the WHO Choice data are an extremely useful alternative giving an assessment by region of what are the most cost effective intervention packages to support. (See the associated guidance paper on use of DALYs – also on health BAR teamsite). Check that the proposed support (combined with activities funded by others) is consistent with the recommendations so that the approach can be justified as cost effective. DFID may not necessarily be supporting the most cost effective interventions directly – if this is the case it would be helpful to set out the extent to which such interventions are being covered by other donors.

Further notes on value for money are included in the paper summarising lessons from the health and education portfolio reviews. At least there should be some scope for looking at economy in resource use, e.g. the prices paid for commodities compared to international reference prices; the cost per additional attended delivery; total cost per bed net delivered. The WHO costing tools can also provide useful data on unit costs.

Check for **credibility of the results targets**. Compare with past progress at country level, for example compare how contraceptive prevalence or use of modern malaria medicines (ACTs) changed over the past 3-5 years with the projected results in the plan¹.

Are there adequate plans in place for **measuring results**? These may be within a sub-sector plan (e.g. regular malaria indicator surveys) or in a sector M&E plan. Consider allocating at least 5% extra resources for M&E, which would ideally be used to contribute to a joint M&E plan. Techniques such as sentinel sites and facility surveys have been developed that can be used to get regular data on results (rather than waiting five years for a demographic and health survey). There are useful tools and expertise available e.g. from Health Metrics Network or the CHeSS initiative under IHP+. Maternal mortality is very difficult to measure and should be used as an indicator with great caution.

¹ Experience shows that it takes time to scale up, whilst the pace of coverage increases vary widely between countries. For example, in 5 years Ethiopia doubled family planning acceptance and doubled skilled birth attendance (SBA) from 12 to 25%. Uganda more than doubled family planning use (CYP) but did not achieve a sustained increase in SBA over the same period. Household surveys found that ACT coverage increased from 4% in 2006 to 21% in 2008 in Ghana and from 2% in 2005 to 22% in 2008 in Tanzania, however in Zambia rates have increased more slowly, (from 10% in 2006 to 13% in 2008).

Annex 1: Rationale for Intervention in Health Markets

There are various steps Governments can take to address the key rationales for interventions in health - market failure and inequity. These are summarised in the following table which sets out

- the rationale for Government intervention in the sector;
- the consequences of it not doing so; and
- possible measures it might take to correct the problem.

Rationale for Government Intervention	Underlying cause of problem	Effects of not intervening	Possible Interventions to Mitigate Impact
Market Failure	Externalities (public and private benefits diverge)	Under-provision or no provision of services (Also overprovision in some cases)	<ul style="list-style-type: none"> • Public financing/taxes or subsidies e.g. public provision of immunisation/taxes on alcohol • Regulation e.g. controls on tobacco advertisement/seat belt legislation
	Adverse selection (asymmetric information)	Little sharing of risk between individuals, no insurance market or gaps in coverage	<ul style="list-style-type: none"> • Risk equalisation ensuring transfers are made from insurance schemes with low risk members to those with high risk members. This removes the incentive for insurers to only cover the healthy • Marketing to encourage uptake to increase willingness to pay and widen the risk pool. • Compulsory coverage not allowing people (i.e. the young and healthy) to opt out • Community rating preventing insurance companies from charging high risk patients more • Lifetime enrolment not allowing insurance companies to exclude high risk (often older) members or charge them high premiums once they get old
	Monopoly (caused by economies of scale, presence of sunk costs)	Unnecessarily high prices for patients, Excess profit for providers, poor quality of service, lower than ideal utilisation (except where markets are contestable)	<ul style="list-style-type: none"> • Anti monopoly regulation to prevent monopolies emerging; measures to increase contestability to prevent monopolies, where they exist, operating against the public interest
	Moral hazard (asymmetric information)	Overuse of services	<ul style="list-style-type: none"> • Price based interventions : co-payments to reduce the incentive of those insured to make claims by increasing the price (User fees can play the same role where services are provided free in a tax based system) • Non price based interventions: gate-keeping (e.g. making it more difficult for patients to access expensive secondary care by requiring them to seek referrals from primary providers; waiting lists to increase the cost of accessing services; treatment protocols requiring providers to deliver a set service for a set condition making it difficult to provide unnecessary services
Equity	Inability to pay (risk selection)	Reduced (insurance) coverage for disabled, sick, poor and elderly	<ul style="list-style-type: none"> • Public financing of services making them free or highly subsidised at the point of delivery), • subsidy of insurance premiums • demand side financing (providing funds directly to users e.g. through vouchers or cash transfers)

Source: Mark Pearson, Health Chapter of the DFID Economists Guide.

Annex 2: Costing and possible sources of cost data

What should be included in a cost estimate?

When estimating the share of costs that DFID would be providing and hence the share of results that DFID can claim, it is suggested that the incremental (or marginal) costs of service delivery should be included. This should include system costs as well as disease specific costs of achieving the incremental benefits or results. The costing is likely to include:

A. Direct and disease specific recurrent costs

- Commodities and supplies required e.g. FP supplies, malaria bed nets, malaria drugs, diagnostic tests, chemicals for spraying
- Logistics e.g. distribution of supplies, warehousing
- In service training and resources such as treatment guidelines
- Contracting or subsidising services by non-state actors such as NGOs
- Mechanisms to stimulate demand e.g. incentive payments or education campaigns

B. Recurrent systems costs including support services e.g.

- Strategies to improve staff motivation and attendance e.g. additional incentives for working in rural areas; bonus payments to reward performance
- Expanding Blood transfusion services (particularly for emergency obstetrics)
- Other running costs due to expanded service delivery e.g. for hospitals, laboratory services and hotel costs; for primary care, fuel and allowances for enhanced supervision
- Strengthening national and district level planning and management
- Strengthening monitoring e.g. facility surveys and management information systems

C. Capital costs e.g. health facilities, equipment, vehicles, basic training.

Whether to use marginal /incremental costs versus average costs and benefits

Comparing marginal costs and benefits is preferable because it shows whether the level of inputs gives the best return. If average benefits are greater than average costs then this would justify that the intervention is value for money. For example, if a salary supplement of \$40 is expected to lead to a doubling in service coverage, this would provide good value for money. Marginal analysis would help to show the relative gains from a salary supplement of \$30 or \$50 and choose between these.

Global Costing Approaches

Working Group 1 of the Taskforce on Innovative Financing for Health Systems was given the responsibility for identifying and costing a package of guaranteed benefits and the health systems platform necessary to underpin it. Two approaches were taken to costing – a *marginal budgeting for bottlenecks* approach led by the World Bank which focused on addressing specific systems bottlenecks and a *normative approach* led by WHO focusing on scaling up facility based services. The different methods recommended different approaches to providing a broadly similar package: the normative approach emphasises more mid level facilities and nurses and midwives; MBB emphasises health posts and community based workers. Both included increased remuneration for health workers and payments to pregnant women to encourage uptake of safe delivery services. In practice, there may not be a choice on which to use as it depends what has been done for that country.

Marginal Budgeting for Bottlenecks (MBB)

“The World Bank and UNICEF built on the MBB costing methodology, with collaboration from UNFPA and the Partnership on Maternal Newborn and Child Health (PMNCH). The methodology identifies the critical constraints of existing health systems (bottlenecks) for scaling up effective interventions, and then identifies the strategies to overcome them. It finally estimates the consequent health outcomes and costs related to health system

strengthening and increase in coverage”². It has been applied in 39 countries, including: Angola, Benin, Burundi, Burkina Faso, Cameroon, Ethiopia, Ghana, India, Lesotho, Liberia, Madagascar, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Sierra Leone, Swaziland, Uganda, Zambia.

The MBB analysis for the global cost estimates had three scenarios:

- Maximum scenario: reaching the health related MDGs and beyond;
- Medium scenario: reaching the health MDGs (4, 5, and 6) and contributing substantially to MDGs 1 and 7;
- Minimum scenario: focusing on the highest impact and lowest cost interventions and strategies to accelerate progress towards MDGs 4 and 5.

In addition some countries have used the MBB tool for specific strategies e.g. the child survival strategy in Uganda; the new health sector strategy in Ethiopia.

WHO Normative Analysis

“WHO and partners utilized a normative approach, with collaboration from UNFPA and UNAIDS. The normative approach considers the amount of resources required to scale up country health systems to a level that is considered “best practice” by experts and practitioners. This approach is based on reaching universal coverage and utilizing proven interventions to reach the health MDGs between now and 2015. This approach is consistent with international commitments and builds on previously published global costing on the health MDGs”³.

The WHO analysis is based on a series of key assumptions including:

- constant unit costs. As services are extended to harder to reach populations unit costs might rise. On the other hand, this might be offset by greater economies of scale and, hopefully, increased aid effectiveness
- funds are allocated to items within the identified package.
- funds can be absorbed and utilised without causing inflationary pressures
- heavy up front capital investment takes place
- 50% of private expenditure goes towards funding the benefit package
- services are of sufficient quality to achieve the desired coverage rates

Figures are available on a country specific basis. WHO has indicated that they are willing to make these available upon requests from the Ministry of Health.

Other costing tools

Although possibly not of immediate use there are recent efforts led by IHP to develop common costing approaches. A system wide costing approach is under development and tools are already available for malaria and reproductive health, see [Costing tools](#). These might be of use in development of future plans at the sub sector level.

The Malaria costing tool – see [Malaria tool](#) is a spreadsheet based tool that has been used to estimate various elements of malaria services and can include the costs of staff involved in delivering the services and malaria programme management. It does not include other health system costs. The Reproductive Health costing tool is available from UNFPA but they recommend a 3-5 day training course to use it effectively.

² Source: Working Group 1 report, 2009. Constraints to Scaling Up and Costs. [WG1 Report](#)

³ Ibid.