Performance-Based Financing

Report on Feasibility and Implementation Options

FINAL

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Executive Summary

This study examines the feasibility of introducing a performance-related bonus scheme in the health sector. After describing the Tanzania health context, we define "Performance-Based Financing", examine its rationale and review the evidence on its effectiveness. The following sections systematically assess the potential for applying the scheme in Tanzania. On the basis of risks and concerns identified, detailed design options and recommendations are set out. The report concludes with a (preliminary) indication of the costs of such a scheme and recommends a way forward for implementation.

We prefer the name "Payment for Performance" or "P4P". This is because what is envisaged is a bonus payment that is earned by meeting performance targets[1]. The dominant financing for health care delivery would remain grant-based as at present.

There is a strong case for introducing P4P. Its main purpose will be to motivate front-line health workers to improve service delivery performance. In recent years, funding for council health services has increased dramatically, without a commensurate increase in health service output. The need to tighten focus on results is widely acknowledged. So too is the need to hold health providers more accountable for performance at all levels, form the local to the national.

P4P is expected to encourage CHMTs and health facilities to "manage by results"; to identify and address local constraints, and to find innovative ways to raise productivity and reach under-served groups. As well as leveraging more effective use of all resources, P4P will provide a powerful incentive at all levels to make sure that HMIS information is complete, accurate and timely. It is expected to enhance accountability between health facilities and their managers / governing committees as well as between the Council Health Department and the Local Government Authority. Better performance-monitoring will enable the national level to track aggregate progress against goals and will assist in identifying under-performers requiring remedial action.

We recommend a P4P scheme that provides a monetary team bonus, dependent on a whole facility reaching facility-specific service delivery targets. The bonus would be paid quarterly and shared equally among health staff. It should target all government health facilities at the council level, and should also reward the CHMT for "whole council" performance. All participating facilities/councils are therefore rewarded for improvement rather than absolute levels of performance. Performance indicators should not number more than 10, should represent a "balanced score card" of basic health service delivery, should present no risk of "perverse incentive" and should be readily measurable. The same set of indicators should be used by all.

[1] "Performance-based financing", on the other hand, can be used to describe a wide variety of different systems that relate health care financing to the outputs produced, including service delivery contracts, fee for payment, fee per case etc. In Tanzania's case, tax-based financing, provided to councils in the form of grants, will continue to be the dominant health financing mode. P4P will simply provide the possibility of earning a bonus if service delivery performance targets are exceeded.

CHMTs would assist facilities in setting targets and monitoring performance. RHMTs would play a similar role with respect to CHMTs. The Council Health Administration would provide a "check and balance" to avoid target manipulation and verify bonus payments due.

The major constraint on feasibility is the poor state of health information. Our study confirmed the findings of previous ones, observing substantial omission and error in reports from facilities to CHMTs. We endorse the conclusion of previous reviewers that the main problem lies not with HMIS design, but with its *functioning*. We advocate a particular focus on empowering and enabling the use of information for management by facilities and CHMTs. We anticipate that P4P, combined with a major effort in HMIS capacity building – at the facility and council level – will deliver dramatic improvements in data quality and completeness. We recommend that the first wave of participating councils are selected on the basis that they can first demonstrate robust and accurate data.

We anticipate that P4P for facilities will not deliver the desired benefits unless they have a greater degree of control to solve their own problems. We therefore propose - as a prior and essential condition – the introduction of petty cash imprests for all health facilities. We believe that such a measure would bring major benefits even to facilities that have not yet started P4P. It should also empower Health Facility Committees to play a more meaningful role in health service governance at the local level.

We recommend to Government that P4P bonuses, as described here, are implemented across Mainland Tanzania on a phased basis. The main constraint on the pace of roll-out is the time required to bring information systems up to standard. Councils that are not yet ready to institute P4P should get an equivalent amount of money – to be used as general revenue to finance their comprehensive council health plans.

We also recommend that up-to-date reporting on performance against service delivery indicators is made a mandatory requirement for all councils and is also agreed as a standard requirement for the Joint Annual Health Sector Review.

P4P can also be applied on the "demand-side" – for example to encourage women to present in case of obstetric emergencies. There is a strong empirical evidence base from other countries to demonstrate that such incentives can work. We recommend a separate policy decision on whether or not to introduce demand-side incentives. In our view, they are sufficiently promising to be tried out on an experimental basis.

When taken to national scale (all councils, excepting higher level hospitals), the scheme would require annual budgetary provision of about 6 billion shillings for bonus payments. This is equivalent to 1% of the national health budget, or about 3% of budgetary resources for health at the council level. We anticipate that design and implementation costs would amount to about 5 billion shillings over 5 years – the majority of this being devoted to HMIS strengthening at the facility level across the whole country.

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As team leader, I would like to extend special thanks to the team for their enthusiasm and effort. Without this, it would not have been possible to undertake such a complex assignment in such a short time frame.

Notwithstanding the close co-operation of Norad / Norwegian Embassy and the Ministry of Health and Social Welfare, the views expressed in this report are those of the authors and do not represent the policy or official position of the Government of Tanzania or Norway.

Although we have made every effort to check our facts and eliminate oversight, we are only human. Any errors of commission or omission remain the responsibility of the authors.

Acronyms

ACT	Artemisinin Combination Therapy
ANC	Ante-Natal Care
ARV	Anti-Retroviral
CBD	Community-Based Distributor
CCHP	Comprehensive Council Health Plan
CHMT	Council Health Management Team
D-by-D	Decentralisation by Devolution
DED	District Executive Director
EMOC	Emergency Obstetric Care
EPI	Expanded Programme on Immunisation
FANC	Focused Antenatal Care
FP	Family Planning
GFS	Government Financial System
HF	Health Facility
HMIS	Health Management Information System
HSSP II	Health Sector Strategic Plan (2)
ITN	Insecticide-Treated Net
LGCDG	Local Government Capital Development Grant
LGMD	Local Government Monitoring Database
MCH	Maternal and Child Health
MDG	Millennium Development Goal
MMAM	Primary Health Services Development Programme, 2007-2017
MNCH	Maternal, Neonatal and Child Health
MOF	Ministry of Finance
MOHSW	Ministry of Health and Social Welfare
NGO	Non-Governmental Organisation
NHIF	National Health Insurance Fund
NTPI	Norway-Tanzania Partnership Initiative
OPD	Outpatient Department
P4P	Payment for Performance
PMO-RALG	Prime Minister's Office – Regional Administration and Local Government
PNC	Post-Natal Care
PO-PSM	President's Office – Public Service Management
SASE	Selected Accelerated Salary Enhancement
TB	Tuberculosis
VHW	Village Health Worker
WDC	Ward Development Committee
WFA	Weight-for-Age

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1. Introduction

This report examines the potential for the introduction of "performance-based financing" (or "pay-for-performance") in the Tanzania context as a key element of Norway's support to Tanzania under the NTPI.

Performance-based financing is gaining growing attention as a means of achieving greater results-focus, encouraging local initiative to solve problems, finding new ways of reaching under-served populations, raising productivity and improving quality. The proposition is that financial rewards can be used to encourage and reward such behaviours. Various forms of pay for performance have been implemented in a wide variety of contexts, including developing countries with relatively weak health systems. Although formal evaluations are scarce, early experience has been encouraging. The concept has already been taken to national scale in Rwanda.

This report begins by setting out the policy context in Tanzania, the aims of the NTPI, and the rationale for "Pay for Performance" (P4P). Chapter 2 looks briefly at experience and evidence on this concept in other settings. Chapter 3 examines whether such a scheme is applicable in the Tanzania context. With reference to the various concerns raised by key informants, Chapter 4 works through the detailed design considerations and provides options and recommendations on how it should be operationalised. Chapter 5 looks in greater depth at potential indicators, the current capacity to measure these, and proposals to assure data quality. Chapter 6 sets out broad implementation options, including monitoring and evaluation. Chapter 7 provides a preliminary indication of the cost of implementation in Tanzania. The final chapter summarises conclusions and recommendations for the way forward.

Policy Context

Tanzania is committed to meeting the Millennium Development Goals. This includes Goal 4[2] (reduce child mortality) and Goal 5[3] (improve maternal health). Tanzania's long-term development goals are also enshrined in Tanzania Development Vision 2025. Over the medium term (-2010), more specific goals are set out in the National Strategy for Growth and Reduction of Poverty or "*Mkukuta*". Health-sector specific goals are described in the Health Sector Strategic Plan, which is due to be reviewed and revised for the period from 2008/09, drawing upon the lessons learned from Health Sector Evaluation. A new National Health Policy has just been approved by Cabinet, as has a new strategy for strengthening primary health care[4]. With regard to MDGs 4 and 5, Tanzania has drawn up a "Roadmap for Maternal, Newborn and Child Health".

[2] Reduce by two-thirds the mortality rate of children under five by 2015
[3] Reduce by three-quarters the maternal mortality ratio by 2015
[4] *Mpango wa Maendeleo ya Afya ya Msingi* (MMAM) or Primary Health Services Development Programme, 2007-2017

Table: Specific Goals Relating to MDGs 4 and 5[5]

Goal / Target	Baseline	Latest Estimate	Mkukuta Target 2010	MDG Target 2015
Maternal Mortality Ratio	529 (1996)	578 (2004/5)	265	132
Under-Five Mortality	145 (1991)	112 (2004/5)	79	48

As the table illustrates, dramatic progress has recently been made with regard to child mortality rates. In fact, annual disaggregation of the latest data reveals that under-five mortality in 2004 had already reached 83 – close to the *Mkukuta* target levels. The MDG target is within reach if the pace of recent progress can be sustained. While the recent data on under-five mortality is encouraging, it is striking that most of the improvement has occurred in "post-neonatal mortality". The latest data suggest modest (but not statistically significant) improvement in Neonatal Mortality. This now accounts for nearly half of all infant deaths, and almost a third of under-five deaths.

Neonatal mortality is intrinsically linked with maternal health. It is therefore not surprising to find that Maternal Mortality also shows no improvement since the previous estimate 10 years earlier – or may even be worse. There has also been little improvement in the proportion of births attended by skilled health personnel or the proportion of deliveries being carried out in health facilities and the situation in rural areas is markedly worse. Recent surveys[6] have highlighted the fact that the capacity to provide basic services to save mother's lives (Emergency Obstetric Care) is largely absent in health facilities below the hospital level. Intensive effort will be needed to make improvements in maternal health – and this in turn holds the key to making progress on averting neonatal deaths and sustaining progress on MDG4.

NTPI

Norway and other partners at the international level have been developing a global business plan to accelerate progress on MDGs 4 and 5. This will translate into specific support for a number of countries, including the "Norway Tanzania Partnership Initiative" (NTPI) in Tanzania. Talks between Norway and Tanzania began between the Minister of Health and the Norwegian Prime Minister's Office in December 2006. Talks culminated in the signing of a Joint Statement between the Governments of Tanzania and Norway, signed by the respective Heads of State during President Kikwete's visit to Norway in February 2007. Subsequently, extensive dialogue with government and other development partners – including a workshop in April - has formed the basis for a draft Programme Document that sets out in more detail how Norway's assistance will be manifest.

Key design considerations included:

- Accelerating progress towards MDG4 and 5 in Tanzania
- Working with and through government systems and structures

[5] Latest estimates are official figures from the Tanzania Demographic and Health Survey 2004-05
[6] Situation Analysis of EMOC for Safe Motherhood in Public Health Facilities in Tanzania Mainland (2006); Tanzania Service Provision Assessment Survey 2006 – Preliminary Report (2006).

- Using joint financing mechanisms
- Channelling resources towards front-line essential services
- Increase emphasis on accountability for enhanced performance
- Explore the potential application of "performance-based financing" in the Tanzania context

Specifically, the programme is expected to include:

- Additional funding to improve districts health services channeled through the pooled basket fund.
- Facilitate introduction and scaling up of result/output-based financing schemes for district level health services including MNCH interventions.
- Improve the quality of and use of the health information systems.
- Contribute to scaling up of community based strategies to promote healthy behavior during pregnancy, childbirth and in the postpartum period.

Approximately 80% of the total assistance is expected to be channelled through the district health basket, amounting to an additional amount of approximately $5m equivalent per year. This would raise the mean basket fund for councils from around $0.75 to $0.90 per capita per year. The remaining 20% is expected to cover complementary components including Monitoring and Evaluation, specific support to strengthen the Health Management Information System, and support for innovative approaches through Non-Governmental providers.

2. Pay-for-Performance

Definition

The term "Pay-for-Performance" of "P4P" is used to describe "Transfer of money or material goods conditional on taking a measurable action or achieving a predetermined performance target."[7] This very broad definition can actually cover a multitude of mechanisms with quite different characteristics.

There are two broad categories of P4P systems. One is a **supply-side** P4P that provides incentives to health providers to increase performance. The second is a **demand-side** incentive that encourages desired behaviours on the part of the health consumer. Although the terminology might seem new, the basic rationale is quite simple and examples already exist in Tanzania.

Examples

On the supply side, examples include:

- Moving from grant-based funding to variable funding, depending on outputs. This is the intention of the "service agreement" arrangement with non-government health providers, where hospitals would be paid according to their output, instead of according to a "bed grant"
- Paying providers according to the cases they have treated, with a standard reimbursement for clinical categories. This is the system operated by the NHIF to reimburse health providers for services rendered to NHIF members.
- Providing a material reward (computers, printers, fax) to the best-performing councils according to immunisation coverage, as has been done by the EPI programme.

Some sort of linkage between the amount of funding provided and the amount of services delivered is actually the rule rather than the exception. All insurance-based health care systems operate in this way, as do some tax-financed systems (eg the purchaser-provider split in UK). In the private sector, "merit pay" or "performance-related pay" has also been a feature for a very long time. Outside of developing countries, it is quite unusual for a health provider to be paid the same amount, regardless of the amount of output produced.

On the demand side, examples include:

- Providing cooking oil to mothers who brought their children to MCH clinics (as was done in the 1970s)
- Providing an ITN voucher to women who attend ANC services

Other examples on the demand-side include providing material incentive to TB patients to complete their course of therapy, or nutritional support to HIV patients to encourage treatment compliance (and make it easier to take the medicines).

[7] Eichler, R (2006)

There is a growing interest in exploring the potential for P4P in health care in developing countries. At the international level, this is represented by "results-based aid", of which GAVI's funding for immunisation is one example. Countries are also exploring the possibility of using material incentives to inspire and enable health providers to achieve higher levels of productivity.

Evidence

One country in the region (Rwanda) has already taken this to national scale, having started with pilot schemes in 3 provinces about 5 years ago. Rwanda's "approche contractuelle" is credited with a dramatic increase in health system productivity. First-hand observation[8] of the scheme is even more convincing than the data. Health workers at the health facility level described how they had used their own initiative (and the extra money) to:

- Alter opening hours to make it more convenient for clients to attend
- Reduce or waive fees
- Reward TBAs with token cash payments for referring women to deliver at the health facility
- Discover – through consultations with their clientele – what needed to be done to services to make them more attractive

"P4P" has been tried in many different settings, including post-conflict countries (Cambodia, DRC) – showing that it can be applied in less advanced health systems. In spite of the positive results that have been reported in different country examples, there is very little formal, empirical evidence. This is particularly true of "supply-side" incentives. Evidence of the effectiveness of demand-side incentives is much stronger – with a number of controlled experiments demonstrating improvements – for example – in TB treatment completion. An annotated bibliography describing some of the studies and results from different country settings can be found at Annex 4.

To the extent that some common lessons emerge from these studies, they show that:

- The incentive must be applied to actors who are in a position to make a difference
- Incentives must be designed carefully to avoid undesirable results
- Incentives must be perceived to be transparent and "fair", otherwise friction, jealousy or a sense of injustice will outweigh the benefits
- Performance measurement must be seen to be objective, transparent and timely
- A properly designed supply-side incentive ***does*** have the effect of focusing providers on achieving results
- Where constraints lie on the demand-side, provider incentives may make little difference. What is needed here is demand-side incentives

[8] The lead author of this study, the Director of Policy and Planning (MOHSW) and the Head of Health at CSSC made a short study tour to Rwanda earlier this year.

3. Applicability in Tanzania

Precedents

The idea of providing material reward for excellent performance in the Tanzania health sector is not a new one. The EPI programme as a whole receives performance-linked financing from GAVI, and was rewarded with an additional $3m for improvements in immunisation coverage since 2002. Sub-nationally, the best performing councils were rewarded in-kind with computers, printers and fax machines, while additional resources were also devoted to bringing up the poorest performers. Similarly, the idea of trophies or certificates of commendation has been used in the past. The national "Guidelines for Reforming Hospitals at Regional and District Levels" also include the concept of rewards for the best performing facilities.

Conditionalities linked to the Local Government Capital Development Grant could also be construed as "performance-related funding" since councils need to meet certain minimum criteria (mainly linked to financial management) to qualify for the grant. In the case of the Health Basket Fund, councils must have approved Comprehensive Council Health Plans and must also submit quarterly financial and technical reports to trigger the biannual release of funds. This is widely regarded as having had a dramatic impact in improving compliance to financial management standards, with the number of qualifying councils growing rapidly since its introduction.

At the individual level, the Selected Accelerated Salary Enhancement scheme (SASE) provided a salary top-up for civil servants in several sectors. The top-up was explicitly linked to individual performance agreements which set out an individual's work plan and objectives. In practice, however, the SASE experience has not been a happy one. The top-up was routinely paid, regardless of individual performance – undermining the credibility of the pay-performance linkage. Moreover, the fact that only some staff benefited from the scheme created division and dispute. Both shortcomings have important lessons for the design of future initiatives. The scheme is due to come to an end this financial year.

There are also examples of incentives on the demand-side. In the 1970s, nutritional supplements (cooking oil etc.) were provided to mothers who brought their children for under-five clinics. More recently, the provision of ITN vouchers under the *Hati Punguzo* scheme provides an incentive for pregnant women to attend ANC and for infants to attend measles vaccination. In both cases, these initiatives combine an attractive incentive with something that conveys direct health benefits. The provision of food packages to patients on ARV works in a similar way – encouraging treatment compliance while also providing vital nutritional support.

Recent years have witnessed growing interest in Tanzania and elsewhere for welfare payments to the most destitute. Such "social protection" schemes are designed primarily to support income for the most vulnerable. However, they may also be linked to school attendance and preventive health measures as a "conditional cash transfer", as in Mexico.

Acceptability

The disappointing experience with SASE has made government nervous about individual cash incentives for performance. Respondents pointed out that the various failings of SASE (ability to maintain credible linkage with performance; inclusion and "fairness") would need to be addressed if such as scheme is to be instituted. We understand that "group" or "team" incentives are seen in a more favourable light, and that incentives in-kind are less controversial from a pay-policy standpoint than cash payments. Nonetheless, there is some concern that it would still be seen as unfair if a scheme like this was operated for one sector (health) and not others. If such a scheme is to be instituted, it is clear that it would require the active support President's Office - Public Service Management.

Desirability

As we have seen from the precedents already described, the notion of providing recognition and material reward for excellence is already well-accepted in the health sector. Central MOHSW staff generally favoured in-kind rewards rather than cash rewards, particularly if these are "reinvested" in service delivery. The difficulty with this logic is that "winners" get extra support for service delivery, while "losers" don't. Conversely, if "losers" obtain special remedial support, the scheme might perversely encourage poor performance.[9]

The literature is clear that the incentive needs to convey direct benefit to individuals (rather than the health insitution) if it is to have any motivational effect. This was confirmed in interviews with CHMTs and front-line health workers. They were unanimous that the incentive must ultimately go to health workers to have the desired impact, and that cash benefits are preferable to "in-kind".

At the same time, all respondents (central government and local government) were of the view that health service delivery requires a team effort, and should be rewarded as such. All health staff – including the cleaner – contribute in one way or another to improving service delivery. Accordingly, it was recommended that performance should be measured and rewarded for the whole facility, while the incentive would then be distributed to the staff working there[10]. This is a similar model to the one operational in Rwanda. Such a team-based reward should help to avoid disputes over "unfairness" and "inclusiveness" as long as the rules for the distribution to individual staff are also viewed as clear and fair.

A number of other concerns were raised in interviews. Foremost among these was the notion that direct competition between facilities and councils for incentives would be

[9] This "perverse" incentive was recognized in EPI, where under-performing districts received extra training. Some programme staff are concerned that the associated per diems may actually encourage councils to under-perform(!).

[10] Respondents in the councils also recommended including community-based outreach workers (VHWs and CBDs) since their efforts are vital to reaching people in the community and encouraging uptake of essential services. This is all the more important considering that these staff currently receive no remuneration.

unfair because some places would find it much easier than others to attain the targets. The main reason for this is wide variation in availability of skilled staff. There are also variations in condition of health infrastructure, equipment and supplies, as well as contextual factors (communications, roads, population density, levels of education etc). These considerations point towards designing an incentive system that rewards improvement rather than setting a single "hurdle rate" that every facility must attain.

Related to this is the assumption by respondents that P4P would mean that some councils would get paid more than others – and that this would be in conflict with the formula basis for local government grants that has been instituted in recent years. We do not think that this should necessarily be the case if the scheme is implemented on a decentralised basis. Under this scenario, councils operate the scheme by setting aside x% of their basket fund grant for the purpose of performance incentives. In case the targets are not met, any unspent amount would be retained and "rolled over" into the following planning year, providing additional funds for addressing service delivery constraints and making it more likely that the targets were attainable in the following year.

Similarly, there was common feeling that supply-side constraints (staff, skills, infrastructure, equipment, supplies) need to be addressed before a performance bonus scheme could work. Yet this is precisely one of the objectives of P4P. By focusing collective attention on results, front line health workers and their managers are forced to consider what needs to be done in order to achieve the targets - it is not simply a case of "working harder". Moreover, the amount of money to be allocated to P4P will be a very small proportion of the overall budget (roughly 1% of total public expenditure on health, or about 3% of health spending at the local government level). Thus very sizeable resources (the other 97%-99%) are available for solving supply-side problems. The expectation is that P4P will catalyse most effective use of other budgetary resources by encouraging staff and managers to identify and address the most binding constraints in their own specific circumstances.

Another concern voiced by most respondents was sustainability. If this scheme is funded with Norwegian money, will it simply cease at the end of the programme? And if it ceases, might we not be worse off than before by raising and then dashing expectations? This is a valid concern. However, if the scheme is funded from basket resources (rather than earmarked funds from Norway), it could be sustained using that resource. If experience shows that P4P provides a cost-effective means of raising productivity, there is no reason why it could not be funded out of budgetary resources in the future, as long as the scheme is not prohibitively expensive.

Related to the concern above, there is a theoretical risk that P4P could undermine health workers sense of duty and work ethic. We recognise that the intrinsic motivation and work ethic of health workers is hugely valuable and is the primary motivator[11]. Might P4P supplant this, fostering a culture that staff would do even less work than before if the scheme ceased? On balance, we do not consider this to be a major risk. We do think that

[11] We came across numerous examples of health workers reporting that they work overtime, nights, weekends and even use their own money to deliver services.

performance might drop back down if the scheme ceased, but we do not think that an incentive at the margin would actually undermine a widely-held sense of duty to patients – rather it should reinforce this by encouraging providers to attract patients by being more responsive to client perceptions.

Conversely, there is a risk that the "incentive" might come to be seen as just another aspect of the workers' entitlement. This was the issue with SASE and is a common feature of individual "merit-based pay" schemes in public and private sectors. It often occurs where managers are asked to make a subjective judgement on the performance of their staff and who authorise the bonus to avoid conflict. If performance bonuses are "routinely" paid, it is quite clear that any credible linkage with performance will indeed be lost, and the net result is simply an inflation of the wage bill. These considerations highlight the importance of making the performance requirements sufficiently challenging[12], making the measurement of performance as objective as possible, having a non-discretionary linkage between performance and pay, and communicating clearly the purpose, rationale and rules of the scheme.

There is also a risk (generally not raised by people interviewed) that P4P could actually have "perverse" (unintended and damaging) consequences. For example, it could be that workers will focus only on those services that are being measured and rewarded, neglecting other essential elements of their duties. This highlights the importance of selecting measures of service performance that encourage delivery of a comprehensive package of essential services. Another example might be rewards that potentially encourage inefficient or unnecessary clinical intervention – the most infamous case being the link between provider-payment and unusually high caesarean section rates in Brazil. In Mexico nutrition assistance for underweight children actually worsened malnutrition – possibly because only malnourished children qualified and mothers wanted to sustain their entitlement.

Another consideration (again, not generally raised by respondents) is the degree of freedom that health facilities have to make a real difference to performance. Certain actions and innovations (like providing 24-hour cover; opening at weekends) are clearly feasible at the local level. However, what is a facility team to do about things beyond their immediate control (number of staff, availability of equipment, authority and resources to undertake maintenance, availability of petty cash to pay for service enhancements)? If facilities are largely lacking any freedom, authority or resources to solve local problems, how can we expect incentives to make any difference? It is striking that in Rwanda (where incentives are associated with imaginative innovations and dramatic performance improvement), health centres hold a bank account, retain user fee/insurance revenues, and are able to hire contract staff. In Uganda, a trial compared facilities that were offered performance bonuses with those that were simply given greater freedom over how they used government grants. Even the latter achieved significant improvements, pointing towards the importance of combining the *will* to

[12] In other words, performance targets should be sufficiently ambitious that a typical health facility cannot meet all of its targets, all of the time.

improve with the *freedom* to do so. Without greater control over resources, it seems unlikely that performance bonuses at the facility level would work.

Finally, while P4P could be a powerful tool in enhancing performance, it could also subvert accountabilities. If, for example, performance bonuses were paid to facilities directly by MOHSW, it would undermine the accountability of the facility to the CHMT and to local government. The systems will need to be designed in such a way that they reinforce – rather than undermine – accountability to local government. Conversely, the system could be designed in such a way as to reinforce the accountability of health service providers to local government, including village governments, facility committees, the WDC, the council health management team, the council administration, and Council Assemblies.

Feasibility

The feasibility of a performance-based bonus system rests on the ability to report credible and timely performance data. This is probably the greatest single challenge to the implementation of P4P in Tanzania. Issues relating to indicators, measurement and reporting are discussed in greater detail in Chapter 5.

Experience in other countries has shown that measurement of performance must rely upon routine data systems. Survey-based information collection is expensive, cannot be carried out with sufficient frequency, and is anyway subject to confidence intervals that cast doubt over whether or not targets have been met. This means that whatever performance measures are selected must be measurable from the routine data system.

Reporting of routine data is currently subject to delays, errors and omissions. In the course of our fieldwork, we have attempted to make quantitative estimates of the completeness of data reporting from facility – CHMT – Region – National level (described further in Chapter 5).

Our findings indicate that the problem does not lie primarily in the recording of primary data in the daily registers and tally sheets. For the most part, staff are remarkably diligent in filling these out. [13] The main problem seems to begin with the summarising of these source data into monthly and quarterly summaries for onward transmission to the CHMT. With rare exceptions (e.g. EPI) data is not interpreted and used at the facility level, reducing the incentive to analyse it and assure data quality. No national-scale training for front-line health workers on HMIS and data interpretation has been conducted since 1994-7. CHMT supervisors do inspect registers and try to follow up missing reports. However, they do not typically provide any feedback on the information obtained, nor do they use it for performance assessment across facilities. The new data management tool for CHMTs allows the entry and generation of standard reports (at whole council level). But it does not preserve the facility identity of the information so obtained, nor does it

[13] The general impression is that the recording of primary data in registers is worse for some registers than others eg Laboratory, Inpatient and Surgery registers are less likely to be complete than the routine MCH and OPD registers. There is also a clear consensus that OPD registers are less likely to be filled in accurately and completely in busy facilities with multiple consulting rooms than in smaller facilities.

allow interpolation for missing data. Onward transmission of data files to Regional level are therefore subject to an unknown level of data omission. The same applies at National level (although it is known how many regions have reported). Modifying the existing database to preserve the facility identity of data entered and monitor the completeness of the reports at each level would be a relatively simple task. Similarly, it would be a relatively simple matter to generate standard performance reports for feedback to individual facilities so that they can compare themselves to national standards and to other facilities.

In brief, the main challenges are not so much system problems as human ones. Stakeholders at every level need to understand and be encouraged to use data for decision making. A new culture needs to be inculcated so that performance-reporting is regarded as just as essential as financial accountability.

We do believe that P4P can be introduced in a limited number of councils where reporting compliance is already high and where routine data is reasonably complete and credible. We also believe that the P4P system will be a powerful incentive for improving reporting compliance and accuracy. In the short run, the choice of performance indicators must be limited to those where data is routinely transmitted from facility to CHMT level through Book 10 (Form 004) and through parallel systems (eg EPI). In the medium term, if stakeholders wish other indicators to be routinely measurable, then standard quarterly report content must be modified to accommodate them, as long as the source data can be harvested with little difficulty from registers and tally forms.

Whatever the case, it is very clear that the introduction of P4P will require a significant investment in the HMIS – not to reinvent it from scratch – but to make it useful at facility and CHMT levels, and to significantly raise reporting completeness, accuracy and timeliness.

Data Quality Audit

P4P introduces a risk that data could be deliberately inflated in order to qualify for performance bonuses. The only way that this risk can be mitigated is through some form of data audit. This would need to stand a good chance of picking up any significant manipulation of data. In the case of EPI, the introduction of the GAVI performance-based funding included periodic data quality audit. This entails a sample-based check on data submitted, checking summary data against source books, and verifying a smaller number of source book data against children's immunisation cards. While this does provide a robust, independent check on data quality, it is also expensive. The solution adopted by the Tanzania EPI programme was to introduce a routine "internal audit" of the data, using staff at the council and regional level. A system such as this would help to weed out obvious errors, reduce the size of the external audit sample required, and ensure that facilities know that there is a high probability that data falsification will be detected.

As regards data errors, it should be possible to put in place a system that identifies suspect data, for example through the use of "range limiters" in the input field of the district HMIS database, and through the identification of anomalies and "outliers".

Summary

With very few exceptions, respondents were very enthusiastic about the idea of performance-related incentives. They did feel that such incentives could and would inspire greater productivity and greater focus on actual results. They also recognised that such a scheme could leverage more effective use of all budgetary resources (by identifying and solving the most binding constraints) and could empower health workers to innovate and find local solutions to local problems. Various concerns and risks were raised by people interviewed. This list of risks is further expanded on the basis of the literature and experience in other countries. The key risks are summarised below. Many, if not all of these risks can be addressed through careful design and the design choices recommended in the next chapter directly respond to the risks and concerns identified.

At Mwendapole dispensary in Kibaha District staff were asked what actions they could take in order to increase service uptake and win their performance bonus. They immediately suggested three simple initiatives that they would take:

- Open on weekends
- Maintain a 24-hr duty roster
- Use Village Health Workers and Community leaders to mobilize clients to use services

Summary of Potential Risks

Risk	***Mitigation***
1. Not allowable	Engage PO-PSM, MOF, PMO-RALG from earliest stage of design
2. Level playing field; winners & losers	Use P4P to reward improvement compared to baseline, not absolute level of service delivery
3. Unfair (between individuals)	Reward whole team for health facility performance. Clear rules for sharing bonus across staff (equal)
4. Subvert resource allocation formula	Provide additional resources to all councils according for formula. Some councils introduce P4P, others use extra funds for CCHP
5. Need to fix the health system first	99% of the health budget still available to fix supply side! P4P will focus remaining resources on fixing the most pressing constraints
6. No freedom to innovate	Councils already have high level of autonomy. Relax allocation ceilings for health block grant and focus on outputs instead of inputs. Introduce petty cash imprest for health facilities
7. Sustainability	Funded from basket, not earmarked Norwegian funds. Could be integrated into government budget later if proven successful
9. Undermine work ethic	Not if the bonus depends on meeting targets rather than “fee per unit of service”
10. Perverse incentive	Careful design of indicators to avoid rewarding perverse behaviour
11. Undermine local accountability	Use as a local government tool to reinforce accountability to HF committees, village govt., council admin, full council.
12. Can’t measure performance	Use only indicators already reported on (or redesign Form 004); strengthen HMIS; institute internal and external data quality audit

The major feasibility constraint lies with HMIS. In the short run, P4P can only be introduced in those councils which already have a demonstrable track record of data quality, completeness and timeliness. Over time, it should be possible (especially with the attraction of the P4P scheme) to bring other councils up to standard.

It should be possible to institute a data quality audit procedure that routinely verifies (“internal audit”) the data submitted by facilities to CHMTs and CHMTs upwards. An

external data quality audit system could then be put in place to provide an independent check on the effectiveness of the internal controls on data quality. Deliberate falsification of data should be penalised by withholding the performance bonus.

4. Design Options and Recommendations

In this section we examine in turn the main design features of a P4P system in Tanzania. For each of the parameters we make recommendations based on experience in other countries and the specific Tanzania context. The parameters are:

- Which level of services: primary level, secondary, tertiary, specialist?
- Government providers only, or non-government too?
- Who pays P4P to whom?
- How to avoid "winners and losers"?
- Team bonus, individual incentive, or both?
- How to allocate fairly to individuals?
- How to link bonus to performance?
- Which indicators of performance?
- Who sets targets & verifies performance?
- Data quality assurance
- How to make the bonus payments?

Level of Services

We recommend that the scheme be limited to basic health services up to the level of the district hospital. District hospitals should be included because it would be seen as unfair to include some council health services and not others, because they provide a substantial portion of outpatient as well as referral services, and because they are the major provider of delivery services. Higher level hospitals should be excluded (at least in the first instance) because their inclusion would stretch "bonus resources" too thinly across a much larger number of staff, because they would require a different set of performance indicators, because they are managed by separate authorities from the council health services, and because negotiation of the performance indicators and bonus package would likely be protracted. If the pilot with council health services is successful, the scheme could be introduced to selected higher level hospitals at a later date. In the few councils where a regional hospital serves as the district hospital, we recommend it should be included in the bonus scheme, using council resources.

Non-Govt. Providers

In principle, a P4P system could be extended to private-non-profit and private-for-profit providers. We do not recommend inclusion of the latter because any reimbursement system would need to reimburse the whole cost of a treatment episode rather than only a marginal performance bonus. In any case, some of these providers are already included in a payment system that rewards outputs (the NHIF). We also do not recommend inclusion of all private-non-profit providers for several reasons. First, a performance-related payment system (service agreement) has already been developed and negotiated with the faith-based providers. Adding a performance bonus would require "unravelling" and renegotiating the service agreement – which has already taken years to design. Because they are controlled by multiple different denominations and diocese, such a negotiation would take a long time and would delay the start of the scheme. However, we do

recommend the inclusion of "district designated hospitals" because they are funded (to all intents and purposes) in an identical fashion to government hospitals and because they form a recognised and integral part of council health services.

Who Pays Whom?

A P4P system could be envisaged that simply rewards "whole council" performance without extending to the facility level. We do not recommend this because the CHMT, without the active participation of front-line health workers, could not transform service delivery at the facility level.

Nor do we recommend a system whereby central government (whether MOHSW or PMO-RALG) pays a variable bonus to CHMTs depending on performance. This would introduce an element of financial risk that would undermine the resource allocation formula and would mean that some councils got more than others. Secondly, it would make Council Health Departments accountable for performance to Central Government, whereas under D-by-D they should be accountable to the Council Administration and the elected Council Assembly.

What we do recommend is a P4P system that operates entirely at the local government level. Councils participating in the first wave of P4P would agree to set aside a fixed percentage of their basket fund for the payment of performance bonuses. All government facilities (including DDH) would be eligible for performance bonuses according to their individual performance. In addition, the council health department administration would be eligible for bonus depending on the performance of the council as a whole. This would motivate both front line health workers and the council health department on whom the facilities depend for supplies, equipment, rehabilitation works and staff.

Dealing with Financial Risk

A performance bonus by definition entails a degree of uncertainty. The expenditure will only be made if the facilities and councils meet their performance targets. As discussed above, if the performance funds were paid out from Central Government, the net result would be to undermine the resource allocation formula since some councils would get more than others.

We therefore recommend that all councils would get the additional basket resources resulting from Norway's contribution to the basket fund – raising mean "district basket" allocation from $0.75 to $0.90 per capita. Those councils not participating in the first wave of P4P would still get the extra resources (thus preserving the integrity of the resource allocation formula). In their case, the funds would represent an expansion of the resource envelope available for service delivery – but without a hard performance-linkage. These non-participating councils could join the P4P at a later date, depending on the lessons learned from the first wave and their level of readiness.

Those councils participating in the first wave of P4P would set aside a fixed percentage of their basket funds. This would ensure that the amount allocated for bonuses was proportional to the population being served (plus the other weightings of poverty, burden

of disease and route distance). It would also prevent "inflation" of the funding allocation to performance bonuses.

The amount of performance bonus to be paid out quarter by quarter would depend upon actual performance. In case facilities do not meet their targets and a portion of the money remains unspent, we recommend that the funds remaining be retained in Account No. 6 and rolled over to the following year to be used as general revenues for funding the Comprehensive Council Health Plan. The funds should not be rolled into the allocation for performance bonuses in the following year. In other words, once facilities fail to meet their targets in one year, they cannot "win" the money back by meeting their targets in the following year. Each year's performance bonus fund remains a fixed proportion of basket fund.

One implication of the "fixed proportion" rule would be that the level of the individual bonus would be higher for councils with fewer staff. We view this as a positive design feature, helping to provider extra incentive and reward to staff who work in the least popular councils.

Team or Individual Bonus

Experience with individual bonuses in public and private sectors has been fraught with difficulty. A bonus based upon individual performance (usually called "merit pay", or "performance-based pay") often creates jealousies and friction in the work place. Added to this is the subjectivity of performance measurement through appraisal which reduces transparency, runs the risk of "grade inflation" and runs the risk of the bonus becoming regarded as "entitlement".

A further problem is that many aspects of individual performance depend on the contribution of others (team work). In the health sector, team work is absolutely vital and it is the performance of whole facility teams that we should be rewarding and encouraging. We therefore recommend that the qualification for bonus payment is based solely and wholly on the output of the facility as a whole, as objectively measured by service delivery statistics. The resulting "team bonus" should then be paid out to individual staff according to a clear and unequivocal guideline. We recommend that village health workers or other outreach workers be included as eligible for payments because they can make a major contribution through "outreach" services, community health education and mobilising patients to attend the clinic.

At the CHMT level, we recommend that a bonus is paid according to the performance of the whole council against the "whole council" service delivery/coverage targets. This will encourage CHMTs to set individual facility targets that are consistent with their overall council targets (and vice versa). It will also encourage them to ensure that any constraints at the facility level that require action by the Council Health Administration are addressed. We suggest that limiting eligibility for bonus to the CHMT members alone would be divisive. We recommend, therefore, that all health staff working for the administration of the Council Health Department be eligible for bonus payments.

Allocation to Individuals

The details on how a facility bonus is shared among staff will need some further thought. It is essential that the design does not include "perverse" incentives – for example to create "ghost staff", or to dissuade facilities from taking on new staff (because the bonus would be diluted). Provision would also need to be made for staff absences (whether official or unofficial) since the remaining staff on duty would consider that absent staff have not "earned it".[14]

The system will also need to cater for the fact that facilities have very different work-loads and staffing patterns. If the amount is fixed by facility type (eg per dispensary), the amount of bonus will depend upon staff strength (fewer staff getting larger bonus). Such an arrangement would be unfair to larger, busier health facilities that need more personnel. On the other hand, it might encourage staff to work in under-staffed facilities because the individual bonus would be higher.

If the amount is fixed per health worker, the effect of working in a larger/smaller, under/over-staffed facility would be neutral. This would counter the possibility that the system is seen as unfair to some facilities. It would also avoid the possibility that facilities with smaller staff might actively deter the addition of new staff to maintain a higher individual bonus.

On balance, we prefer this second option, on the basis of "fairness and transparency" while also avoiding perverse incentives to reduce facility staff strength. This means that the onus for redistribution of staff across facilities would rest with the CHMT (as it does now). Hopefully, the CHMT bonus should provide an incentive to ensure that staff are distributed across facilities in as productive a manner as possible in order to maximise "whole council" performance.

Turning now to the level of payment per worker, the consensus among the team is that this should be equal for all. The alternative – that bonus amount varies by rank or salary – would be divisive and less transparent. It would also make the calculation of individual bonuses more complex, more subject to error, and much more difficult to check/validate. In interviews with staff at the council and facility levels, a majority (both senior and junior) preferred the "egalitarian" bonus allocation to one that was linked to rank or salary level. Only a few of the more senior staff felt that it should be based upon rank.

Performance-Payment Link

There are two main options for linking payment to performance: a) variable bonus proportional to output; b) bonus for meeting target level of performance.

The first method would pay per unit of output (e.g. every extra child vaccinated). This option has the merit of paying an ever greater amount the greater the output. However, it would penalise smaller / less busy facilities, would be more complex to administer, and

[14] Note that a team bonus should also encourage peer pressure among staff to minimize absenteeism since their collective bonus depends upon it.

would not necessarily result in higher performance (facilities would get paid even if they continued at current levels of output). It would also discriminate against councils with lower output levels (e.g. due to less infrastructure, personnel, low population density, socioeconomic deprivation or worse roads) and would undermine the resource allocation formula. This option is therefore not recommended.

A second option is for the bonus to be paid specifically for exceeding service delivery targets. In this case, facilities win no bonus for "business as usual" and must find ways to increase output. This option depends upon target levels being set for specific services.

Although this option suffers the disadvantage of "all or nothing", it does at least allow the target to be modified from year to year to encourage higher and higher performance. [15] We recommend this method because if focuses on rewarding *additional* effort, because it rewards improvement rather than absolute achievement (more difficult for some places than others); because it is more transparent and easier to calculate, and because it will empower facilities and managers to set target levels that are considered "ambitious but achievable" within the local context.

Several targets would be set for every facility, according to a standard, agreed list of indicators (see next section). The "best practice recommendation" is to have not more than 10 indicators/targets. The main reason for this is to focus effort on key outputs and to make the system as easy to understand and operate as possible. Thus the bonus to facilities would depend upon how many of their targets they meet. If they meet all targets, they get maximum bonus. If they meet only some of the targets, they get only some of the bonus.

The simplest method would be to have (say) 10 targets, each with equal weighting. If a facility meets 3 of its targets it would get 3/10 (30%) of its bonus. If it meets 8 targets it gets 80% of the bonus. We do not recommend weighting individual targets. This is to avoid endless debate among specialists as to whether one service output is "more important" than another in public health terms. Avoiding individual target weights also makes the scheme simpler to operate and more transparent to health workers.

Selection of Performance Indicators

A payment for performance scheme can be operated for a wide or narrow range of services. In Democratic Republic of Congo, for example an NGO is proposing performance bonuses only for family planning, including permanent methods (!). Notwithstanding the fact that Norway's primary interest is in MDGs 4 and 5, we believe that performance measures should be selected so as to represent a "balanced scorecard" of performance. Thus it should broadly represent the major service outputs of district health services, encouraging and rewarding "across-the-board" improvements in service

[15] For example, if the target for an indicator is 60% coverage, a health facility receives no bonus whether the level achieved is 25% or 59%. Conversely, no additional bonus is earned if the facility achieves 75% as compared to 61%. The "fixed target" method is simpler to operate and bonus calculation is more transparent. In case facilities greatly exceed their targets, these can be revised upwards the following year to make them more challenging.

delivery. This approach helps to avoid the possibility that a performance bonus would encourage the delivery of some services at the expense of others. It reinforces the need to deliver the entire "essential basic health package".

The selection of indicators needs to be linked as closely as possible with the actual delivery of services. Thus, for example, it is no use increasing the frequency with which pregnant women come for ANC if they are not receiving the essential ANC interventions.

This approach also argues for the indicators to represent actual services delivered, rather than process or input indicators. It is no use increasing the "capacity" to deliver services if that capacity does not actually translate into services delivered. For example, an indicator like "every council must have a nutrition focal person" may be desirable, but it does not guarantee that more nutrition interventions are actually delivered. Moreover, the whole idea of performance bonuses is to focus attention on results. The implicit logic is that staff will then identify and address the capacity constraints need to be solved in order to deliver those results. Service-delivery oriented measures will also tend to encourage service quality. If services are regarded as sub-standard by clients, they will not use them – and facilities will need to address client quality concerns in order to meet their targets. We therefore recommend indicators that measure interventions delivered (or a suitable proxy) unless there is a compelling case to include quality or capacity aspects.

Previous debate on setting performance indicators has been handicapped by "special interest" tendencies. Multiple stakeholders bring with them their own particular interests and insist that they should be included in the indicators. The result is an increasingly long list of indicators, many of which cannot even be measured. In this instance, it should be noted that the indicators are NOT an attempt to supplant the HMIS system. The fact that any specific indicator is not included in the list does NOT mean that it will not be measured and reported on. To avoid the possibility that the selection of indicators becomes an unresolved debate – or an increasingly long list – we recommend that selection is done by a reasonably small panel of people, and that this panel includes a majority of stakeholders from the council level. Other stakeholders should have the opportunity to respond and comment on this panel's recommendation. But the final decision of the panel (after considering stakeholder feedback) should be binding.

We propose here a small number of criteria on which the selection of indicators should be based:

1. Indicators collectively represent a "balanced scorecard" of basic health service delivery
2. Must make sense at facility level (eg TB or ARV treated at average dispensary or health centre too few to be a meaningful measure)
3. Not more than 10 indicators in total and no "sub-indicators"

4. Indicators must be measurable using current reporting formats from facility to CHMTs[16]
5. As far as possible indicators should measure health interventions actually delivered rather than "patient contacts" or "capacity" to deliver a service
6. Indicators should present no risk of "adverse" incentive. E.g. rewarding C-section might inadvertently encourage intervention when it is not clinically necessary
7. The same list of indicators should be used for all councils and for all facilities within those councils (i.e. focus on basic services)[17].
8. Indicators should be understandable by non-professionals so that the system enhances accountability to communities, village government, health facility committees, council administrations and council assemblies)

We have come up with a provisional list of services and specific indicators for consideration by the "panel". These are discussed in more detail in the next chapter.

Who Sets Targets, Verifies Performance?

There are two main considerations here. First, it will be essential that targets are set at a level which is ambitious but achievable. If targets are set too low then a performance bonus would not have the desired effect of raising standards. This makes it essential that there is some kind of "check and balance" in the setting of facility-specific targets and that these take into consideration the existing baseline performance.

Second, this check and balance should be done in a way that reinforces formal accountabilities and strengthens the supervision system. We suggest that ideally the "third parties" involved in target setting and performance monitoring should be:

1. Facility Level: Health Facility Committee; cascade supervisors (where applicable); CHMT
2. CHMT (whole council performance): DED/Planning Officer; Representative of Council Social Services Committee; Council Health Service Board; Regional Health Management Team.

This arrangement should provide the necessary check and balance in the setting of targets whilst also reinforcing supervision and accountability.

Data quality & verification

As previously discussed, there must also be checks and balances to assure data quality and avoid the possibility of data falsification (or even amendment of targets!).

[16] Several "preferred" indicators may not be measured in current information returns (eg Form 004). If this is the case, we propose starting with the next best indicator that is included in the form, pending a properly thought-through revision of the Form 004 content.

[17] For hospital services like inpatient medical care, minor and major surgery a separate set of indicators would probably be merited. We suggest that hospital-specific measures not be included in the first wave but be considered later if/when the scheme is to be extended to higher level hospitals.

We propose that the possibility of target manipulation be avoided by ensuring that facility-specific and "whole council" targets agreed for the year are counter-signed by the District Planning Officer (or similar). The targets should be entered onto the database that is used for the subsequent data entry in such a way that it cannot be amended (i.e. only designated authorised user can alter target and this leaves an audit trail on the system). In case the indicators are expressed as rates/percentages, then the denominator (e.g. number of children under-1) also needs to be agreed unequivocally and not be subject to manipulation.

We also propose that a system of "internal data audit" be designed, drawing upon the experience of the EPI program, to raise the quality of data reported and ensure that deliberate falsification will be detected. In addition, tools for data collection could include in-built measures to avoid unintentional errors through the use of "range limiters" in data entry fields and identification of "anomalies" in trend data.

Calculating Performance and Payments

The system should be set up in such a way that performance against targets is automatically tracked by a database at the council level. The payment due should then automatically be calculated according to the targets actually met, and the number of staff working there. This should avoid error or manipulation in the calculation of payments due. The system would also provide an "audit trail" to verify the amount of payment due. A payment voucher would then be drawn up in the usual way, supported by this verification.

The present GFS[18] classification offers a variety of options on where such bonus payments should be reflected in the accounts. The main options are:

- Extra Duty allowance (code 250313)
- Honorarium (code 261106)
- Prizes & Gifts (code 260303)

We recommend that advice be sought from the Accountant General's Office regarding the appropriate GFS code to use, with due consideration for avoiding additional tax liabilities.

[18] Government Financial System: the code classification for analysis of receipts and payments

5. Measurement in Practice

In this section we begin with a proposed list of indicators, including description of those that can be measured using standard reporting returns currently in use.

We then go on to look at the functionality of the HMIS system at present in order to find out whether the system could serve as a reliable basis for the collection of credible performance information data. Based on our findings, we make a number of recommendations on refinement and strengthening of the HMIS.

We next examine the Local Government Monitoring Database, and set out the potential advantages of integrating the HMIS with this system.

Suggested Performance Indicators

Bearing in mind the considerations set out in the previous chapter, we propose the following candidate services / output areas for consideration in selection of indicators. We suggest that further service areas only be added to this list if a corresponding number are taken out (to keep the total number to 10).

S/N	Service	Remarks
1	Total OPD Attendance	Best available measure of overall workload / productivity of the facility vis-à-vis curative services. Includes all age groups, male & female
2	Immunisation	Key preventive service, indicator for Mkukuta
3	Family Planning	Important contributor to maternal & child health (increase age first pregnancy, longer birth spacing; fewer unwanted pregnancies)
4	Antenatal Care	Package of essential services to protect pregnant women & unborn children
5	Delivery Services	Facility-based / skilled attendance essential to reduce maternal deaths. Indicator for Mkukuta
6	Nutrition	Major contributory factor to childhood illness and mortality rates. Indicator for Mkukuta
7	Post-Natal Care	Neglected and under-utilised service. Essential if neonatal mortality to be reduced
8	Under-1s	Essential package of preventive and curative services for under-5s
9	Under-5s	Essential package of preventive and curative services for under-5s
10	Malaria Control	Leading cause of morbidity & mortality

We turn now to look at specific indicators for these service areas. We have provided a list of potential indicators, some being preferable to others (in view of the criteria previously discussed). We also indicate which of these can be measured at present using standard information returns from facility to council level.

Preliminary List of Potential Indicators for Facility Performance Bonus (Quarterly)

Service / Area	Potential Indicators	Remarks	Measurable?
OPD	▪ Total OPD visits (new & repeat) ▪ Total OPD (new only)	▪ Either of these a reasonable measure of total workload (curative)	**Yes**: Form 004, section 7 (total OPD new+repeat)
Immunisation	▪ Individual antigens ▪ Fully immunised by 12 months ▪ DPT3	▪ For performance bonus need single indicator ▪ Best summary indicator, but measurable quarterly? ▪ Proxy summary indicator, measurable qrtly	**Yes**: Monthly EPI returns can measure all of these <but can it measure "fully immunised" on quarterly basis?>
Family Planning	▪ New Acceptors ▪ Continuing Acceptors ▪ Total FP acceptors ▪ Couple-years protection	▪ Preferred measure to assess increase in uptake ▪ Less preferred measure ▪ Summary measure ▪ More useful for assessing pop. control than FP demand?	**Yes,** But only some of these included in standard Form 004
Antenatal Care	▪ Total ANC (1st & repeat visits) ▪ 4+ ANC visits ▪ 1st visit <16 weeks ▪ Individual FANC components ▪ All FANC components delivered (either as % ANC clients or % all expected pregnancies)	▪ Reasonable summary measure, but doesn't distinguish adequacy of visits or how early; nor interventions actually delivered ▪ Measures attendance adequacy but not interventions delivered ▪ Measures early attendance, but not adequacy & interventions ▪ Would have to choose only 1 component at "tracer"; leaves out other components ▪ Ideal summary indicator if expressed as % expected pregnancies	**Yes**: But only available measure is total number of ANC visits (doesn't distinguish new/repeat; those who make 4+, or how early in pregnancy. Some individual components reported but not others: ▪ Number of PW tested for syphilis ▪ Number of syphilis tests that were +ve ▪ Number received TT2+ ▪ Number with at least 1 danger sign
Delivery Services	▪ Total deliveries ▪ Number of women referred ▪ Maternal deaths ▪ EMOC Capability (signal functions)	▪ Reasonable summary measure & should encourage more facility-based delivery ▪ Risk of unnecessary referral ▪ Possible measure to capture effectiveness of EmOC (lives lost/saved) ▪ Possible measure for EMOC capability	**Yes**. Form 004, section 8 – but is conflated with measure of TBA-assisted births? ▪ Captured in delivery register (and book 2 processing) file but not included in routine ▪ No routine source data or reports
Nutrition	▪ Under-5s <60% WFA ▪ Growth monitoring ▪ Vit A supplementation ▪ Deworming	▪ Ensures that growth monitoring done, malnutrition detected and incentive to improve nutrition. Recommended summary measure	**Yes** ▪ Already included in Form 004 section 6 ▪ Ibid ▪ Form 4 section 7 ▪ Deworming not reported

		▪ Important "tracer" intervention ▪ Important "tracer" intervention ▪ Measures coverage of service-based nutritional surveillance for under-5s	
Post-Natal Care	▪ Post-natal attendance/coverage ▪ PNC intervention components delivered	▪ Measures patient contacts ▪ Preferred measure	**Yes** ▪ Jedwali 40C, of book 2 total post natal attendance (from form F203) ▪ Individual components not reported
Under-1s	▪ All under-1s registered	▪ Measures registration but not services delivered. Note growth monitoring, vit A, immunisation already mentioned above	**Yes** ▪ Under-1s registered captured in Form 4 section 8
Under-5s	▪ Specific indicators (eg growth monitoring) already mentioned above. Any additional indicators?		
Malaria Control	▪ Pregnant woman receiving ITN voucher (or receiving voucher @ first ANC visit ▪ Infants receiving voucher ITN ▪ No (or %?) U-5s with malaria treated in first 24hrs with ACT	▪ Proxy measure for ITN delivery ▪ As above ▪ Measure of prompt and effective treatment, under-5s	**No**. ▪ Measurable from voucher issue records but not currently reported ▪ Ibid ▪ Not currently measured

Please note that this is a preliminary list, for illustrative purposes only. Further detailed work would be required to examine appropriate indicators for specific services, with reference to international best practice and in close consultation with the experts / program heads of these various fields. There should also be further work to see precisely what source data is available from registers and tally forms that could be used to track specific indicators. As previously stated, no indicators should be included that are not presently reported on through returns from facility to district – unless there is a comprehensive revision and update of the content of the reporting formats (particularly Form 4).

HMIS Functionality

A wide variety of data are presently collected at the facility level. The source data is maintained in registers, before being summarised on to "tally forms" and the "facility processing file" (Book 2). This monthly data is in turn summed and transcribed on to quarterly reporting forms, the main one being Form 004 of Book 8. A fuller description of the various books/registers and forms can be found at Annex 3. In addition to this HMIS data, separate reporting systems continue to operate for a number of programmes, most notably EPI, TB & Leprosy, HIV/AIDS, integrated disease surveillance and a few other specialist inputs and programmes. Where these systems are reliable, they could also be used for tracking performance against indicators.

Reports from health facilities go to the Council level, where they are input on to the new HMIS software. The consolidated Council report[19] is in turn transmitted to the Regional Level who forward all Council reports to the National Level.

Without going into great detail, it is clear that information on a vast range of indicators is potentially available. The main problem lies with the completeness and accuracy of data. This in turn relates to a general lack of training, awareness and interest in data interpretation and analysis; inadequate supervision and feedback on data collected; and a number of relatively minor "system design" issues.

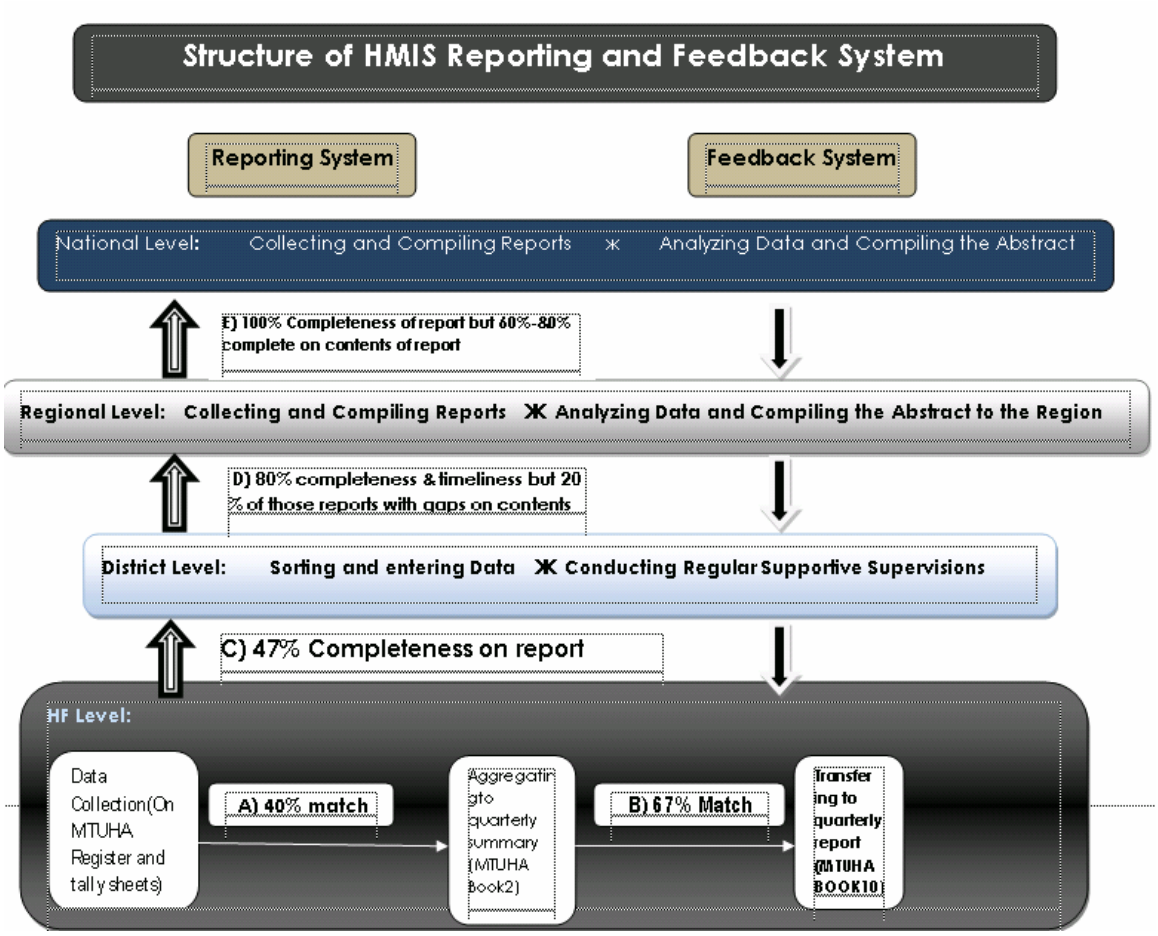
On the basis of our interviews and our analysis of HMIS data completeness, accuracy and timeliness, we endorse the recommendation of the HMIS Review (HERA 2000) that "data at the point of collection is looking reasonable to very good" but that the problems arise during the collation and transfer of data from source books to summary forms. We agree that the basic registers and forms do NOT need wholesale revision and we do not recommend "tinkering" with the basic system for collecting source data. We agree with their view that "In general efforts should focus on reducing the complexity of the tools and systems rather than adding new information requirements." In other words, the challenge is making the system work rather than a wholesale redesign of the HMIS. We agree that the key to this is in enabling demand and use of data from the lower level upwards. We also believe that there are opportunities for refining software tools in use at the district level in order to improve data quality, reduce workload, improve feedback, aid interpretation and inter-face with the Local Government Monitoring Database:

- Provide automated quality assurance tools (eg range limiters, identify anomalous data)
- Design and implement data quality assurance, feedback & supervision systems and procedures
- Design automated data feedback forms (district – facility; region - district) including standard reports and graphical representation
- Design automated system to interpolate for missing data so that credible summary statistics can be generated at council, regional, national level
- Preserve facility identity of data on the system so that it remains possible to "drill down" to facility level; compare facility performance; ascertain level of data omission per indicator and facility
- Build "gateway" so that HMIS data (or a sub-set of it) can bridge directly with the Local Government Monitoring Database – improving the quality of data input and avoiding need for double entry
- Include pre-set denominators (total population, expected pregnancies/deliveries, population under-1, population under-5) on the HMIS database to avoid denominator errors and/or manipulation

[19] Unfortunately, this council summary report consolidates all data, so that the "facility identity" of data is lost and it is no longer possible to ascertain the completeness of reporting on individual indicators.

Having said this, the most pressing and resource-intensive challenge will still be the human one: training, mentoring, supervision etc.

In the course of this study, we conducted analysis of information returns from a non-random[20] sample of 10 health facilities in Ulanga, Kilombero, Kinondoni and Temeke. The results are summarised in the figure below.



- In all cases, the basic registers for the recording of primary data were available and in use.
- 4 out of 10 facilities (40%) had a close match between source data in registers and the "processing file" Book 2/Tally Forms. In the remaining 6 there were errors – to a greater or lesser extent - in the transcription of data from source register to book 2.

[20] The size of the sample and the "convenience" basis were constrained by the time available. Surveyed clinics were: Ulanga District: Mahenge Hospital, Lupilo Health Center and Kichangani Dispensary; Kilombero District: Kibaoni Health center and Michenga Dispensary; Kinondoni District: Sinza HC, Tandale dispensary,Mwananyamala Hospital; Temeke District: Temeke Hospital, Mbagala-Rangi Tatu dispensary

- For the 9/10 that had a book 10 available for inspection; 6 facilities out of 9 (67%) had correctly transferred the information from Book 2 to Book 10.
- Proportion of facility quarterly reports for Jan-March 2007 actually submitted as of July 2007 :
    - Ulanga District: 11 facilities / 35 total had submitted their reports
    - Kilombero District: 26 out of 46 had submitted
    - Kinondoni Municipality: 12 out of 24 had submitted
    - Overall reporting rate (% facilities reported within 3+ months of end of quarter) for these districts 49/105 = 47%
- Note that CHMTs do follow up on missing reports and eventually achieve a much high level of compliance – albeit with delays.
- At the regional level (Morogoro), 80% of districts had submitted their quarterly report for Jan-March – although with the intrinsic data gaps described above.
- At the national level, we are told that all regions do report – but some may be late.
- Consolidated data at the district – which is transferred all the way up to national level - contains an unknown level of data omission. It is therefore not possible to translate this incomplete data into estimates by interpolating for missing data.

Another study, of 134 health facilities in Lindi and Mtwara Regions, found that 106 (73%) of facilities provided all quarterly returns to the district level and 84% of facilities provided complete ANC data for the previous year. These rates seem to be markedly better than those found in our "mini-study" just reported.

From our (admittedly small and non-random sample) we conclude:

- Source data is generally recorded in the registers[21]
- There are sometimes errors and omissions in summarising and transcribing this to monthly book & tally sheets
- There are also errors and omissions in transferring monthly data to quarterly reports
- Quarterly reports are often submitted late – and with omissions and errors
- Compliance and timeliness of reporting from council to region, and from region to national levels is generally better – but still with the errors and omissions in the data that has come up from the facilities
- Data are barely used at any level, reducing the incentive to provide timely and accurate reports and making data collection a "chore" rather than a help.
- Supervision from higher levels focuses on reporting compliance rather than "what the data tells us" and data interpretation feedback is rare.

Assuming that these findings are reasonably "typical", we expect that the HMIS data will not, at present, be sufficiently robust to provide a basis for performance based bonuses. However, we also conclude that the problems are largely human and systemic, including

[21] Registers are expected to be largely complete – particularly for OPD and MCH in smaller facilities. However, anecdotal reports indicate that there are problems of omission in patient registers, with a maximum 20% variance between lab registers and OPD registers in the same facility in Lindi and Mtwara regions (Schellenberg D, personal communication)

little implicit incentive (acknowledgement, feedback) to report accurate, complete and timely data. We believe that this is largely a question of training and supportive supervision, and that HMIS data quality could be greatly improved over a relatively short time frame. We expect that there is probably a minority of councils whose data is already good enough to introduce P4P. The number of such "ready" councils could not be estimated without a more in-depth accreditation exercise. We also believe that the attraction of joining a P4P scheme will provide a powerful incentive to improve the performance of the HMIS at facility and council levels.

We recommend that simple accreditation criteria be put in place to qualify a council to commence P4P. This should include, as a minimum, complete facility to council returns for the previous year, close correspondence between Book 2 and Book 10 for the previous 2 quarters, and close correspondence between Book 2 and source registers. Non-qualifying facilities would be excluded from the P4P system until their data was up to standard. We anticipate that a large minority of councils could be brought up to this standard with an intensive HMIS support and capacity-building exercise.

Local Government Monitoring Database

This information system has been put in place under the Local Government Reform Programme and is now recognised as the "official" source of council data. Its purpose is to provide management information to council administrations and higher levels across all sectors. Sector information (including health) is input once per year for individual facilities. The facility identify of data is preserved and can be linked to village/ward/division/council. The respective population denominators are already input on to the system, enabling automatic generation of rates / coverage. The system has been designed and built with the help of the University Computing Centre. The database is open-source software. It has been designed with user-friendly input screens, standard tabular and graphic reports, and the ability to provide comparative data across villages/wards/councils and regions. The system is supported by an operator's manual, a co-ordinator's manual, sector manuals, self-tutorial materials and training aides. It includes a service and help-line facility to support users. All councils have already trained LGMD focal persons as well as sector focal-persons on the use of the system. There are apparently plans to put VSat systems in each of the councils to allow the LGMD to operate as a wide-area network, with fast up/down-load speeds. In the meantime, councils report to PMO-RALG by e-mail attachment. The system was rolled out in 2006, including training of five staff from every local authority using a team of 32 facilitators. Demonstration of the system shows that it does indeed do what it claims to do and the user-interfaces are intuitive.

As with the HMIS, the main problem is the poor quality and completeness of data that is put on to the system. This could largely be addressed if a "gateway" were built so that cleaned / quality-assured data could be exported from the HMIS data system straight on to the LGMD.

We recommend that:

- A gateway is built for exporting HMIS data (or a subset of this data) on to the LGMD. This will be essential to improve the quality of LGMD input data and to reduce workload – even if the LGMD is not subsequently adopted as a platform for operating the P4P system.
- The set of indicators on the LGMD is revised and updated to make it more relevant for health management decision-making and performance monitoring at council, regional and national levels
- The possibility of using the LGMD as the main platform for the P4P system is investigated. This has the added advantage that the system is maintained by a third party (Council Planning Department) and so would provide the necessary check and balance for data protection, verification and authorisation for bonus payments
- A structured self-assessment of HMIS data integrity, checked on a sample basis by a third party, be carried out by the council health departments to determine how many are ready to be included in a pilot or phase 1 roll-out of the P4P system
- A systematic, phased, capacity-building exercise (to be funded from Norway's support for HMIS strengthening) be designed and implemented in order to:
    - Upgrade the HMIS skills of staff at facility and council levels
    - Strengthen the HMIS and improve data integrity
    - Refine and improve software platforms for data input and analysis
    - Institute a culture of data analysis and interpretation and design simple tools to assist in this[22]
    - Encourage regular feedback between levels, including comparative performance analysis and data interpretation
    - Review and refine the content of the Form 004 in order to generate the sub-set of agreed P4P indicators
    - Design and implement a gateway for exporting HMIS data to LGMD
    - Refine and improve HMIS software in order to preserve facility identity of data and monitor completeness of reporting <u>by indicator.</u>

[22] Much can be learned from the EPI program in this respect. Daily "temperature charts" and monthly progress charts allow health workers easy ways to check if they are "on track" for their targets.

6. Implementation Arrangements

This section describes in brief how the P4P scheme could be implemented.

Supply-Side; Demand-Side, or Both?

Referring back to earlier sections, a P4P scheme can include supply-side incentives (awarded to health providers), demand-side incentives (awarded to consumers), or both. On the basis of the preceding discussions, we do recommend that a supply-side incentive scheme be implemented, whatever judgement is reached on the demand-side.

Our interviews indicate that demand-side incentives are a more controversial proposition, particularly if the incentive is in the form of cash. We note that if it were implemented, a demand-side incentive would only be applied for very specific services (eg to refund the costs associated with referrals for obstetric emergencies). As such, the design and implementation challenges for demand-side incentives are quite different from those on the supply side. There is no intrinsic reason by supply-side and demand-side incentives must be implemented together. A separate decision on the relevance and feasibility of each can be reached and implementation arrangements can be done separately. Because of positive experience elsewhere and our knowledge that some access problems are rooted in the demand side, we recommend that a demand-side incentive be tried out on an experimental basis.

The implementation of supply and demand-side incentives should be done in such a way as to permit a thorough, case-control evaluation of the relative merits of each – e.g.:
Case 1: Supply Only
Case 2: Supply & Demand
Case 3: Demand Only
Control: Neither (but match other conditions pertaining)

The evidence thus generated would provide a solid, Tanzania-specific basis for decisions to roll out the scheme to national scale and/or to modify it.

Universal, Phased or Experimental

Neither supply nor demand-side incentives can be implemented immediately on a universal basis. The information systems are simply not good enough, and the implementation effort would necessarily require a phased approach.

If Government is convinced of the merits of P4P on the basis of this feasibility study, then it could opt for a Phased implementation approach, aiming to spread out to the whole country as rapidly as possible.

If Government believes the idea has promise, but wants to “try before buying”, it would make sense to have a pilot phase. The results of this would then be used to arrive at a “go or no-go” decision for a national roll out.

On balance, this team recommends the first option, including a solid "monitoring and evaluation" component that tracks effectiveness of P4P in delivering the desired impact on performance.

Complementary Measures to Raise Performance

Whilst we are convinced that P4P shows considerable promise as a means of raising performance, we do not see it as a "unique" or "silver bullet" solution. It is clear that other measures could be taken, with or without P4P, to help drive up performance. These measures include:

1. Include performance reporting as a mandatory requirement for routine basket fund reports. This would mean that every council would need to include performance targets with its annual plan. Quarterly performance against targets would be reported quarterly, along with the existing requirement for financial and technical reports. Even if this "requirement" was not rigidly linked to trigger release of funds, such a mandatory reporting obligation should improve reporting from council to the central level.
2. Include performance reporting (possibly with a shorter, more output oriented list than the current 30+) as a standard requirement for the Joint Annual Health Sector Review.[23]
3. Make greater use of comparative performance assessment across councils at the regional and national level. Even with incomplete data, this will help to build up a "data for decision-making" culture, provide feedback to councils on their performance, and inspire councils to compare themselves with their peers.
4. Devolve a "modest" level of petty cash to the facility level by means of an imprest. This proposal is of sufficient importance that we describe it more fully below.

Imprest for Health Facilities

Presently health facilities at the district level have no financial control and no access to petty cash. They are entirely dependent on the council health department to make expenditures on their behalf, even if these are matters as minor as the purchase of a new door handle, repair of a roof, or supply of basic equipment and supplies. This also applies to revenues raised by the facilities through cost-sharing and the Community Health Fund, which are held "on behalf of facilities" by the Council Health Department. Both these funds and the "allocation" to dispensary and health centre cost centres in the CCHP / budget are "virtual" funds, over which the facility and their health facility committee effectively have zero control. The absence of any control over resources – and hence the power to take any meaningful action – is probably the main reason that health facility committees are largely non-functional.

Meanwhile, in the education sector, all funds for the operation of schools (in the form of capitation grants) are devolved directly to schools, for management by the school

[23] Since this now takes place in September, it would be reasonable to assume that all data for financial year just finished – or even the previous calendar year – could be presented.

committee (representing school administration and parents / community members). This system offers a direct stake for governing committees in the running of the facilities that serve their communities and gives them the resource control necessary to take remedial action.

We would not go so far as to say that all operational funds should be devolved to health facilities. But we do believe that a meaningful petty cash facility at facility level would enable many minor problems to be rectified AND give empower the facility staff and health facility committee to take a more active role in governing their own affairs. We believe that the combination of staff "intrinsic motivation" (sense of duty, ethics) plus community accountability (through health facility committee) would generally ensure that such funds were put to good use.

Without any control over resources, it is doubtful that a P4P system could work at the facility level. Unless facilities have at least a modicum of resource control, they will be wholly unable to address any constraints that require resources – except by hoping that the CHMT will respond to their pleas.

An imprest arrangement would achieve this with minimum financial risk since it needs to be retired regularly and financial exposure cannot exceed the periodic imprest amount. It would not require establishment of any new bank accounts or appointment of book-keepers. It would automatically be consolidated into the health department's accounts when the imprest was retired. Any outstanding imprest would be very obvious to accounts staff and audit, and would be actively followed up. To provide assurance of financial control, the prospective imprest holders would be provided with a half-day training on how to manage and retire the imprest.

We therefore recommend that:

- An imprest facility for every health facility and in every council be adopted as a matter of national strategy
- Imprest guidelines and basic training is designed
- An imprest level is determined, with due consideration of the overall budget envelope held in a typical district and the amount that is allocated to the health facility cost centres
- We do NOT recommend initiation of a P4P system unless an imprest arrangement is already in place

7. Indicative Costs

The time allocated for this feasibility study could not permit a very detailed costing. There are also a number of unknowns[24]. The cost of implementing P4P will clearly depend upon the number of councils to be included at phase 1 and how rapidly the scheme is rolled out. Below, we therefore provide only a very "broad brush" indication of cost categories, and an order-of-magnitude estimate for each. These figures should be seen as strictly *indicative*. The specific tasks and amounts would doubtless change once the more detailed design and implementation arrangements have been decided.

The major cost categories are summarised in the table below.

Cost Element	Description	Estimate	Remarks
Performance Bonus Payments	Max amount per health worker to be determined. Expected to be around per health worker 100,000/= per quarter (about 10+% of CO salary for 3 months)	Max performance bonus /qtr (whole country) approx $80 x 25,000 council level health workers = $2m per quarter; $8m per year. Expect 60%-70% of targets to be met, on average: **$5m - $6m per year if taken to national scale**	Funded from Norad's contribution to the basket fund. For non-participating councils, used as general revenue for CCHP
Detailed Design of P4P scheme	Consultations / consensus meetings with MOF, PMO-RALG, PO-PSM, Regions, Councils	**<$100,000**	May require multiple meetings, including regional level
	Determine desired level of P4P bonus; precise modalities; rules/guidelines; indicators; design self-assessment tool	**<$100,000**	Requires relatively quick consultancy + consensus meetings at national level
	Assessment readiness / selection of councils for 1st phase councils	**<$10,000**	Assessment of council readiness based on verification of self-assessments. 10-20 councils @ $500-

[24] Whether / over what time frame to be implemented; size of maximum performance bonus; level of IT design & development effort required; best modalities for training implementation etc.

			1,000 incl. travel, subsistence, fees
HMIS Strengthening (Council Level)	Training needs assessment, training design	**<$50,000**	Fees, consultations (venue, per diems)
	Develop manuals, guides, training materials, test, adopt	**<$50,000**	Fees, venue, per diems
	Training master trainers	**<$50,000**	Fees, venue, per diems
	Training of trainers	**<$100,000**	Fees, venue, per diems
	Training on HMIS, data interpretation & use, P4P, 2 staff per facility, <5 days, at council HQ	**<$2m**	$50/day x2staff x5days x4,000 facilities = $2m. Paid for from CCHPs?
	Software design, refinement (HMIS, LGMD gateway, P4P modules)	**<$10,000**	Fees
	Facilitator Team (follow-up, mentoring, trouble-shooting, system maintenance, incl. travel, subsistence)	**$500,000**	10 facilitators, $20,000 each incl. travel & subsistence = $200,000 per year; 3 years
	Ongoing IT maintenance contract incl. trouble-shooting; refresher training	**$200,000**	$100k per year for years 4 & 5
	Hardware (replacement computers, computers for hospitals)	**$50,000**	100 computers @ $500
TOTAL	**$28.2m over 5 years, of which $25 bonuses; $3.2m capacity-building**		

8. Conclusions and Recommendations

We conclude that there is strong support among many stakeholders for the institution of a performance-related bonus system in the Tanzania health sector – albeit with various provisos and concerns. These concerns have already been described in full, and most if not all of them can be addressed through careful design of the scheme.

There are already a number of precedents for performance-related pay or "in-kind" rewards in Tanzania. However, the SASE experience has dampened enthusiasm because it was seen as unfair, and not actually linked to individual performance.

There is a growing appetite for improving accountability for performance across the whole of government. In a decentralised environment, where MOHSW cannot dictate local plans and budgets, "managing for results" becomes the only way in which performance can be driven up.

"Pay for Performance" has recently received growing attention in the health sector. It has already been introduced (in various guises) in a wide variety of settings, including developing countries. In fact, payment linked to outputs is the dominant form of provider financing in insurance-based health care systems. It is also widely used in the private sector.

Experience shows that the success of P4P schemes is critically dependent on careful design. There are a number of very encouraging examples of P4P, including Rwanda, where it has been rolled out on national scale. However, formal evaluations and published results are scarce.

Our feasibility study indicates that P4P could be introduced in Tanzania. We have carefully considered risks as well as practical considerations, and have incorporated these into our recommendations for the design.

Two conditions are absolutely vital if P4P is to be introduced successfully: a robust information system and a degree of budgetary authority at health facility level.

Our snapshot study confirms major problems with data quality, completeness and timeliness. The problems mostly arise as source data from registers is compiled and summarised for transmission upwards. Without credible data, the scheme will fail. We therefore see a major, nationwide, HMIS strengthening initiative as an essential measure. We argue that the HMIS problems are mainly to do with its functionality rather than its design. We advocate a particular focus on increasing the use of data at all levels, from the facility level upwards.

The internal logic of P4P rests on the assumption that health facility staff have the *freedom* and the *means* to address local constraints. This will not be the case if health facilities have zero control over resources. We therefore argue that a P4P system should

not be introduced at the facility level unless a certain amount of budgetary control is devolved to them. We argue that an imprest facility provides a simple and low-risk way of achieving this. We feel that providing an imprest to health facilities is desirable in its own right, and can be expected to bring about performance improvement, even in the absence of P4P.

As a novel initiative, P4P should be carefully monitored and evaluated. This will be vital to ensure that design can be adapted as problems are identified. Given the lack of empirical evaluations of P4P in the international literature, we also argue that a formal evaluation component should be designed and implemented alongside P4P.

Next Steps

1. The analysis, proposals and options described here should be put before a high level committee that includes representation from stakeholders from Local Government Administrations, Council Health Departments, PMO-RALG, MOF and PO-PSM. This committee needs to **reach decision on the key design and implementation options** set out in this report.
2. Appoint a national steering group to lead the process. Commission a team and/or contractor to undertake the **detailed design work** for P4P, under the guidance of this steering group. This will include finalisation of indicators to be used, level of bonus, data quality audit arrangements etc. It will also include the selection of "first wave" councils, based upon the robustness of their health information systems.
3. Contract a team to lead and support P4P introduction in the first wave councils. This should include **HMIS strengthening** starting with the first wave and "rolling out" to all remaining councils.
4. Contract separately a group to undertake scientifically robust **monitoring and evaluation**. Interested groups should be requested to submit their evaluation proposals for a limited tender selection.

Annex 1: People Consulted

Ministry of Health

1.	Mr. W. C. Mukama	PS-MOHSW
2.	Dr. D. Mtasiwa	Chief Medical Officer
3.	Ms. R. Kikuli	Director Policy & Planning
4.	Dr. Z. Berege	Director Hospital Services
5.	Dr. C. Sanga	RCHS Country Coordinator
6.	Dr. F. Njau	Head, Health Sector Reform Secretariat
7.	Ms. G. Minja	HSRS
8.	Mr. J. Kelya	HSRS
9.	Mr. M. Mapunda	Economist, DPP
10.	Dr. S. Egwaga	Head NTLP
11.	Dr. E. Nkiligi	Data Manager NTLP
12.	Dr. Alex Mwita	National Malaria Control Programme Manager
13.	Mr. J. Rubona	Head HMIS
14.	Dr. M. Kitambi	EPI Manager
15.	Dr. D. Manyanga	EPI Data Manager
16.	Ms. J. Bomani	Project Administrator, EPI
17.	Ms. A. Nswila	District Health Coordinator
18.	Dr. Amos O. Mwakilasa	Directorate Human Resources
19.	Dr. Ngonyani	Office of CMO – Quality Assurance
20.	Dr. E. Mng'ong'o	Asst. Director Private & Voluntary Health Services
21.	Dr. Georgina Msemo	Project Officer SNL-IMCI
22.	Mrs. Lena Mfalila	National SMI Coordinator
23.	Ms. Anna Nswilla	Health Secretary Preventive Dept. MOH
24.	Dr. Angela Ramadhan	National Coordinator PMTCT

Other Central Ministries and Key Informants

25.	Ms. J. Mahon	Regional Health and Poverty Adviser, SDC
26.	Dr. H. Mshinda	Director, IHRDC
27.	Mr. G. Yambesi	Permanent Secretary, Public Service Management.
28.	Prof. Semboja	Executive Director, REPOA
29.	Mr. S. Nyimbi	Director Local Government PS-PMORALG
30.	Ted Valentine	Consultant, Public Service Management
31.	Stein Torgersbråten	Norwegian Embassy DSM
32.	Bodil Day	Norwegian Embassy DSM
33.	Lene Lothe Gomez Palma	Health Adviser, NORAD

Dar es Salaam Region

34.	Judica Msangi	RTLC
35.	Mr Msumi	Temeke Municipal
36.	Mrs. Lulu	Temeke Hospital Data Manager
37.	Dr. Sylvia Mamkwe	Municipal Health Prog.Coordinator
38.	Azamah Ngwanda	Municipal Health Officer Supplies Officer
39.	Mercy Ndekero	CHAC

40. Mchanila F.C.	HBC-CO
41. Dr. V. Ludovick	HIV/AIDS STI Coordinator Kinondoni M. Council
42. Dr. Jerome Kamwela	DMO Temeke
43. Dr. Beatrice Byalugaba	DMO Kinondoni
44. Mr. R.D. Mutagabwa	H/Secretary Kinondoni
45. Ms.Mwajuma Magoma	Supplies Officer K'ndoni
46. Eugenia C. Mashoko	Accountant
47. Boniface Tematema	Lab. Technologist
48. Ziada Sellah	Nursing Officer
49. Sophia Josephat	Pharmacist
50. Alex Baguma	Principal Health Officer
51. Dr. Emilton Ndashau	Dental Coordinator
52. Dinah Atinda School	Health Coordinator
53. Mary Massay	RCH Coordinator
54. Dr. Rwechungura	Mwananyamala Hospital
55. Dr. Rehema	Tandale Dispensary
56. Dr. Hadija	Sinza Health Centre

Coast Region

57. Mrs.Gertrude Mpaka	Regional Administrative Secretary, Coast Region
58. Dr Winani	Regional Medical Officer
59. Ms Grace Chuwa	Regional RCH Coordinator
60. Dr. Singano	RTLC
61. Mr. Ali Nassoro	RNO
62. Ms. Anna Mbala	RHMT, Pharmacy Technician
63. Dr James Malele	Ag. District Medical Officer, Kibaha (Rural)
64. Zaina Mlongalawa	Public Health Nurse, Kibaha (Rural)
65. Health Facility staff	Mwendapole Dispensary, Kibaha District
66. Mr Kyombo	Kibaha (Town) CHMT
67. Dr Kahwili	Kibaha (Town) CHMT

Morogoro Region

68. Mr. Jackson Minja	HMIS coordinator
69. Mr. Mgula	District Planning Officer
70. Mr. Chamkaga	Economist, district planning department
71. Mr. Chief Mwakilasa	HMIS Coordinator, Ulanga
72. Mr. Wankabale Mkessey	Acting District Health Officer, Ulanga
73. Ms. Karerina Kaundinda	Public Health Nurse in MCH clinic, Ulanga
74. Dr. E. Munisi	Kilombero
75. Mr. Ndauka	HMIS coordinator, Kilombero
76. Mr. Ntangile	District Nursing Officer, Kilombero
77. Mr. K. Mbonja	Kilombero

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URT. National Package of Essential Health Interventions in Tanzania, MOH, January 2000.

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URT. Poverty and Human Development Report 2005. Research & Analysis Working Group. 2005.

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URT. Tanzania Service Provision Assessment Survey 2006. Preliminary Report. NBS & ORC Macro, 2006.

URT. Annual Health Statistics Abstract. MOHSW, April 2006.

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URT/Norway. Norway Tanzania Partnership Initiative: Programme Document, June 2007.

Annex 3: Functionality of HMIS

Introduction

The primary source of routine service statistics is the Health Management Information System or MTUHA. This was developed in the early 1990s, piloted in 1993 and rolled out to all regions by 1997, including provision of computers and software to all of the regions. A nationwide training effort took place in 1994-7 but has not since been repeated.

Although the intention had been to fully integrate separate information systems under the HMIS umbrella, this has not been possible – partly because of specific information requirements, partly because the parallel systems provider better data. The major parallel systems in operation include EPI, TB & Leprosy, Integrated Disease Surveillance and HIV/AIDS. There is also a multitude of other systems for specialist use including pharmaceutical supplies, onchocerciasis, trachoma, lymphatic filariasis etc, etc.

A systematic review of the HMIS was undertaken by the MOH/HERA in 2000. This highlighted a number of (well-known) problems, including:

- Data collected is incomplete and sometimes inaccurate
- Incomplete and late reporting
- Inadequate analysis and use of data for decision making at all levels – from the facility to the national level

Reviews and Remedial Action

Various reviews of the HMIS have been undertaken in recent years. These include:

Title of the review and when was it	**Motivation for the review**
R1-Minisry of Health Review workshop,**1997**	A management procedure to identify and adjust problematic areas and to put into account new development and technology
R2-Assessment of infectous disease surveilace systems in Tanzania, **1999**; Joint Initiative of MoH, WHO and USAID	Assessment of infectious disease surveillance systems in Tanzania. From this review, the Integrated Disease Surveillance (IDS) was recommended
R3-HERA/HMIS external Review, January **2000**	• Recommendation from the health sector reform secretariat and partners • Aimed to identify problems and recommend measures to strengthen HMIS
R4- Plan of action (PoA) post HERA/HMIS review,November **2000**	Follow up action on HERA/HMIS external Review of January 2000
R5- Stakeholders consultative meeting on the development of	Recommendation from previews reviews with regard to; burden of work placed on primary data collectors' emanating

minimum package of health information, June **2001**	from the volume of data collected within HMIS
R6-Health Information for decision making; reconciling systems and approaches: February **2004**	Following recommendations of the Joint health sector review in April 2003, a task group on heath information systems was established with one of its objectives to address the need for co ordination and harmonization of health information
R7-Health management Information system technical review, June **2004**	A management procedure to identify and adjust problematic areas
R8-The Tanzania Health Information system preliminary analysis, July **2005** by Health Metrics Network	Preliminary analysis for Health Metrics Network Initiative on Health Information System (HIS)

Partly as a result of these reviews, a number of measures have been undertaken to strengthen the HMIS:

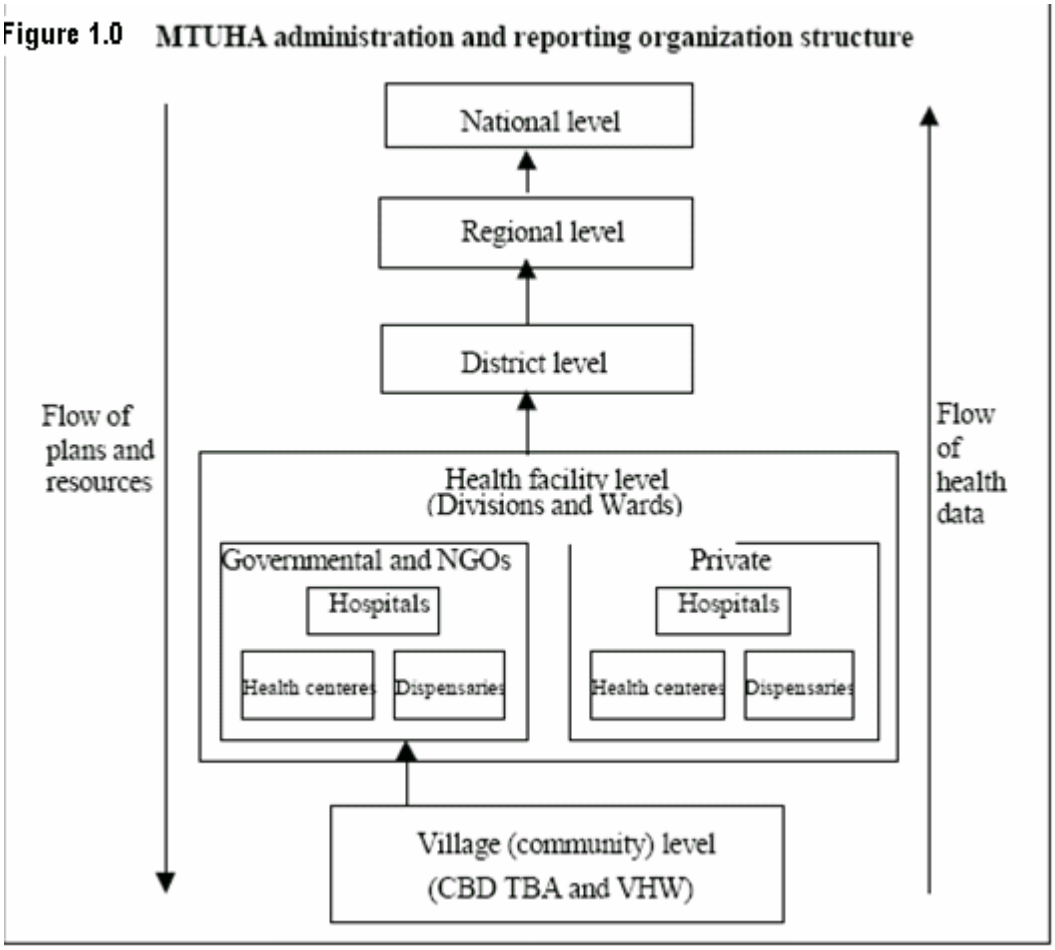
- Additional staff for the HMIS Unit in the Information and Research Unit of the DPP
- Procurement & distribution of HMIS computers for all CHMTs
- Development and roll-out of new HMIS software to capture, analyse and collate returns from the facilities, for upward transmission to Regions and National levels.
- A Monitoring and Evaluation Task Force has been convened
- Publication in 2006 of a Health Statistics Abstract with extensive analysis and interpretation of the data (the previous one having been published in 2002).

Organisation

MTUHA structure comprises of the village (community), health facility, district, regional and the national- central level. Health facilities are the service delivery points and at the same time generate data for the services they render. The other levels beyond that are responsible for provision of management support and coordination to subordinate levels. Figure 1.0 summarises MTUHA structure and at the same time illustrating flow of resources and plans (top down) and on the other hand flows of health data from health facility upwards.

- HMIS unit in the planning department at MoH is the main coordinating body for national implementation of MTUHA
- The ToR includes collection of information from regions and production of annual health statistics and other reports of national interest.
- RHMTs report to central HMIS and co ordinate MTUHA activities in their regions along with providing management support to districts
- CHMTs report to RHMTs and co ordinate MTUHA activities in their districts along with providing management support to HFs
- HFs provide servces and generate data

Figure 1.0 MTUHA administration and reporting organization structure



Inputs and logistics

- MoH staff establishment requires that one medical recorder is available at health center (HC) and hospital. In practice this is not the case in most cases especially at HC level.
- MTUHA focal person should be available at CHMT and RHMT level and this is true in practice
- Data and information management at Health Facility (HF) level is a manual process on papers yet
- At district and regional level paper based system in the form of the "District Processing File -DPF" work in combination with computer system. The current expectation is for the paper system to end at district level though districts are sometime sending their reports on papers instead of floppy disks.

MTUHA TOOLS

Data TOOLS: formats- paper based & computerized

Data collection tools	
HMIS BOOKS	**FUNCTION**
Book 1	HMIS Guideline
Book 3	Village visits register
Book 4	Ledger
Book 5	OPD register
Book 6	ANC register
Book 7	Children register
Book 8	Family Planning
Book 9	Diarrhea Treatment Corner
Book 11	Oral Health
Book 12	Deliveries
F201	Children attendance
F202	Vaccine and Vitamin A
F203	Routine services (HF & Villages)
F204	Neonatal tetanus in communities
Data capturing tools	
Book 2	Health Facility Information
Book 10	Reports from HFs to districts (forms F001-F009 below)

Health Facility returns to DMOs (all forms from book 10)

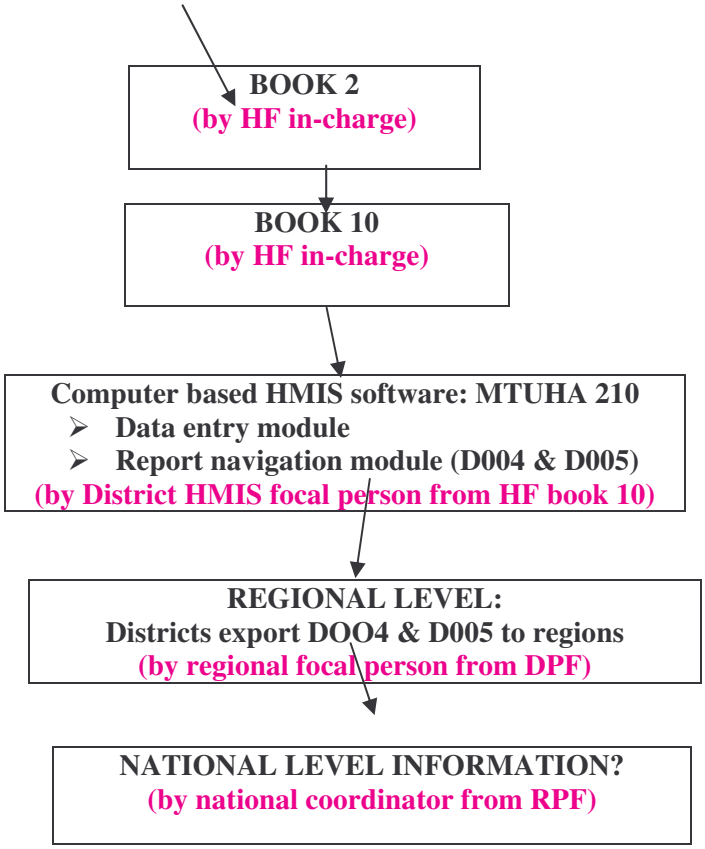
TOL	REPORT TYPE	PERIODICITY	TIME	SOURCE
F001	Staff list	Annually	JAN	personal details
F002	Permanent equipment	Annually	JAN	All equip
F003	Buildings & facilities[25]	Annually	JAN	All rooms listed
F004	Quarterly HF statistics	Quarterly	End MAR	HMIS book 2
F004	Quarterly HF statistics	Quarterly	End JUN	HMIS book 2
F004	Quarterly HF statistics	Quarterly	End SEPT	HMIS book 2
F004	Quarterly HF statistics	Quarterly	End DEC	HMIS book 2
F005	Annual HF statistics	Annually	End DEC	HMIS book 2
F006	Repair & replacement (buildings & equipt)	Annually	End DEC	
F008	Damaged equipment	On demand		
F009	Infectious diseases[26]	On demand		

[25] Facilities like water, electricity, toilets, waste pit, waste water channels etc

[26] Infectious diseases are AFP, cholera, dysentery, measles, meningitis, neonatal tetanus, plague, rabies, rabid animal bite, louse borne typhus and typhoid

Information Flow

Book 3	Book 4	Book 5	Book 6	Book 7	Book 8	Book 8	Book 9	Book 11	Book 12	Tally sheets
BY HEALTH WORKERS AT RESPECTIVE SERVICE DELVIERY POINTS										



HMIS in Practice

System:

- Well established at all levels: all inputs available
- No specific skills for data collection, analysis, use and sharing.
- Some levels are non functional: e.g districts to regional reports
- Huge workload (many paperwork) as facilities become bigger
- Low priority given to HMIS by leaders at all levels
- No enforcements of supervisions and quality control
- No culture for using data for development
- Low funds allocated for the HMIS system
- Low staff motivation for collection and use of HMIS information

- Non- reinforced supervision and feedback systems
- Low rate of trainings and follow-ups
- No role model (at any level?) to stimulate the data culture

Data quality & timeliness

- Completeness and accuracy: decreases as health facilities become bigger
- Almost always late submission (facility to council)
- At Central HMIS, Health Statistics Abstract Report (HSAR) supposed to come out annually. However, for the past decade(1996 - 2006), HSAR has been produced only 3 times for the years 1998, 2002 and 2006 with lag of data about 2 years behind year of publication
- Submission of reports from regions to Central HMIS 100%
- 60-70% completeness on contents of these reports; all regions present reports to central HMIS with gaps

Workload

Seemingly huge workload (paperwork) as facilities becomes bigger. However preliminary findings from recent study in Lindi and Mtwara has indicated median time of 30 minutes on MTUHA related work in most busy day (vaccination day) at MCH clinic with about 40% non-productive time for the health workers (Fatuma Manzi et al as part of IPTi evaluation to answer a research question on whether or not IPTi overload the system). Detailed assessment is suggested on MTUHA related workload

Annex 4: Experience and Evidence on P4P

Annotated Bibliography on Payment for Performance

Dupas, P. The impact of conditional in-kind subsidies on preventive health behaviours: evidence from western Kenya. EHESS-PSE, Paris, 2005

NGO program to provide free ITN for antenatal attenders ie conditional in-kind incentive. ANC uptake increased by 117%, HIV testing up 84%, ANC follow-up visits up 59% compared to baseline. Method, before vs after in 3 groups of clinics: case (3); control in same area (3); control in different area (3). Nb part of the increase due to migration from non-prog to programme clinics – explains "a quarter" of the increase in ANC in case clinics. "Increase" cited above is net of the transfer effect. Conclusion: much more cost effective than unconditional distribution of ITNs in the community.

Soeters R, Habineza C, Peerenboom P. Performance-based financing and changing the district health system: experience from Rwanda. Bulletin of the World Health Organisation 2006; 84:884-889.

Describes experience with performance based contracts in Cyangugu, Rwanda. C, Kigali and Butare all started 2001. Cordaid started contracting in 2002. All 24 health centres and 4 district hospitals signed contracts. Fundholder (Cordaid), communities (through community committees), providers (health facilities and their boards). Fundholder, CBO and district health team monitor output & quality. Contract renewal every 3 months based on output achieved, quality and patient satisfaction. Admin costs of the fundholder was 25% of total contract value (!). Output indicators recommend <25. C also used 120 quality indicators, measured quarterly. "showed good results in terms of use of services, financial accessibility and motivation of health staff as well as in the incorporation of the private sector. Nb health centres free to hire, purchase own drugs, reduce user fees, pay incentives etc.

Mohr T Rajobov O, Maksumova Z, Northrup R. Using incentives to improve tuberculosis treatment results: lessons from Tajikistan. Project Hope / Core Group, 2005.

Provide food supplements as incentive for patients to complete treatment. "substantially increased tb treatment completion and cure rates. Note: combined with considerable support to TB programme including training, protocols, diagnostic procedures, lab facilities, drug supply, fixed dose drug formulations, monitoring, managerial support, quarterly cohort analysis, problem identification and solution. Value of food package (2-monthly) for patient and dependents = $172 per patient (!!). Compared completion & cure for those receiving food supplements (defined as vulnerable) and those not (and not vulnerable). Sample sizes recognized as small. No significance tests. Completion rates for case group about 30% points higher.

Eichler R. Can "pay for performance" increase utilization by the poor and improve the quality of health services?" Discussion paper for the first meeting of the working group on performance-based incentives, Centre for Global Development, Feb. 2006.

Premise. Even with extra resources, we consider to see poor quality, low uptake, poor outcomes. Incentives can help to address demand side, supply side or both. Demand side. Monetary of in-kind incentive that is given conditional on defined actions (eg kids immunized). Supply side. Material incentive designed to change provider behaviour in terms of output and quality (through greater effort, focus on results, encourage compliance with protocols and innovation). Ie inputs alone are not enough: only the "intent to provide services". From "command and control" to "contract and incentive" to perform.

Under-utilisation by poor for many reasons including poorer service quality, higher opportunity cost, user fees higher relative to income, health knowledge & beliefs / perceived benefits.

Pp20-21 describes briefly a long list of examples of p4p from various countries. Many of these large scale (ie beyond pilot). Formal evidence available on only a small number. Many not able to control for confounding effects (investment in the health system). Cannot conclude that p4p the most effective or most cost-effective way of achieving desired results. But most experiments had positive outcomes. Few examples of "perverse" outcomes.

Concerns & constraints

- Workers migrate to areas paying bonuses at expense of others
- Workers focus on rewarded tasks and neglect others
- Sustainability of payment system
- Will morale drop (more) if scheme is discontinued
- Is P4P enough without addressing other supply side constraints
- Will constraints (eg rules, rigidities) negate impact of P4P on innovative supplier response?
- Will "intrinsic" motivation (social / bureaucratic duty) be replaced by extrinsic (money)
- Beware CCT to "coerce" people to doing things they don't want to eg sterilization
- How to verify self-reported results? Third party audit? Community verification?
- Different mix of demand and supply side required for different conditions/interventions?

Pp29ff documents case studies.

Rosenthal M, Dudley R. Pay-for-performance. Will the latest payment trend improve care? JAMA 297:7, 740-744

Focus on health care experience in USA. Half HMOs use P4P. Experience to date shows lessons and adverse effects, hence need for careful design. Discusses pros and cons of 5 "dimensions"

- Individual or group incentive? Depends whether under influence of individual or group.
- Paying the right amount. Max performance bonuses for physicians average 9%
- Select high-impact measures. Eg include clinical quality measures, cost-effectiveness, patient satisfaction. Nb involve physicians in selection of measures! Some schemes link specific system improvements eg IT.
- Link reward to quality. 70% of payment schemes use minimum protocol thresholds. 25% pay for improvement. Many first generation reward only the best (decile, quartile). Increases uncertainty and fails to incentivise improvement among the worst. New schemes reward all who provide top quality.
- Prioritise underserved populations. Emerging interest. Little evidence.

Meesen B, Kashala J-P & Musango L. Output-based payment to boost staff productivity in public health centres: contracting in Kabutare district, Rwanda. Bulletin of WHO, Feb 2007, 85(2) 108-115. recommended reading.

Project funded by SIDA, implemented by HealthNet. Good paper on theoretical and practical rationale for P4P in Kabutare. Converted fixed top-up to payment per procedure (new consultation, TT2+ PW, new FP acceptor, fully-immunised child, assisted delivery). Payment set so net result for average HC would be negative. Result: increase of 53% in individual productivity plus 18% increase in staffing, total output up 80%. Min 30%, Max 172%. Biggest improvement among the poor performers. Conclude "staff have much more control over the production of the health centres than was previously thought". Risks identified. Inflation of results (independent audit); induce unnecessary demand; deliver services that they are not equipped to deliver (sub-quality); neglect non-targeted activities; neglect quality in favour of quantity (use complementary strategies).

McNamara P. Quality-based payment. Six case examples. Int. J. for Quality in Health Care 2005, vol 17 (4) 357-362.

Variety of contexts and approaches have been implemented (incl developing and developed countries), public and private, govt purchaser/insurance/employer. Major unanswered questions are sustainability and long-term impact. Logic: pay more for high quality, less for low quality. Examples. Costa Rica soc security allocated 2% as bonus for high-performing hospitals. Nicaragua MOH, performance onus for achieving defined targets (max 17% of revenue). Incl measures like re-infection rates, patient satisfaction. Haiti. USAID-funded NGOs. 5% withheld and can be earned back, plus 5% bonus. US Medicare. Hospitals opt for quality-performance contracts instead of previous payment scheme (4-9 quality indicators monitored for selected procedures). Top 10% get 2% bonus above DRG-payment. Next 10% get 1% bonus. Penalty for lowest. US. Employer scheme conditional on installation of IT system and min staffing standards. Note: wide

variety of "values" on what constitutes quality. Results: Haiti and Nicaragua +ve, but both conclude rigorous piloting and evaluation to fine-tune design options.

Kindig D. A pay-for-population health performance system. JAMA 296 (21) 2611-2613, 2006.

Based on 20 evaluations with mixed results, Institute of Medicine has already endorsed move to P4P by Medicare. Author argues for more attention to public health rather than only clinical care. But recognize that it's more difficult to measure population health, devise appropriate incentives, reward diffuse responsibilities.

Hecht R, Batson A & Brenzel L. Making health care accountable. Why performance-based funding of health services in developing countries is getting more attention.. Finance and Development, March 2004.

3 reasons cited: Growing interest in raising performance. Extra funding (linked to results) needed for MDGs. Providers should be more accountable. Three groups of examples: donors funding NGOs, central govt funding local govt; performance-based aid.

NGO examples: Haiti, Guatemala, Argentina, El Salvador, Nicaragua, Afghanistan. Guatemala example: rationale to expand coverage of essential services by contracting non-govt providers on payment-for-service basis. Central-local govt. WB project in Brazil. Funding according to "planned" service delivery (!). Results-based aid. Examples WB credit converted to grant (with Gates money) if results achieved. Also GAVI (TZ), extra money (without strings) for achieving performance. GFATM also planning to disburse based on program outcomes. Obstacles to be addressed:

- Difficulty of measurement
- Lack of capacity
- "harsh/unfair" imposition on providers

Morris S Olinto P, Flores R, Nilson E, Figueiro A. The impact of conditional cash transfers on child weight gain. The case of the Bolsa Alimentacao Program in the Northeast of Brazil. From "Selected Issues on Measuring and Addressing Inequities in Health in Latin America" (citation??)

Aim: boost demand for relevant services and release income constraints on feeding. Monthly transfers to low income families with pregnant/lactating women and.or children under 7yrs. based on committing to charter of responsibilities. $6 to $18.7 per month. Evaluation compares beneficiaries to matched controls. Found worse weight for age and height for age among beneficiaries! Maybe because women thought entitlement might cease if children thrive.

Glassman A Todd J & Gaarder M. Performance-based incentives for health. CCT programs in Latin America and the Caribbean. Centre for Global Dev't Working Paper April 2007.

Reviews evaluations of CCT programs in 7 LA countries. Clear evidence on improved utilisation. But not enough evidence on behaviour, attitudes and impact on health outcomes. Recommend refinement of future evaluations. Recommend CCT should focus on most poor since food a min. requirement for other developmental gains.

Beith A Eichler R Weil D. Performance-based incentives for health: A way to improve TB detection and treatment completion? Centre for Global Development, Working Paper April 2007.

Supply side: to health workers or whole health facility. To improve quality of diagnosis, expand access to treatment, improve teamwork, encourage system strengthening to improve outcomes. Note, over 40 TB programmes providing incentives – typically tied to treatment completion. Few target poor patients only. Most target all.
Demand side. Encourage individuals to seek diagnosis, adhere to treatment.
Results: incentives make a direct contribution to higher case finding and treatment completion. Almost all experiments showed strong positive results. Few had "unintended effects" (mostly neutral rather than negative). Multiple changes make it difficult to attribute improvements to incentives alone, but results encouraging. Need "careful design" esp. distribution of food and money.

Many examples where private sector encouraged to participate in national TB program through provision of drugs, access to training. Got better case finding and good Rx completion. Or NGOs contracted to treat patients. Or barefoot doctors paid per referral. Ie provider incentives mostly designed to widen the pool of treatment centres and/or pick up patients from private sector consultations. Few examples designed to improve treatment compliance through existing providers.

Examples and Evidence on P4P, from Eichler "Can p4p increase utilisation by the poor and improve quality of health services?

1. **Mexico "Progresa and Oportunidades".**

5m households, 25m population. Aims to increase school attendance, improve nutrition, utilization of health services. Conditional cash transfer depending on school attendance and health utilization. Several evaluations of this program. Demonstrated 35% increase in health care utilization (public), lower private sector utilization, lower private health expenditure. *Query: Just substitution public for private or net increase? What investment in public services to meet additional demand?*

2. **Nicaragua CCT Program**

6,000 households in 6 municipalities. 2-monthly cash payment for attending health education and mandated preventive health care visits for under-5s. Providers contracted to provide services to these households $130 per hh per year. Results: uncertain (!). Too many other confounders. More health care visits, but not much change in essential

interventions coverage. *Query: has this program increased facility visits (to quality) or services delivered?*

3. DRC

World Bank funded. Umbrella NGOs contracted to do health system strengthening. NGOs sign performance contracts with providers who need to meet a mix of targets (inputs, process, services available, services delivered). World Bank funded. No results available. *Query: what does this tell us?*

4. Cambodia

3 streams. Govt + extra funds; Govt + NGO "contracted in"; NGO |"contracted out". Contracted did better than govt. on most measures. *Query: what does this prove? Even if all providers have equal resources, maybe NGO are less constrained by govt to address problems. Does this simply show that contracting out yields better performance? Was there any difference in expenditure between the three models?*

5. Haiti

>3m covered. NGO health providers put on performance contract instead of (previous) input contract. MSH contracts 32+ providers to cover 50% of Haiti population. Contract based on base cost (90%) plus performance-related 10%. Results: big increase in service coverage compared to baseline. *Query: No controls. Perhaps just the effect of more/longer investment or greater accountability?*

6. Rwanda (Butare)

19 health centers contracted according to outputs (9 public 10 non-profit). Purchase contract (with facility based on fee for service) plus Motivation Contract (bonus to health workers for hitting targets). Result, increase (vs baseline) on all measures. *Query: No control group. What else was provided to these health centers? What happened to background context?*

7. Guatemala.

Contract NGOs to provide services to 3m people. 88 NGOs contracted. Must meet targets to get contract renewed. No baseline available. No results available. *Query: threat of non-renewal a "blunt instrument" and not available if government providers contracted.*

8. TB treatment compliance

Multiple examples of demand side incentives. All initiatives with quantitative results demonstrated improvement. Shows that patient behaviours can be influenced by reward and/or compensation of costs. *Query: At what cost?*

Annex 5: Terms of Reference

Terms of Reference
Feasibility study on output / result based funding mechanisms in Tanzania for MDG4 and MDG5

1. Background

The feasibility of implementing performance based funding schemes is currently being discussed among the basket fund partners, the PMO-RALG and the MOHSW, as well as in a workshop held with MOH and The Royal Norwegian Embassy in Dar es Salaam in April with the purpose of exploring entry points for the Norwegian-Tanzania Partnership Initiative (NTPI).

A "Joint Statement" has been signed between the Government of Tanzania and Government of Norway to support the reduction of maternal, neonatal and child health in Tanzania. The Tanzania National Roadmap to accelerate reduction of maternal and newborn deaths provides the framework for the scaling up interventions in the area of maternal and newborn health and, in addition to the national health sector strategic plan and MKUKUTA. The preferred option for NTPI is to deploy the new assistance through existing, joint funding mechanisms – and to link it closely to the amplification of progress towards MDGs through a "performance-based financing" mechanism. The expectation is that this will combine the benefits of reduced transaction costs, national ownership and alignment with government plans and strategies. Importantly, performance based financing can promote innovation and results-based action at the local level to tackle obstacles to service delivery and drive up performance in the delivery of key health interventions.

1.1 Output/result based financing to districts in the context of the pooled basket fund

For the FY07/08, the allocations to districts from the common donor health basket fund is increased to equal USD 0.75 per capita. Although it was originally proposed by basket partners that the additional 25 cents would be allocated based on a performance criteria, timing has meant that this will be a distributed according to the existing allocation formula (population, burden of disease and remoteness). However, given the principle that performance incentives are desirable by government and stakeholders, the mechanisms for performance based financing to the district health basket will be explored. Funding from the Norwegian Tanzania Partnership Initiative (NTPI) are being planned to support the introduction of such a scheme and add flexible funding on the top of the already proposed scheme (USD 0.75-1.00). Performance criteria will be related to outputs/outcomes in MNCH service delivery[27]. However, the model may also be applied

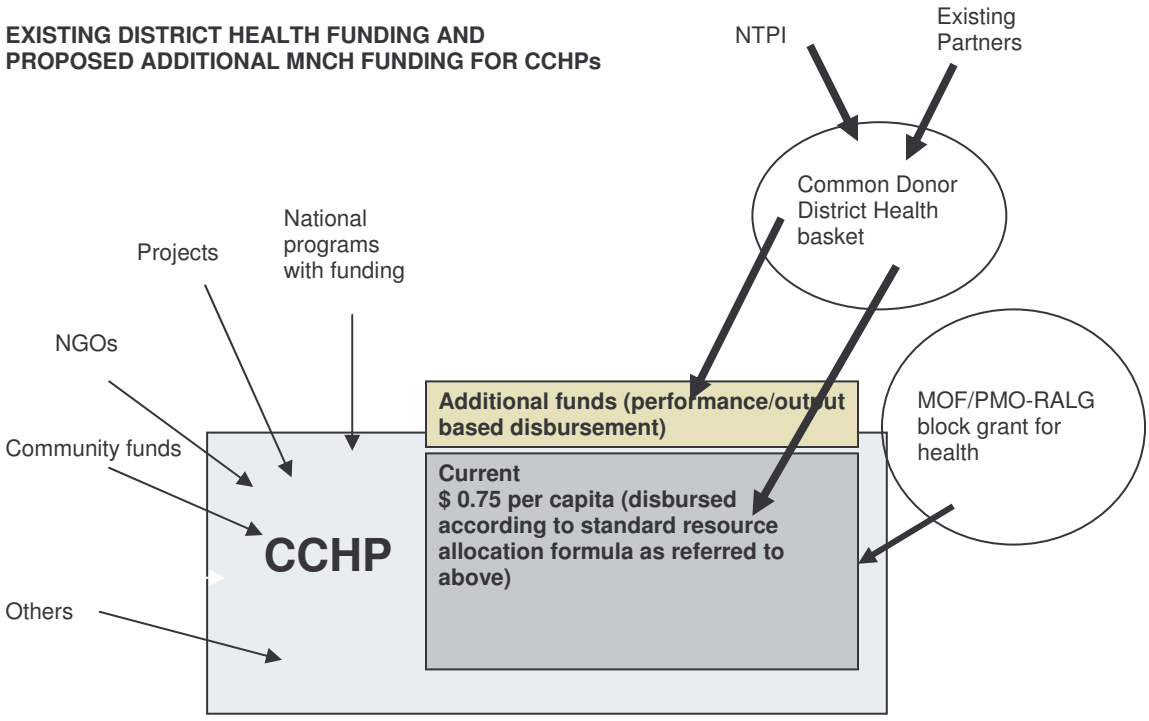
[27] Improved MNCH service delivery is dependent on a wide set of factors where health systems issues such as financial management, planning and logistics management, HMIS all may contribute to improve service delivery. Performance criteria at different levels should therefore be considered.(see section on scope)

to a larger part of the district health financing depending the results of the feasibility study and and discussions with MOHSW and partners.

Before being able to make further decisions in this area there is a need to explore possible modalities and assess the best way forward with this innovative idea. It is important that the proposed scheme is feasible, attractive and will gain support at district, provincial and federal level.

The operationalization of such system is subject to clarifying a number of issues such as 1) What are the relevant performance criteria (programmatic and/or managerial)? 2) Which mechanism(s) should be employed to measure the performance – ensuring efficiency and independence? 3) Are there political implications and risks? 4) How to establish supportive mechanisms for underperforming (and often resource poor) districts?

It is also important to notice that the CCHPs and the reporting sections are already subject to reviews before disbursements is allowed. Any proposal must take this into account in order to build on existing structures and not to duplicate efforts.



1.2 Clarification of concepts and different types of funding schemes

Performance based and output-based financing is increasingly used in the health sector and can tentatively be defined as

> *"the transfer of money or material goods to either demand or supply side conditional on taking a measurable action or achieving a predetermined target"*

Performance / output based funding can be aimed to improve provision, access, quality and utilization of health services by stimulating behaviour change either on the provider or user side.

Depending on where one would like to stimulate the change (i.e. of district health management teams, facility level management or individual health workers), the basic idea is to add an extra component to the extrinsic and intrinsic motivation factors that may already exist for delivering quality health services.

There is evidence that pay for performance schemes may contribute to improved service provision by stimulating focused action, innovation and increased productivity. Basically it can help change the health sector from payment for inputs to paying for results, putting emphasis on identifying strategies to strengthen existing systems that work or introducing new or innovative approaches.

Output / result based funding may be implemented at different levels:

1. From global level to recipient countries, i.e.:
    - *Flexible funding for strategic health sector plans and their annual budgets conditioned on demonstrating progress on specific indicators*
    - *Performance based grants such as the GAVI ISS rewards or GFATM performance based grants.*
2. From national level to sub national levels (i.e. Local Governments / District Health Management teams(DHMT) i.e.:
    - *Additional flexible funding to district comprehensive health plans based on satisfactory progress towards a defined set of indicators (sub-national data)*
    - *Rewards based on specific outcomes*
3. From sub-national level to individual facilities (i.e Hospitals, health centres and dispensaries, NGOs/CBOs)
    - *Paying service providers according to output (such as immunization, no of deliveries, ANC, number of births attended by SBA, etc), instead of inputs (number of trained staff, number of beds, number of ambulances, etc)*
4. From health facilities to health workers i.e:
    - *Salary bonuses to health workers according to specific outputs (attended deliveries, ANC visits, immunizations contacts etc)*
5. From health facility (or other management unit) to individual patients (demand-side financial interventions) i.e.:
    - *Reward women for delivering in a health facility.*
    - *Reward women for bringing their children for immunization*
    - *Other voucher schemes or cash transfer programs*

2. Objective

With reference to the concepts set out in this Terms of Reference, appraise the feasibility of implementing performance based funding in the Tanzania context with the aim to improve access, provision and utilization of quality maternal, neonatal and child health services without compromising the delivery and use of other priority health services. Identify key design issues and set out options for implementation.

3. Scope and guiding principles

It is suggested that the scheme(s) should follow a set of guiding principles:

- Output / result based indicators must be clearly defined and should be sensitive to change and should be able to capture changes in strengthening of health systems
- Already existing indicators should be used as far as possible. However, need to assure relevance related to MNCH.
- Strike a good balance between the proportion of the district budget subject to performance-based payments and not subject to performance based payment, in order not to destabilize planning and budgeting processes.
- Weak performing district should be identified and be subject to a diagnostic review if performance is not reached. Supportive actions to be identified and implemented. Justification for alternative funding models for these districts needs to be assessed.
- Scheme should be simple.
- There is a need to carry out formative and summative evaluations of scheme to address issues of relevance, cost-effectiveness and sustainability and identify and analyse those factors contributing to improved outputs and result.
- Dimensions such as rights, equity and trust should be considered carefully.

The consultancy would provide guidance to the following issues/questions:

1. Problem analysis

The consultancy should map current financing mechanisms for district level health services (in particular for maternal, newborn and child health services) at the different above-mentioned levels, and identify possible areas where performance/output based financing could have a role in improving delivery and utilization of MNCH services.

2. Design features of possible scheme(s)

The consultancy should develop a proposal for the main features of possible schemes that would contribute to address the problems identified above. As already stated in the guiding principles the scheme should be guided by simplicity, implying that eligibility criteria (if any) and potential contractual arrangements for the scheme should be kept as simple as possible.

a. Main actors

The consultancy should identify the main actors in the different schemes (MOHSW, PMO-RALG, regional administrations, district councils, district health management teams, individual health facilities, individual NGOs/CBOs). If several schemes at different levels are recommended the consultancy should propose measures for how to ensure necessary links between the different levels to reach maximum effect of scheme(s).

b. Performance indicators

The study will provide guidance on which output / result based criteria (programmatic and managerial) that can be used and how easy / feasible will the monitoring performance. The consultancy should provide advise in terms of the

- Type of indicators (mix of interventions)
- Number and mix of indicators (outcome, output, process)
- Source of data

The strengths and weaknesses in each of the existing sources of data, should be reviewed & options proposed for their strengthening.

The consultancy should also provide suggestions in terms of how the level of performance would be linked to the size of the disbursements and how often the output based disbursements should happen.

c. Mechanism to measure and verify reported results and outputs

The study will provide guidance on which mechanism(s) to be used to verify the reported results – ensuring efficiency and independence. It is crucial that the review mechanism would take use and build on already established structures for performance reviews. The consultancy should map already existing review mechanisms (e.g. for Local Development Capital Grants and Review Section of CCHPs, Joint Annual Health Sector Reviews and MKUTA reporting systems) and compare those with other alternatives such as independent reviews (made up from i.e. academia and local population) or peer review mechanisms. Pros and cons for each alternative should be carefully assessed.

The consultancy should also discusse methods to be used for data verification and provide options for sanctions in case of data manipulation.

3. Costs of supportive mechanisms

Supportive mechanisms such as managerial training and provision of agreement templates might be needed. The consultancy should provide an overview of supportive mechanisms needed as well a rough estimation of costs.

4. Pros and cons (including the political implications and risks) of implementing result based funding schemes in Tanzania

The consultancy will analyze the feasibility of this proposal and compare it with other alternatives (using annual plans from health facilities, specific program targets, letter of interests or other mechanisms etc.).

The study will identify the overriding pros and cons, including political implications (both gains and risks) as well as strategies to overcome them the barriers and risks.

5. Way forward

The consultancy should provide suggestions in terms of how to build understanding and acceptance around the scheme as well as enhancing local ownership to the objectives of the proposed scheme(s).

4. Duration

The duration of the work should be approximately 5 weeks.

The consultancy should be done in several phases:

Phase 1 : Map the current financing and review mechanism for CCHPs and health facilities and discuss their strengths and weaknesses in terms of result focus and for providing incentives for the delivery and utilization of MNCH services.

Deadline for brief report, June 30th.
Approx. 1 week of work

Phase 2: Continue problem analysis for remaining levels (not covered in phase 1) and development of proposal for the design aspects of Performance/Output Based Funding Scheme

Deadline for main report July 30th
Approx. 3 weeks of work

Phase 3: Further refinement after feedback from the MOHSW, PMO-RALG and DPG health

Final report delivered by August 20th
Approx 1 week of work

5. Reporting

Reference group / steering committee / management group to be convened under government leadership to steer the design process and related consultations. The Norwegian Royal Embassy should be represented in the steering committee.

The team of consultants will report to above mentioned steering committee. The steering committee will oversee the progress of the work.

6. Deliverables

- Written document appraising the feasibility of implementing performance based funding in the Tanzania including recommendations for key design issues and options for implementation. Document should be not longer than 50 pages including an executive summary with clear recommendations of maximum 3 pages.
- The team will conduct a consultative workshop with local government group representatives, MOHSW and DP Health where they will present options and guide the discussion on the way forward regarding the establishment of the scheme.
- After the consultative workshop, the consultants will write and present a final draft report to the steering group for comments and adjustment if required.
- The final report will be submitted not later than two weeks after receipt of comments from the steering group.

7. Team members

- Nationals with intimate knowledge to the process around planning, budgeting and financing the CCHPs.
- International expert with experience in output based/performance based funding.

8. Timeline

Deadline for brief report for phase 1 on June 30th.
Deadline for draft report July 30th
Final report delivered by August 20th