



PERFORMANCE-BASED INCENTIVES IN AFRICA: EXPERIENCES, CHALLENGES, LESSONS

December 2011

This publication was produced for review by the United States Agency for International Development. It was prepared by Lindsay Morgan and Rena Eichler for the Health Systems 20/20 project.

Health Systems 20/20 is USAID's flagship project for strengthening health systems worldwide. By supporting countries to improve their health financing, governance, operations, and institutional capacities, Health Systems 20/20 helps eliminate barriers to the delivery and use of priority health care, such as HIV/AIDS services, tuberculosis treatment, reproductive health services, and maternal and child health care.

December 2011

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Cooperative Agreement No.: GHS-A-00-06-00010-00

Submitted to: Robert Emrey, AOTR
Health Systems Division
Office of Health, Infectious Disease and Nutrition
Bureau for Global Health
United States Agency for International Development

Recommended Citation: Morgan, Lindsay and Rena Eichler. December 2011. *Performance-Based Incentives in Sub-Saharan Africa: Experiences, Challenges, Lessons*. Bethesda, MD: Health Systems 20/20, Abt Associates.



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PERFORMANCE-BASED INCENTIVES IN SUB-SAHARAN AFRICA: EXPERIENCES, CHALLENGES, LESSONS

DISCLAIMER

This study and report are made possible by the support of the American People through the United States Agency for International Development (USAID.) The contents of this report are the sole responsibility of the authors and do not necessarily reflect the views of USAID or the United States Government.

ABSTRACT

Performance-based incentives (PBI) are or will soon be incorporated into health systems in at least 20 African countries, often driven by a desire to accelerate progress toward achieving the health-related Millennium Development Goals. Performance incentives may be offered at health facilities, such as in the national PBI scheme in Rwanda, or incorporated into contracts with nongovernmental organizations, such as in Liberia. Voucher schemes, another PBI approach, aim to overcome demand and supply side obstacles. Most PBI schemes aim to improve performance on key health indicators such as immunizing children against vaccine-preventable diseases and supporting safe deliveries. They also aim to strengthen health systems to prevent and treat illness and to manage chronic conditions such as HIV/AIDS. This report traces the evolution of PBI programs in sub-Saharan Africa and shares evidence on its impact on health and health systems as well as the gaps.

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ACRONYMS

AAP	<i>Agence d'Achat de Performance</i>
ANC	Antenatal Care
CCT	Conditional Cash Transfer
CEmonC	Comprehensive Emergency Obstetric and Newborn Care
CHW	Community Health Worker
CPVV	<i>Comité Provincial de Vérification et de Validation</i>
CIDA	Canadian International Development Agency
COD	Cash on Delivery
DAH	Development Assistance for Health
DRC	Democratic Republic of the Congo
DSF	Demand-side Financing
EC	European Commission
FFS	Fee-for-Service
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System(s)
IRC	International Rescue Committee
IUCD	Intrauterine Contraceptive Device
MDGs	Millennium Development Goals
NGO	Nongovernmental Organization
P4P	Pay for Performance
PBC	Performance-based Contracting
PBI	Performance-based Incentive
PNC	Postnatal Care
PNFP	Private Not-for-Profit
STI	Sexually Transmitted Infection
UNICEF	United National Children's Fund
USAID	United States Agency for International Development
WB	World Bank

ACKNOWLEDGMENTS

The authors would like to offer their sincere thanks to Anna Gorter, Yann Derriennic, Rick Brennan, Fred Hartman, Chuck Lerman, Sunil Rajkumar, Rigobert Mpendwanzi, Gyuri Fristche, Richard Alia, Alex Ergo, and Ben Bellows for their help and comments.

I. PERFORMANCE-BASED INCENTIVES: MORE HEALTH FOR EVERY DOLLAR

Billions of dollars have been poured into health programs in low- and middle-income countries over the last decade, and in sub-Saharan Africa (SSA) has been a key recipient of such funds. Development assistance for health (DAH) to SSA countries rose from US\$561 million in 1990 to US\$6.9 billion in 2008 (Institute of Health Metrics and Evaluation 2009, Anderson et al. 2011). The relative share of DAH for SSA has grown to the point where that region now receives more funding than all other regions combined.

More money for health has done much good. The percentage of children protected from malaria by insecticide-treated nets increased almost eightfold in 18 African countries, from 3 percent in 2001 to 23 percent in 2006, for example (World Health Organization 2008). Nearly 4 million people in SSA receive antiretroviral treatment, up from just 50,000 in 2002.

But despite the political and financial big push, many serious health woes persist. SSA is home to about 11 percent of the world's people, but carries 24 percent of the global disease burden in human and financial costs (International Finance Corporation n.d.). Almost half the world's deaths of children under five take place in Africa. And SSA has the highest rate of maternal deaths in the world with an average of about 900 deaths per 100,000 live births, according to the World Bank.¹

Much good has been accomplished, but looking back, more could have been done. And this, combined with a weakened constituency for aid in rich countries nudged on by the global financial crisis, demand evidence not only that money for health is not wasteful, but that it works.

I.1 INCENTIVES FOR BETTER HEALTH

There is a growing movement in the development community – both among donors and national governments – to reorient spending away from inputs and toward results. Financing for health has traditionally focused on such things as equipment, medicine, and infrastructure, and better health was assumed to follow. But this has not always happened. Translating inputs into health depends on the choices people make far away from country and donor capitals. Individuals must demand services, health workers must be motivated to deliver care, and the institutions they work for must be encouraged to make the systemic changes required to achieve health goals. And the choices they make depend not only on what they have (i.e., on inputs), but also, critically, on what influences and motivates them – on the forces that enable or constrain them and drive their behavior.

PBI is defined as the “transfer of money or material goods conditional on taking a measurable action or achieving a predetermined performance target.” (Eichler and Levine 2009). Incentives can be given to patients when they take health-related actions (such as having their children immunized), to health care providers when they achieve performance targets (such as immunizing a certain percentage of children in a given area), or to health managers at the district, provincial, and national levels, conditional on such things as timely and accurate reporting, or the performance of the facilities they are responsible for.

¹ See: <http://data.worldbank.org/indicator/SH.STA.MMRT>.

People are, of course, motivated by many things. Health workers may be motivated by professional pride, social prestige, and a desire to treat people and improve health. Parents want their children to be healthy, and individuals want to enhance their own well-being. But people are also motivated by external factors. Parents may want to be seen as good parents and helpful members of their communities. Health workers may want recognition from colleagues, awards, and rewards. Insofar as people are intrinsically motivated, PBI aims to enable people to act on the intrinsic motivation they already have by providing increased supervision, support, and empowerment to health facilities and managers, and by facilitating links between families and communities and the health system.² And insofar as people are motivated by external factors, PBI provides modest financial or in-kind rewards for performance, to complement intrinsic motivation.

PBI also aims to tackle the disincentives that sometimes exist in health systems for people to take actions that would lead to better health. At the facility level, low, fixed salaries with raises that are not tied to performance may lead to low productivity, absenteeism, poor quality, or lack of innovation. Lump sum grants or reimbursement for expenditures can encourage providers to devote energy to securing funds and justifying inputs rather than to expanding coverage, promoting preventive and primary care services, or solving systemic problems, even when they have the intrinsic motivation to do so. For families, user fees can lead households to prioritize urgent curative care services and neglect essential preventive care, which further reduces provider motivation to reach communities with essential public health services, resulting in limited accountability for or responsiveness to population needs.

PBI is not only a financing strategy; it can also have a significant impact on health systems. For example, because PBI pays for results, the success of schemes rests fundamentally on the ability to accurately verify those results. Monitoring and verification require the development of robust health information and management systems, such that incorporating the PBI concept, even into vertical programs, can reinforce efforts to improve the timeliness, credibility, and accuracy of national reporting and monitoring.

Finally, PBI aims to address the incentives and behaviors that limit the impact of money for health. In the absence of evidence of the impact of aid on health results, payers may impose conditions that undermine the effectiveness of financing. For example, donors typically fund inputs and impose conditions that track spending, not because conditions improve the effectiveness of financing, “but because conditions enable donor governments to claim that they are ‘doing something’” (Barder 2010) by accounting for how the money is spent. Developing country governments also tend to budget based on line items that track spending on inputs with limited focus on the health results this spending actually buys. In short, when payers cannot demonstrate results or impact, they often settle for second best: clinics built, people trained, guidelines developed. These are good things, but they do not automatically add up to better health. A stronger link between financing and results is part of the solution to solving this problem.

Many donors are committed to supporting the principle of country ownership outlined in the Paris Declaration on Aid Effectiveness, and momentum is building to provide support to implement national country strategies following approval assessed through joint donor processes.³ In some cases, aid may be provided as either budget or sector support, some of which may be linked to attainment of health outputs. By linking donor-to-national government transfers to results, donors and national governments

² This paper defines health systems broadly to include the enabling environment (governance, leadership); service delivery (infrastructure, health workforce, etc.); the physical environment; the social environment; and household and individual characteristics. For more information, see Ergo et al. 2011.

³ For example, the Health Systems Funding Platform, established in 2009, was developed by the GAVI Alliance, Global Fund to Fight Aids, Tuberculosis and Malaria, the World Bank and World Health Organization. Joint Assessment of National Strategies is another tool, a shared approach to assessing a country’s national strategy endorsed by members of the International Health Partnership (IHP+). See also The Paris Declaration on Aid Effectiveness.

can exert influence and hold governments accountable while preserving the principle of country ownership and direct management of the health system.

1.2 MANY NAMES FOR PBI

Programs that incorporate financial and in-kind incentives are known by many names, including PBI, Pay for Performance (P4P), Results-based Financing (RBF), Performance-based Financing (PBF), Output-based Aid (OBA), Conditional Cash Transfers (CCT), Performance-based Contracting (PBC), Cash on Delivery Aid (COD), and Performance-based Aid (PBA). While these types of schemes all have in common that they link incentives to results, there are differences between them. For example, the World Bank's Global Partnership on Output-based Aid contracts with service providers, as opposed to governments, and works in the energy, transport, and water and sanitation sectors, in addition to the health sector. PBF tends to be associated with a model of supply-side PBI seen particularly in the French-speaking Great Lakes region of SSA that pays fees for services delivered conditional on quality. CCTs are demand-side incentive programs that offer cash to families or individuals conditional on certain actions taken. PBC incorporates payments linked to measurable results into contracts with NGOs, and PBA and COD aid typically⁴ involve performance contracts between donors and central governments. Vouchers are yet another model to incentivize both patients *and* providers (Musgrove 2010). PBI, P4P, and RBF are often used as umbrella terms for all these programs.

1.3 EVIDENCE

The evidence on the impact of PBI is limited but growing. In some cases, similar improvements are found in non-PBI areas, or improvements in performance begin before the introduction of PBI (e.g., in Rwanda, Democratic Republic of Congo (DRC) and Burundi) (Canavan et al. 2009), making attribution difficult. Much of what we know is based on before and after assessments using baseline and endline data; the design of these assessments is typically too weak to disentangle the effect of the incentive from other contextual factors. There are a few exceptions, however. Rwanda conducted a rigorous impact evaluation that showed positive results; Uganda's first PBI pilot was rigorously evaluated, along with CCT pilots in Malawi and Tanzania (all discussed in this report) (Basinga et al 2011). At least seven other countries will rigorously evaluate their PBI programs with funding from the World Bank-administered Health Results Innovation Trust Fund. There is also growing recognition of the importance of documenting the PBI process – from generating buy-in among stakeholders, to designing a program, to implementation, program learning, revision, and scale up – as a complement to quantitative evaluations. This is because impact evaluations typically do not provide insight into the *how* and *why* of observed changes that occur. Yet these operational questions are of critical interest to governments, evaluators, practitioners, donors, and the global health community, both as a means to improve and revise programs and to inform policy.

Where PBI is being tried, experiences suggest that incentives can have a significant impact on health. Some indicators, such as immunizations and facility deliveries, increase rapidly. In Rwanda, for example, institutional deliveries almost doubled (from 12 percent to 23 percent) between 2001 and 2004 in the areas where PBI was operating.

⁴ COD aid may also be applied to contracts with subnational levels of government. See: http://www.cgdev.org/section/initiatives/_active/codaid.

2. PERFORMANCE-BASED INCENTIVES IN AFRICA – A BRIEF HISTORY

Many African countries experienced progress in health in the decades after independence, but beginning in the 1970s, began to struggle with the global oil crisis, rapid population growth, and the decline in price of key commodity exports. In the 1980s and 1990s, many countries began to stagnate and slip backwards. Today, health care in much of SSA remains the worst in the world.⁵

One fundamental problem is the overall weakness of health systems. Many countries lack the infrastructure, supply chains, and facilities necessary to deliver minimal levels of care. Information management systems are also weak, and public spending levels continue to be significantly lower than the World Health Organization-recommended \$34 to \$40 per person per year, which places a significant burden on the poor to pay out of pocket for services.⁶ SSA also faces a shortage of trained medical personnel, and the existing workforce is typically underpaid, under-supervised and poorly motivated.

Beginning in the early 2000s, several experiments with PBI began (most notably in Rwanda, Uganda, and the DRC). Several NGOs, including Cordaid and HealthNet TPO, and the Belgian Technical Corporation were pioneers in advancing these approaches. After mostly positive results, interest among donors and country governments ballooned. In 2009, the World Bank, through the Norway and UK-funded Health Results Innovation Trust Fund, began financing the design, implementation, and evaluation of six PBI pilot programs in Africa (in Benin, the DRC, Eritrea (later dropped), Ghana, Rwanda, and Zambia) and in 2010, three additional countries (Nigeria, Burkina Faso, and Ethiopia) were approved. The U.S. Agency for International Development (USAID) is also supporting the design and implementation of PBI schemes in a range of countries, from Senegal and Liberia, to South Sudan and Mozambique. International NGOs also continue to implement small-scale schemes.

PBI programs now exist at various stages of design and implementation in at least 23 African countries.⁷ An active community of practice has been formed in SSA that aims to build a critical mass of African experts in PBI and identify and disseminate best practices. This paper analyzes a handful of the many PBI schemes in SSA. Our analysis focuses on schemes for which information was made available, and generally on government-led schemes, as opposed to smaller, sporadic NGO initiatives, of which there are many.

For simple organization, the paper splits schemes into two categories: those aimed at improving the supply of services and those aimed at spurring demand, but many schemes incorporate elements of both. Some of these schemes were designed with a strong evaluation component built in; others were not. What we know, therefore, about results varies. In addition, some of the schemes described below

⁵ This summary is based on in-depth analysis by Kevin Croke. See Croke 2011.

⁶ According to the International Finance Corporation (n.d.) about 50 percent of SSA's total health expenditure is financed by out-of-pocket payments from its largely impoverished population.

⁷ Countries known to have (i.e., programs are currently being implemented or being designed) or that once had PBI programs include Benin, Burundi, Cameroon, DRC, Eritrea, Ethiopia, Ghana, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia (Somaliland), South Sudan, Tanzania, Uganda, Zambia, and Zimbabwe.

were piloted and then discontinued; others have been implemented for several years and continue today, while others are just being launched. This collection aims to convey the most interesting aspects of each country experience, followed by a discussion of the challenges, lessons, and implications for the future.

3. PBI TO IMPROVE THE SUPPLY OF HEALTH SERVICES

This section describes five supply-side schemes. The schemes vary in many ways, from who benefits from the incentive (public providers; private providers, including NGOs; subnational levels of government, such as district health management teams; and community health workers), to the payment and verification mechanisms employed. There are generally two types of programs: those that pay for services delivered (fee for service) and those that pay upon attainment of certain targets. A discussion of the pros and cons of each approach is covered in the section about how thinking about PBI is evolving at the end of the paper.

3.1 THE TRENDSETTER: RWANDA⁸

Rwanda represents the most influential experience thus far with PBI in Africa. The government of Rwanda was the first to make PBI (or *l'approche contractuelle* as it is known in the country) national policy and scale it up across the country, and it is one of the only countries in Africa to have conducted a rigorous impact evaluation of PBI at national scale, although other countries are planning impact evaluations. Countries such as Haiti and Afghanistan have implemented successful PBI schemes, but Rwanda has been perhaps the most influential -- the evidence of its impact has helped to fuel interest in PBI across the continent.

Prior to the advent of PBI, health worker salaries in Rwanda were low and fixed and were paid irrespective of performance, leading to poorly motivated staff and low performance. In 2001, three NGOs attempted to address the problem by raising health worker salaries. Nothing changed. The NGOs then tried linking the salary top-up directly to performance – for example, if a health facility could demonstrate that more women had given birth in the facility, or more children had been immunized, they would receive a bonus. Paying for performance worked.

3.1.1 THREE PILOTS

Dutch NGOs launched the first two schemes in 2002, HealthNet TPO and Cordaid, with the Belgian Technical Cooperation (BTC) launching a scheme in 2005. All three schemes paid both public and religious not-for-profit providers fees for delivery of such services as curative care visits, immunization, prenatal care, and assisted deliveries. The aim was to quickly increase use of services; the goal of improving quality was introduced systematically only later.

Each scheme established structures to manage contracts, verify results, and pay facilities. In the Cordaid scheme, Cordaid itself was responsible for negotiating contracts, establishing fees, and making payments. The BTC scheme was managed by the donor and the Ministry of Health (MOH), working through government structures. The HealthNet TPO scheme created a steering committee composed of the NGO, the MOH, and provincial health authorities to negotiate contracts with health centers, which included motivation contracts for each employee (Meessen et al. 2006).

⁸ This section is based on Rusa et al. 2009; Basinga et al. 2010; and Morgan, 2009.

Although payments were not linked to the attainment of population coverage targets, health providers were required to prepare business plans in the Cordaid scheme and encouraged to do so in HealthNet areas, detailing desired targets and strategies for attaining them. At well-functioning facilities, the process of developing these plans was highly participatory, according to program managers, and empowered health staff to find creative solutions to improve service delivery. Although the BTC scheme also involved staff in setting targets, strategic planning was not as central an aspect as in the other programs.

The range of services rewarded was broadly similar between schemes. All three schemes aimed to gradually scale up coverage of the basic health package for health centers and district hospitals, starting with a set of high-impact activities that were easy to deliver and measure. In HealthNet areas, between 2002 and 2004, services were provided at only the health facility level and in only two districts, both due to funding constraints and a desire to test the approach before considering the more complex task of contracting hospitals. The Cordaid scheme was relatively well financed⁹; it covered all facilities in the province and provided incentive payments for a more generous set of services, including tuberculosis (TB) management, referrals, and obstetrical emergencies. Both schemes introduced payments for HIV/AIDS services in mid-2005, and the BTC scheme did so for TB and malaria services.

Facilities were paid a fee for each rewarded service they delivered. Payment mechanisms varied between schemes. In HealthNet's program, payments were given to a health committee, which then paid the staff. In Cordaid's program, payments were made directly to the facility, with health committees or management deciding how to use funds (on average, 40 percent was given to staff as bonuses and 60 percent was reinvested in the facility). In the BTC scheme, facilities received payments and distributed them among staff according to previously agreed criteria that captured the relative contributions of staff. On average, each health worker could earn between \$25 and \$30 monthly in the Butare and Cyangugu schemes before HIV performance bonus payments were introduced and around \$18 in the BTC scheme, in addition to a predictable salary payment (Rusa et al. 2009, p. 195).

Once payment was linked to results, each scheme recognized the need to introduce a way to verify that the rewarded results actually occurred. Different approaches to monitoring and verifying results were adopted, each with advantages and disadvantages. In Health Net TPO areas, the steering committee monitored results, relying primarily on Health Management Information System (HMIS) data, with periodic, random cross checks. The steering committee complemented this system with client satisfaction surveys implemented by the School of Public Health. According to key informants, this model improved the timeliness and accuracy of reporting, but did not always guarantee the reliability of data (Rusa et al. 2009). Additionally, the client satisfaction surveys (intended to be conducted every six months) were deemed to be too costly and not conducted frequently enough (Rusa et al. 2009).

The Cordaid scheme had independent supervisors and an officer dedicated to the role of monitoring and verifying results. Like the HealthNet TPO scheme, Cordaid conducted patient satisfaction surveys each quarter, contracting local community organizations to carry them out. The results were then shared with facility teams, who could then receive an additional award of a maximum of 15 percent on top of their monthly fees "if their performance was deemed exceptional" (Rusa et al. 2009).

The BTC scheme consolidated both supervision and verification into one function, causing some critics to question whether this created a conflict of interest. BTC administrators have argued that because supervisors were not rewarded for how well the facilities they supported performed, conflict of interest was not a problem. Supervisors were remunerated for such things as the regularity of supervision visits, timeliness of supervisory reports, and adequacy of follow-up measures and not on how well the facilities under their supervision performed (Rusa et al. 2009).

⁹ The level of resources available varied across the schemes. The average per capita annual budget was about \$0.24 per inhabitant per year in the Butare scheme, less than \$0.20 in the BTC scheme, and about \$2.00 in Cyangugu.

The HealthNet TPO scheme did not reward quality of care, as it was considered too complex to define and measure. The Cordaid and BTC schemes did, however. In Cordaid areas, district hospitals assessed the quality of lower level health facilities and awarded additional bonuses based on results. The BTC scheme developed a set of composite indicators as proxies for quality of care. For health centers, quality was defined in terms of adherence to protocols. At the hospital level, quality was measured based on performance on process indicators, such as timeliness of reports, lack of stock outs, and frequency of supervisory visits.

3.1.2 RESULTS OF THE PILOTS

Results from the pilots must be interpreted carefully because analysis was limited to before and after observations and to comparison with non-contracting provinces, in addition to other limitations.¹⁰ However, results from the three schemes showed improvements in coverage and quality of health services. There were large increases in the number of curative consultations and institutional deliveries and smaller increases in immunization against measles and in new family planning acceptors. PBI provinces also scored higher on quality measures such as effective management of deliveries and referral systems. Furthermore, views with respect to the frequency/adequacy of supervision were relatively positive and consumers paid less out of pocket in PBI regions.¹¹

3.1.3 SCALE UP – NATIONWIDE

This success of the pilots prompted the MOH to scale up PBI nationwide; it was adopted as a national policy as part of the 2005–2009 Health Strategic Plan and subsequently incorporated into the National Finance Law.

In the national model, health centers are paid fees for 24 services: 14 from the basic package of health services and 10 HIV services. Facility payments are deflated by their quality score: a quality score of 100 percent provides health centers with their full payment. Overall, facilities have the opportunity to increase their budgets by 25 percent.¹²

For hospitals, no specific quantity indicators are linked to incentives, except for HIV indicators. As in the health center model, quality is assessed and fees deflated. For hospitals, quality is assessed in two ways: by random visits by a team of central-level evaluators twice a year, and by reviews performed by a team of medical professionals from peer hospitals.

Facilities file monthly reports to the district PBI steering committee¹³, which is responsible for authorizing payment. Data are entered and accessed online. For referral indicators, facilities must also submit verification from the hospital that the referral was appropriate and that the referred patient was treated. At the district level, a health “controller” visits the health facility each month to verify the accuracy of the invoices by comparing them to data in the facility registers.

¹⁰ Data were sometimes drawn from a relatively small sample of facilities and, thus, providers were not representative or statistically significant, and information for all indicators was not available long enough to surmise trends. There were also several other interventions happening simultaneously (e.g., community-based health insurance schemes (*mutuelles*) were scaled up), which made it difficult to untangle the effects of the performance-based schemes.

¹¹ Quality was examined by randomly selecting eight health centers in Cordaid and HealthNet regions and comparing quality in eight randomly selected health centers from two non-PBI regions. A team verified data and assessed quality by examining a small sample of patient files in each health center to determine appropriateness of care. Each health center could score one point for each of 13 indicators of quality, and each province could score a maximum of 52 points (4 health centers x 13 points).

¹² Other sources of health center revenue include government health worker salaries, user fees, social insurance membership fees, and donor contributions.

¹³ The district PBI steering committee – the equivalent of the provincial verification and validation committees in Burundi – has become a critical decentralized district planning platform in the health sector in Rwanda. Unlike in Burundi, the committee does not receive incentives; however, it does enter into performance contracts with district mayors.

Quality scores are determined by a combination of structural and process measures. The former include such things as the extent to which a facility has the drugs, equipment, supplies, and personnel necessary to deliver a specific service, while the process measures capture the clinical content of care provided for specific services.

Quality is assessed through the regular monitoring and supervision of primary care facilities by district hospitals, using a checklist that measures 13 services and 185 variables. Each quarter, supervisors from district hospitals visit each facility unannounced and assess clinical quality through direct observation and review of patient medical records.

Facilities produce consolidated invoices each quarter, and the PBI steering committees validate bills and send them to the MOH to approve quarterly district payments, through the Ministry of Finance, into health center bank accounts. Health facilities follow standard rules that help them convert these earnings into performance bonuses, which they distribute each month.

In addition, each quarter, independent agents contracted by the fund holder, which is a mixed body comprised of representatives from the MOH and civil society, verifies that services have been delivered by randomly choosing 25 percent of facilities in four (out of 30) districts to audit. Agents compare reported services (from the facility registers) with paid services (from the invoice). Additionally, a local organization is selected from the catchment area to follow up with patients to verify that services have been delivered. For each client interviewed the organization receives \$2. The overall level of misreporting has been low: less than 5 percent of clients visited each quarter cannot be traced to the community. Corrective actions, such as firing the health center “in charge” in the case of misreporting, have been taken.

3.1.4 **IMPACT EVALUATION**¹⁴

The national model was rolled out in phases to allow for a rigorous impact evaluation. Results, unveiled in May 2009, showed that the program had a significant impact on the probability of a woman delivering in a facility – a 21-percent increase from baseline. The quality of care also improved; for example, 7.6 percent more women received a tetanus vaccine than at baseline (this covers the two-year period between 2006 and 2008). The latter suggests that conditioning the Rwanda PBI payment on a quality score gave providers the motivation to translate their knowledge about prenatal care into better practice.

PBI had little impact on child vaccinations, which might be explained in part by the fact that immunization rates were already high in Rwanda and a number of other strategies were concurrently implemented to improve immunization coverage. But PBI did increase the probability that a child 0–23 months visited a health center for preventive care (a 64-percent increase over baseline) and the probability that a child 24–59 months had a preventive visit.

In general, the impact was larger for services associated with larger payments and those more in the control of the provider and less dependent on patients’ decisions. For example, a provider can choose to provide quality prenatal care and tetanus vaccination, but prenatal care visits themselves depend on mothers deciding to come to the facility. In addition, because deliveries had the highest unit payment (\$4.59), providers not only encouraged women to deliver in the facility during prenatal care, but, according to key informants, some also commissioned community health workers to conduct outreach in the community to find pregnant women to deliver in the facility and paid referral fees to traditional birth attendants. Prenatal care quality also received high payments: every administration of tetanus vaccine and malaria prophylaxis yields \$0.92, as well as increases the prenatal care quality index score.

¹⁴ This section is based on Basinga, et al. 2011; and Basinga et al. 2010.

3.1.5 LOOKING AHEAD: INCENTIVES FOR MOMS AND COMMUNITY HEALTH WORKERS

Rwanda is beginning to test other kinds of incentives in the health sector, including demand-side incentives for women to encourage them to seek maternal care services, and incentives to community health workers (CHWs) to find, educate, and promote good health practices among such women in hard-to-reach areas. Under the pilot, which was launched in 2010, women have the opportunity to receive in-kind incentives if they come to a facility for prenatal care, deliver in a facility, and come with their baby for postnatal care within 10 days of the birth. Incentives include receiving such things as soap, a baby cloth, and umbrella.

CHWs, which are identified and nominated by local community councils and work across the country as volunteers, are incentivized through community health cooperatives and have the opportunity to receive quarterly cash payments conditional upon progress in the following indicators¹⁵:

- Nutrition Monitoring: percentage of children (6–59 months) monitored (conditioned on correct referral to health center for malnourished children)
- Antenatal care: percentage of women accompanied/referred to the health center for antenatal care before or during fourth month of pregnancy
- Deliveries: percentage of women delivering at the facilities
- Family Planning: percentage of new family planning users referred by CHW.s cooperatives to the health center
- Family Planning: percentage of regular users of modern contraceptives at the health center

Representatives from the health center, the local administration, and the CHW cooperative meet each quarter to discuss CHW reporting on their performance. CHW performance data are entered at the district level through the web-enabled application and partially through a mobile phone application, although the latter innovation is not yet functional everywhere. These data are then available at central level, and a payment order is extracted from them.

CHWs receive incentives for both accurate and timely reporting and for the outputs described above, which are measured at the health center (i.e., the quantity of these outputs at the health center are assumed to be a proxy for CHW effort). The CHW cooperatives are then paid directly for performance, each quarter, into their bank accounts.

These two new PBI interventions in the health sector in Rwanda – this time at the community level – are being funded with additional support from the government of Rwanda; World Bank; Global Fund to Fight Aids, Tuberculosis and Malaria; USAID; and U.S. Centers for Disease Control. They will also be rigorously evaluated, with funding from the Health Results Innovation Trust Fund, with results anticipated in the summer of 2012.

Rwanda Highlights

- First nationwide scheme in Africa
- Rigorous impact evaluation showed positive results
- Fee-for-service model conditional on quality (less than perfect quality score deflates payment)
- New experiments with demand-side in-kind incentives to pregnant women and incentives to community health workers

¹⁵ This payment is in addition to the incentive CHW cooperatives receive each quarter for timely and complete reporting of the community health report card.

3.2 THE BREAKOUT STAR: BURUNDI¹⁶

In 2006, two Dutch NGOs – HealthNet TPO and Cordaid – began implementing PBI pilots in three provinces in Burundi, in partnership with the MOH. Months earlier, the MOH had abolished user fees for children under five and pregnant women at public health facilities, and the use of health services had subsequently ballooned. Facilities were ill prepared: there were shortages of equipment, drugs, and qualified staff, and government reimbursements to health facilities were often delayed. Health workers organized several month-long strikes, protesting poor working conditions and low wages, and many left public facilities for better paying private sector jobs.

After the positive experience in Rwanda, the government and its NGO partners were hopeful that PBI could help to address these challenges. In the PBI pilots, health facilities received performance bonuses for performance on both quantitative and qualitative indicators. Quantity indicators reflected a basic health package and included such things as assisted deliveries, essential vaccinations, bed net distribution, and HIV testing. The quality checklist contained 154 composite quality indicators that focused mostly on whether conditions for quality were met; for example, on whether there was adequate equipment, infrastructure, hygiene, and sanitation. Bonuses amounted to between 10 and 40 percent of worker salaries at hospitals, and to a much higher proportion in health centers, which sometimes exceeded the health workers' salaries.

As part of contract negotiations, each health facility created a business plan in which targets were negotiated along with strategies for attaining them (although payments were not linked to the attainment of these targets). In HealthNet TPO areas, both a provincial steering committee (composed of provincial administration and health authorities, representatives from health facilities, NGOs and social ministries, and civil society) and a provincial level *Agence d'Achat de Performance* (AAP, or performance purchasing agency) were involved in contract negotiation and signing. In Cordaid pilot areas, health facilities negotiated contracts with AAPs only, which also verified performance data and made the payments, and were composed of technical, financial, and medical representatives. Contracts were renewed each quarter.

AAPs also contracted local associations to evaluate community and patient satisfaction. These associations verified that health services were delivered, gauged patient satisfaction with services, and assessed the extent of patient knowledge. Findings from these quarterly surveys were then shared with the health care providers, and half of the quality payment depended on their results.

Unlike in Rwanda, where a quality score of less than 100 percent deflates payment, in Burundi facilities could earn a bonus of up to an additional 15 percent of the amount earned for the quantity indicators, meaning that the better a facility did on quantity, the larger the potential quality payment. Quantity-related payments were distributed on a monthly basis, while quality payments were made every quarter. No more than 50 percent of each bonus payment could go towards individual bonuses; the remainder was intended for service quality improvements (although there were exceptions).

The pilots were evaluated both by an MOH unit and the Royal Tropical Institute of Amsterdam.¹⁷ Both found positive results. Service utilization increased in all pilot areas. Complete child vaccination coverage increased, as did the rate of assisted births and the number of women who used contraception. Overall findings showed an average increase of 50–60 percent for each indicator compared to baseline.

¹⁶ This section is based on information from Busogoro and Beith, 2010 and Morgan 2010b.

¹⁷ In addition, Cordaid did its own routine household surveys.

In 2009, the government decided to make PBI national policy and a scale up was launched in April 2010, with the following goals:

- Reduce maternal mortality, child malnutrition, and under-five mortality, and prevent and treat HIV/AIDS
- Increase the presence of health personnel in peripheral areas while also motivating and stabilizing existing personnel (in part by increasing the autonomy of health centers)
- Increase the quality of care at the health facility level
- Overcome weaknesses in organization and management of the health care system
- Make health care more financially accessible for the population.

The scheme, which is broadly similar to the pilots, covers public and faith-based health facilities in all 17 provinces.

Under the national scheme, facilities receive monthly fees for each service delivered on a specified list (24 from the basic health package for health centers and another 24 for a complementary health package for hospitals). New to the national scheme, the most disadvantaged health facilities (i.e., those located in poor and/or remote locations) receive unit fees that are up to 80 percent higher than the most advantaged facilities. Facilities also have the opportunity to earn bonuses of up to 25 percent (an increase from 15 percent during pilots) of total fees earned the previous quarter depending on their quality performance, which is determined by an assessment of 109 composite indicators and community client surveys conducted randomly each quarter by local organizations. These organizations verify whether services have actually been delivered and gauge client satisfaction with services.

Facilities have considerable autonomy in allocating the payments to the staff or to service quality improvements. However, as with the pilots, there is a limit on the percentage of each payment in any given month that can go toward individual staff incentive payments.

In addition to incentivizing health facilities, the MOH enters into contracts with national and subnational bodies, including the national technical support unit, which is responsible for overall management and oversight of the scheme, provincial and district health teams, and the provincial verification and validation committees, known as the *Comité Provincial de Vérification et de Validation (CPVV)*. These administrative structures are paid each quarter, depending on their performance on process measures such as how well they manage contracts, conduct audits, verify data, submit data on time, and prepare invoices, among other things (this is different from the Rwanda scheme, which does not pay incentives to district steering committees).

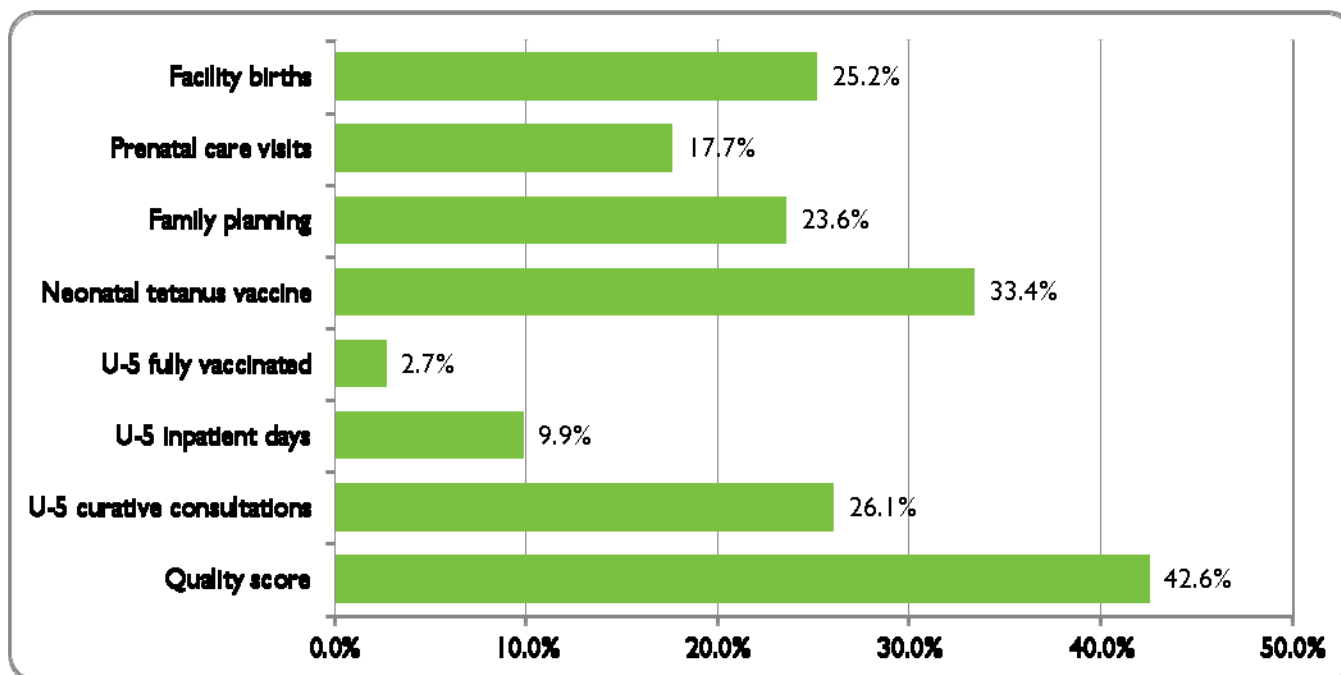
Each month facilities report the services they delivered on an Internet-based data reporting system, managed by the central technical unit within the MOH, with technical assistance from a contracted IT specialist. The CPVVs enter into purchase contracts with health facilities and approve their business plans. The CPVVs also verify reported data each month and contract the local associations to perform random household visits to ensure services were delivered and gauge client satisfaction. An independent third party agency (Health Development and Performance, a Rwandan NGO) randomly counter-verifies the reported performance at all levels of the health system.

3.2.1 EARLY RESULTS OF THE NATIONWIDE SCALE UP

Data from the first year of the national program (April 2010–April 2011) show that facility births increased by 25 percent, antenatal care visits by 17.7 percent, and the use of family planning services by 23.6 percent (Figure 1), noteworthy in a country with extremely high fertility rates. Also notable is that

the average quality score for health facilities increased substantially, from 47.2 percent in the April–June quarter to 60.6 percent in the July–September quarter. In addition, the national health management information system is expected to be significantly strengthened through use of the Web-based reporting and analysis tool. Contracting local associations to conduct client assessments has also enhanced community involvement and contributed to strengthening the overall program.

FIGURE I. CHANGES IN BURUNDI NATIONAL SCALE UP: APRIL 2010–APRIL 2011



Source: Rajkumar 2011

Burundi Highlights

- Second country in Africa to launch a nationwide PBI scheme
- Fee-for-service model conditional on quality (quality score inflates payment)
- Equity adjustment for the poorest regions
- Local grassroots organizations are contracted to verify services and gauge client satisfaction
- Counter-verification is conducted by an external third party agency

3.3 THE CHANGELING: UGANDA¹⁸

Not all PBI schemes that have been tried have been successful. Uganda piloted a supply-side PBI scheme that, of all the schemes discussed in this collection, performed most poorly, although the scheme also provides important lessons, which is, of course, the reason programs are piloted in the first place. A few years later, a different kind of PBI approach – vouchers – was tried, this time successfully (this experiment is detailed further in this paper). This snapshot explores the design elements and implementation gaffes of Uganda’s first experiment with PBI.

In May 2003, the Ugandan MOH and the World Bank, with funding from the Canadian International Development Agency (CIDA), USAID, and the Belgian Technical Cooperation, launched a pilot PBI scheme designed to improve the quality of and access to health services at private not-for-profit (PNFP) health facilities. In addition to performance incentives, facilities were given freedom to decide how to allocate resources.

PNFP facilities are coordinated by the medical bureaus of the country’s various religious denominations and, in many areas, are the only accessible providers for the poor, accounting for as much as half of all health services provided in the country.¹⁹ Before the advent of PBI, the MOH, through local governments, provided grants to PNFPs for the provision of specific services and delivery of defined outputs, but their use was restricted to the purchase of specific inputs, such as medicines and medical consumables. Despite periodic increases in public subsidies to PNFP providers, utilization of priority health services was below what was needed to reduce child and maternal mortality.

A total of 118 facilities were included in the pilot (68 PNFPs) from five districts. Control group A (a mixture of public, private-for-profit, and PNFP facilities) was subject to pre-existing financial arrangements. Treatment group B continued to receive the base grant from the government but was given freedom on how to spend it. The main experimental arm, treatment group C, was not only given freedom on how to spend the grant, but was also awarded bonuses if self-selected output targets were achieved.

Each participating PNFP facility assigned to the bonus group was asked to choose three of the six performance targets. For each target achieved in each six-month period, the facility would receive an extra 1 percent of its base grant. Extra bonuses could be achieved by meeting two or three targets and for meeting targets in two consecutive six-month periods. The maximum each facility could achieve in a year was 11 percent of the base grant. Since the base grant comprises the majority of funding for most PNFP facilities, the maximum achievable bonus amounted to roughly 5–10 percent of total operating revenue, on average. Table 1 summarizes the results.

¹⁸ This section is taken from the author’s previous work for the World Bank: Morgan, 2010 *Some Days Are Better Than Others: Lessons Learned From Uganda’s First Results-Based Financing Pilot*; Lundberg et al. 2007; and Lundberg, 2008.

¹⁹ Uganda’s medical bureaus are umbrella bodies that coordinate the work of affiliated institutions and facilitate collaboration with partner organizations. They include the Protestant, Catholic, and Muslim Medical Bureaus.

TABLE I. UGANDA PBI PILOT INDICATORS AND REWARDS

Indicator	Target Increase from Baseline
Increase total outpatient visits	10 percent
Increase treatment of malaria among children	10 percent
Increase number of children fully immunized	10 percent
Increase number of antenatal visits	10 percent
Increase number of attended births	5 percent
Increase uptake of modern family planning methods	5 percent
Rewards	
1 percent of base grant for each target met in each 6-month period	
1 percent of base grant for each target met by end of year	
1 percent if two targets met by end of year	
1 percent if three targets met by end of year	
Total possible amount of bonus payments = 11 percent (3+3+3+1+1)	

Facilities were paid by check, which was given to the facility manager in the presence of the staff, and deposited into the facility bank account. Managers were then free to withdraw, allocate, and use the funds as they saw fit, either primarily for facility improvement (in which cases many staff felt cheated) or to share with staff as bonuses. In some facilities, managers made unilateral decisions on how to allocate funds, while in other facilities, the staff were involved. In still others, health facility management committees were involved.

The lack of guidance on how to allocate the bonus created problems: one facility, for example, performed well in one quarter, and was rewarded with a bonus. However, the manager used the entire bonus to repair the hospital gate. “The gate was beautiful and appreciated by patients and on-lookers, but the staff who had worked hard to achieve the targets that resulted in the bonus, felt cheated. The following quarter, performance was below standard.”²⁰

Surveys were conducted repeatedly at the 118 health facilities. Staff surveys and exit polls at each facility and interviews with a sample of households in the catchment area of each facility were also conducted. After 2½ years and three survey rounds, the study found no discernable impact of bonuses on the provision of health services by the PNFP providers. Twenty-two out of 23 facilities receiving performance bonuses did reach at least one performance target, and 12 reached all three, but service levels at group B institutions similarly improved. If anything, facilities in the bonus group performed slightly worse than the facilities receiving only the untied base grant and about as well as the facilities in the control group.

In addition, data from the exit polls showed that the perceived availability of medicines, attitude of staff, and the prices charged by the facility worsened in the view of the respondents, more so among the bonus group than among the control group, following the implementation of the bonus scheme. The average wealth index among clients treated by the PNFP bonus group also increased relative to that of the PNFPs in the control group, suggesting that, rather than increasing their services to poorer segments of the population, the PNFP facilities in the bonus group were caring for clients who were wealthier relative to both the clients served by the PNFP control group and to the overall population.

²⁰ Personal correspondence with Richard Alia, PBI pilot manager, March 17, 2011.

The Uganda pilot was successful in at least one important respect: it demonstrated the benefits of facility autonomy in financial decision making and showed that significant improvements in performance can be achieved by allowing this flexibility. This reform has been adopted by the government of Uganda and is maintained today.

But why didn't the performance incentives themselves work? A combination of design and implementation flaws likely contributed to the lack of impact.

First, the incentives may have been too small, and the bonus structure too complex. The bonuses were computed based on non-wage recurrent costs, which are relatively small—less than 20 percent of the total costs of running the facility. The maximum performance bonus a facility could receive was 11 percent of its base grant, or roughly between 5 and 7 percent of its total operating revenue. On average most health facilities received bonus payments of less than US\$1,000 per year. The bonus scheme was also likely too complex to understand and implement. Had the bonus amount been larger, it might have been worth the effort to figure out the rules. Conversely, had the rules been simpler, the 11 percent might have been worthwhile.

There was also an exodus of health workers from the PNFP sector to the public sector following increases in salaries of government workers. Between 2001 and 2002, the salaries of government health workers increased incrementally by 14–63 percent across different cadres of workers. Management of health worker payroll was also greatly improved, to ensure better human resources management. The PBI bonus payments could not match the salary discrepancy between the public and private sectors.

Implementation issues also hurt the program. Meager investment and bureaucratic delays in the beginning sent shock waves throughout the program. Initial funds of about \$250,000 came from CIDA, but nearly a year was spent looking for another funder to pay the bonuses, with USAID eventually agreeing to contribute \$50,000. The bureaucratic delay caused by the search for resources cost an enormous amount of goodwill, so that the pilot began with less than complete commitment from the medical providers as well as the research team. By the time the pilot was resurrected, interest from the PNFPs had waned, especially since they were dealing with the new problem of having to address the loss of staff. Meager upfront investment also meant that data collection and analysis were insufficient.

Training was also insufficient. A sensitization workshop was held in Kampala prior to the launch. Attended by district health managers and representatives from the participating PNFP facilities, the workshop touched on the poor coverage of health services, the inability of the poor to access services, and the concept of performance contracting. But the concept was never fully understood by providers, which hurt morale. Health workers who didn't fully understand the program became frustrated and demotivated when bonus payments were delayed.

Technical management of the program, including supervision of data collectors and verification, was also weak throughout the pilot. Though facilities stood to receive an incentive payment, health workers were probably disincentivized due to the lack of supervision and delayed payments when they did perform, along with lack of clarity about how bonuses would be spent. In addition, the lack of funds available for travel for the Washington, D.C.-based World Bank study team created a huge communications disconnect between Washington and Kampala. This, along with scarce resources, destroyed any chance of correcting these problems.

Understanding the issues behind the Uganda pilot failure is important; relatively small incentives are not enough to improve health service provision or health outcomes. PBI also requires significant investment of time and money, and careful implementation, especially supervision and coordination.

Uganda has yet to have another go with supply-side PBI schemes, although the Dutch NGO Cordaid is piloting PBI in some Catholic facilities in Eastern Uganda, and another mechanism – vouchers – is also being piloted and has enjoyed some success. A new scheme funded by DFID in northern Uganda is expected to introduce performance incentives with PNFPs in 2012.

Uganda Highlights

- Target-based approach to incentivize PNFP health facilities
- Poorly designed and implemented scheme – incentives had little impact
- Autonomy in financial decision making did have an impact on outputs, and the practice has been adopted by the government of Uganda and is maintained today

3.4 SECOND TIME'S A CHARM?: TANZANIA²¹

The road to PBI in Tanzania has been winding. High-level commitment was secured to launch PBI in the country in 2007, but a lack of consensus among donors and between donors and the government stalled progress. In 2009, the government attempted to launch a nationwide scheme without the endorsement of development partners, which subsequently faced challenges. In early 2011, a new pilot was launched with the aim of refining design and implementation details to inform national scale up. This section describes this history and the design of the new pilot.

3.4.1 EARLY NEGOTIATIONS BETWEEN DONORS AND MOH

The origins of PBI in Tanzania date back to February 2007 and the Norway Tanzania Partnership Initiative (NTPI), a joint statement between the governments of Tanzania and Norway. In the NTPI agreement, Norway agreed to contribute approximately US\$32 million over five years to reduce maternal and child mortality in Tanzania, with PBI as one of the strategies to be used.

Because Tanzania has many development partners that contribute to pooled funding for the health sector, moving ahead with implementation of PBI required endorsement from the Basket Fund Committee.²² Most donors, encouraged by promising experiences with PBI in other countries, were favorably disposed to the concept.

But there were some concerns. Some donors worried that PBI was simply another vertical program in a space crowded with vertical programs, with the bonus amounting to little more than another allowance. Others were concerned that setting basket funds aside specifically to pay bonuses would undermine the point of the basket being un-earmarked. Others were worried about the capacity to implement PBI.²³

In the end it was decided that Norway would channel approximately 80 percent of funds through the basket, which could be used for the implementation of a jointly endorsed PBI program, while keeping the remaining 20 percent for strengthening the HMIS.

A design, created by the Dar es Salaam-based Ifakara Health Institute and informed by previous experience with PBI in Tanzania²⁴ and neighboring Rwanda's successful scheme, was recommended to the

²¹ This section is based on a detailed report on PBI in Tanzania (Morgan and Eichler, 2010) and on the Tanzania design document (The United Republic of Tanzania: Ministry of Health and Social Welfare, 2011).

²² Canada, Denmark, Germany, Ireland, Netherlands, Norway, One UN, Switzerland, United Nations Population Fund, United Nations International Children's Fund, and the World Bank.

²³ Health was not seen as Norway's comparative advantage, and other donors, such as Ireland and UNICEF, with longer histories in maternal and child health in Tanzania, worried their own programs would become overshadowed by PBI.

²⁴ This included a PBI scheme with faith-based health facilities piloted by the Dutch NGO Cordaid, which received mixed reviews. See Canavan and Swai, 2008.

MOH in early 2008. In February 2009, the MOH proposed to implement a highly simplified version of the Ifakara design, and in March 2009, decided to launch this design without donor endorsement or agreement to fund the incentives.

3.4.2 PHASE I: THE INITIAL NATIONWIDE PBI SCHEME

The MOH PBI scheme covered all health facilities in all councils that provide reproductive and child health services on the Tanzanian mainland, including public dispensaries, public health centers, district and regional hospitals, and faith-based facilities. The scheme also planned to offer bonuses to hospitals and to the subnational levels of government responsible for supervising facilities at district and regional levels [i.e., council health management teams (CHMTs) at the district level and regional health management teams (RHMTs) at the regional level].

There were five PBI-linked indicators, which were intended to be verified through routine HMIS data collection:

1. DTP3²⁵ equal or above 80 percent (The under-one-year population of the catchment area population is the denominator.)
2. Oral polio vaccine within the first seven days after birth equal or above 60 percent (number of live births in catchment area is the denominator.)
3. Deliveries in health facilities equal to or above 60 percent. (Denominator is number of expected pregnancies in the unit's catchment area.)
4. Second dose of intermittent preventive treatment (IPT2) for pregnant women equal or above 60 percent. [Denominator is number of pregnant women in unit receiving antenatal care (ANC).]
5. Quarterly HMIS report timely, complete, and accurate 100 percent of the time (i.e., delivered within expected timeframe as stipulated in the guidelines from facility to district, district to region, and region to MOH, and ensure that it is properly filled in and completed).

The MOH favored using uniform targets for all facilities for the first year, regardless of their preexisting performance, which donors cited as a concern, since urban and rural areas differ in capacity. Additional concerns were that the relatively high uniform targets would not motivate the facilities beginning with low baselines and may result in rewards to already high performing facilities for what they were previously achieving without additional incentives.

Attainment of each of the five targets earned the facility one-fifth of the maximum bonus payment. Payments were intended to be made once a year, with targets evaluated jointly by the CHMT and the facility in-charge.

The CHMT's payment was linked to the performance of the facilities they supervised. CHMTs qualified for 50 percent of their payment when 50 percent or more of their health facilities reached their targets and obtained 50 percent of their payment for timely reporting of health data from the HMIS to the RHMTs. RHMTs would be paid 50 percent of their payment for timely reporting of data to the MOH and 50 percent for 50 percent or more of health facilities in the region meeting their targets.

Performance was intended to be monitored through the routine HMIS data, and MOH documents stated that verification of performance would be carried out by the CHMT during routine supervision visits, with the RHMTs undertaking periodic random audits at the facility level to check reports against registers. Donors expressed concern that this verification system held the potential for a conflict of interest as the verifiers (CHMTs) also served to benefit from the strong performance of the facilities they were supposed to check.

²⁵ This refers to the third dose of diphtheria toxoid, tetanus toxoid and pertussis vaccine.

Implementation of the national scheme differed from district to district and region to region, depending on the knowledge and skills of the RHMTs and CHMTs overseeing the process. Progress stalled when the donor basket committee mandated that funds reserved to pay performance bonuses be used to fund drugs and supplies. Considering these challenges, the MOH decided that a pilot to refine the design and operational processes was appropriate to inform the elements of a national model.

3.4.3 PHASE 2: A NEW PILOT

In early 2011, a new PBI pilot began in the coast region of Tanzania (The United Republic of Tanzania: Ministry of Health and Social Welfare). The scheme provides financial incentives to all health facilities (government, faith-based, and private), including hospitals, health centers, and dispensaries that perform reproductive and child health services and submit timely and complete HMIS reports. Payment is linked to reporting and achievement of population coverage targets that are determined relative to each facility and CHMT baseline performance level. Table 2 displays the indicators that will be rewarded for each recipient type (hospital, health center, dispensary, CHMT, RHMT). Indicators are primarily derived from the routine HMIS and have been chosen with the goal of strengthening the collection and use of HMIS, in addition to having an impact on key health priorities.

Incentive payments will be shared among staff as individual bonuses (according to guidelines) and used for facility improvements and demand-creation activities. CHMTs and RHMTs will also be eligible for performance incentives designed to align their incentives with the objectives of facilities.

TABLE 2. INDICATORS BY RECIPIENT TYPE IN TANZANIA COAST REGION PILOT

Indicator	Hos	HC	Dis	RHMT	CHMT
2010 backlog entered into new HMIS summary forms for reproductive and child health (RCH) services	Y	Y	Y		
RCH activities integrated into CCHP*				Y	Y
Couple Year Protection Rate (CYP) - Proxy for MDG indicator "Contraceptive Prevalence Rate"	Y	Y	Y		
Percentage of ANC clients who received IPT2 (Malaria prophylaxis coverage)	Y	Y	Y		
Percentage of HIV positive ANC clients/pregnant women receiving ARV for prophylaxis	Y	Y	(Y)		
Percentage of facility-based deliveries		Y	(Y)		
Percentage of completely and properly filled partographs	Y				
Percentage of newborns received OPV0** in the first two weeks of life	Y	Y	(Y)		
Percentage of newly delivered mothers attended postnatal clinic in a facility within 7 days after delivery	Y	Y	Y		
Percentage of children < 1 year who received Penta3	Y	Y	Y		
Percentage of children < 1 year who received measles vaccination	Y	Y	Y		
Percentage of maternal and newborn deaths that are appropriately audited on time				Y	Y
Percentage of facilities reported stock out of either one or more of the tracer medicines in a specified period					Y
HMIS monthly reports correctly filled and delivered on time to CHMT	Y	Y	Y		
Percentage of facilities included in the HMIS monthly reports exported through DHIS*** to RHMT in timely manner					Y

Indicator	Hos	HC	Dis	RHMT	CHMT
Percentage of districts included in the HMIS monthly reports exported through DHIS to MOHSW on time				Y	
Submission to MOHSW of a Semi-Annual Regional Health Profile report, based on DHIS				Y	
Percentage of facilities having received a copy of a quarterly district health profile report, based on DHIS					Y
Overall performance along P4P facility-based indicators				Y	Y

Note: Hos = hospital, HC = health center, Dis = dispensary

*Comprehensive Council Health Plan

**First dose of Oral Polio Vaccine

***District Health Information System

Health results will be reported from the facility to the CHMTs, where they will be checked for consistency. CHMTs will report to RHMTs and RHMTs to the national MOH. Because of the potential risk that reported performance may be artificially inflated in any PBI scheme, Tanzania has convened a National Verification Committee²⁶ to oversee verification and to approve payment. Payments will be transferred by the National Health Insurance Fund once the National Verification Committee approves payment. An independent verifier will be contracted to perform spot checks at facilities to assess quality of the data and to visit a sample of households to verify if services reported in patient registers were truly delivered.

The pilot is overseen by a PBI Advisory Committee, with implementation guided by the Clinton Health Access Initiative (CHAI). The pilot will run through 2012 and be evaluated by the Ifakara Health Institute.

Tanzania Highlights

- An initial bumpy process illustrates the challenges of instituting a PBI reform and the learning that guides revision.
- Pilot was implemented to inform the design and operational elements of an approach that can be scaled up nationally.
- Public and private facilities, plus subnational health management teams, are rewarded for achieving population coverage targets for key maternal, newborn, and child health interventions.

²⁶ The National Verification Committee is composed of six representatives of the Ministry of Health and Social Welfare: director of preventive services, assistant director Reproductive and Child Health Services, coordinator of District Health Services, head of M&E Unit, and P4P coordinator. Additional members include the P4P manager at CHAI, the regional administrative secretary of the coast region, a representative of MUHAS School of Public Health, head of Research, Control and Education of PCCB, and the head of ObGyn in the Muhimbili National Hospital.

3.5 THE NEW KID ON THE BLOCK: SENEGAL

Senegal is on the cusp of launching a PBI scheme that will be piloted for two years. Unlike some countries in SSA, interest in PBI originated within the government of Senegal. The Ministry of Health and Prevention (MSP) already had a program called Management for Results, in which each MSP department drafts a work plan, stating objectives, planned activities, and indicators by which they will measure progress. Departments are then held accountable for progress every year. If they do not meet objectives, funding for the following year may be cut (similarly, funding may be increased if targets are achieved).

When officials at the MSP heard about PBI, the idea resonated in part because PBI was seen as an extension of what they were already doing. Study trips to understand fiscal management in the health sector were organized to Mali and Rwanda. The team that went to Rwanda was impressed, which prompted the MSP to form a PBI technical working group to design and oversee implementation of a PBI pilot. The working group, composed of MSP officials, most of whom have decades of experience as medical professionals working outside the capital, began design discussions in 2010.

Once a provisional design was developed, the working group held national and then regional meetings, which brought together stakeholders from the Ministry of Finance, the country's powerful trade unions, the donor community, and regional and district health management teams, to solicit feedback about the proposed design. The pilot is slated to launch in the fall of 2011 in the districts of Kolda, Darou Mousty, and Kaffrine. At the pilot's end, the MOH will decide whether or not to roll out PBI to the other regions.

3.5.1 PILOT DESIGN

The pilot targets public sector health institutions, specifically district health management teams (DHMT), health centers (i.e., the equivalent of district hospitals), and health posts (i.e., the equivalent of what is usually referred to as health centers). Payments to health posts also cover the health huts and rural maternities attached to these posts, meaning community health workers are also rewarded. Payment is made quarterly and depends on the achievement of facility-specific targets relating to indicators of maternal and child health and infectious diseases. Suboptimal quality, as captured by a quality checklist focusing mostly on the conditions needed for the provision of quality care, will *deflate* the payment amount to health facilities. For the DHMTs, 60 percent of the payment depends on the overall performance of the district, as measured by the proportion of facilities having been able to meet 80 percent of their targets. The remaining 40 percent is linked to the achievement of targets relating to process indicators.

A mixed team will carry out quarterly verification visits to the pilot facilities and DHMTs. The team will have four members. It will always be led by an external auditor and include a representative from the MSP and from the local authorities. On a rotating basis, the fourth member will be a representative of the Ministry of Finance, the donors, or the trade unions. In addition, community-based organizations will be contracted to conduct surveys among a randomly selected sample of service recipients in order to verify that the services reported have actually been delivered. The penalty for deliberate misreporting will affect the health facility team as a whole, through the revocation of the bonus for the quarter.

While the performance payment will go to the facility or DHMT, 75 percent of the amount received will be distributed among staff members as bonuses, according to guidelines. The remaining 25 percent will be used by the facility or DHMT to improve its operation or to finance activities that will contribute to

meeting targets. Decisions on the use of these funds will be made in consultation with the health committees.

Under the overall guidance of a Steering Committee, a Project Management Committee and three Regional Management Committees will oversee the implementation of the project at the national and regional levels, respectively. The day-to-day management will be the responsibility of a Project Support Office, which will be established within the MOH.

The pilot will be evaluated based on a “before-and-after with control” impact evaluation: for each of the three intervention districts selected for the pilot, a comparable control district will be identified.

3.5.2 EARLY LESSONS

One of the lessons from Senegal’s early experience with PBI is that it is critical to engage a wide range of stakeholders beyond the MSP in the early stages of design to generate buy-in for the concept and ensure sustainability. Particularly important in Senegal was engaging the country’s powerful trade unions, which were, at the time of this writing, engaged in separate talks with the MSP on health worker compensation. The unions organized data strikes throughout the country in which health facilities – starting at the health post level – withheld the essential health data that are supposed to be collected

Senegal Highlights

- Program design beginning in 2010 through 2011, with launch slated for fall 2011
- During design process, important to engage external stakeholders such as trade unions
- Supply-side scheme incentivizes DHMTs, teams of health workers at health facilities and health posts, and CHWs
- Strong government leadership and support for the program

and aggregated at the national level and guide decision making.

There are challenges ahead for Senegal, but the early days suggest a solid design, enthusiastic and committed implementation team, and solid core of support within the government.

3.6 PROGRESS IN A DIFFICULT ENVIRONMENT: DEMOCRATIC REPUBLIC OF CONGO²⁷

The DRC has implemented a number of mechanisms over the last decade that offer interesting comparisons and an opportunity to look at their evolution. Several PBI mechanisms are currently being implemented in 189 of the country’s 515 health zones, spread over 11 provinces and covering nearly one-third of the country. Some of these experiences date back nearly a decade.

The projects discussed here have each been operational for at least three years and include the following:

- The European Commission (EC)-funded PS9FED project, implemented in four districts (Kasai

²⁷ Special thanks to Yann Derriennic for help with this section. For more information see Bertone, et al. 2011 and Bredenkamp et al. 2011.

Occidental, Kasai Oriental, Province Orientale, and North Kivu)²⁸

- Projects implemented by Cordaid in South Kivu and Bas Congo
- The World Bank-funded PARSS²⁹ project, by far the largest project, which consists of seven programs implemented in five provinces by the International Rescue Committee (IRC) in Kinshasa³⁰ and Katanga³¹, the German Agency for Technical Cooperation (GTZ) in Maniema, and COOPI (an Italian NGO) in Equateur.³²

3.6.1 BENEFICIARIES

The schemes incentivize various combinations of beneficiaries, including health facilities, health workers, and teams from the zone, province, and central levels. Some schemes experimented with paying incentives to individual health workers, but all schemes now provide incentives to teams of health workers, with general guidelines about how the incentives should be used (in general, approximately 80 percent has gone to individual bonuses for health workers, while 20 percent has gone to facility investments). All facilities also receive regular, reliable funding for recurrent costs such as drugs and supplies.

3.6.2 INDICATORS

The schemes incentivize various combinations of indicators depending on the level of the health system (health center, hospital, district health office) – indicators related to the health of infants and children under five, safe motherhood and family planning, HIV, TB and malaria, and curative care. Some schemes also include indicators by which they measure the performance of district and provincial health authorities, including timely and accurate reporting and the supervision of health centers in their catchment area.

3.6.3 MANAGEMENT STRUCTURES

In the Cordaid projects, contracts are signed between facilities and the AAP (or performance purchasing entity, usually a contracted NGO funded by the donor) and are accompanied by and based on a business plan, which is produced by the facility and approved by the *Equipe Cadre de Zone* (ECZ, or district health authority) and AAP. The business plan sets out objectives and activities and determines how funds will be used at the facility. Cordaid created the AAPs to serve as independent fundholders, building on the preexisting *Bureau Diocésain des Oeuvres Médicales*, which owns most of the health facilities in Cordaid provinces.

²⁸ The information about the PS9FED refers mainly to the Kasai Occidental and Oriental projects, unless otherwise specified.

²⁹ Programme d'Appui à la Réhabilitation du Système de Santé. In the findings below, the authors of the forthcoming case study have noted that the information is reported as accurately as possible and refers to the "new" scheme (*achat de services*) in place for private facilities; support for public facilities is still organized following the original scheme.

³⁰ The IRC/Kinshasa project (in the N'djili district) began operating as most other PARSS projects. However, it immediately became clear that the bonuses to the personnel were insufficient to convince the private (faith-based) providers to reduce user fees (one of the aims of the project). As private providers represented 70 percent of providers in Kinshasa (the capital city), this limited the impact of the project. Therefore, the World Bank decided to introduce higher bonuses.

³¹ The project in Katanga has been selected to undergo a rigorous impact evaluation. Health zones have been divided in two groups. In the control zones, facilities will receive a fixed, lump sum every month, while the intervention zones will receive fees per service delivered. In both cases, these funds are meant to provide staff bonuses as well as to cover recurrent costs and small investments. All facilities will have a large degree of autonomy in the allocation of resources, both in terms of bonuses and operational expenses. The description presented in the findings section refers only to the "intervention" health zones.

³² GTZ's intervention in Sud Maniema and COOPI's in Equateur are considered to represent the "standard"/normal set up of most the PARSS projects.

In the EC scheme, in each province an *Etablissement d'Utilité Publique* (EUP) has been created as the provincial fundholder responsible for channeling funds to the facilities and verifying performance. The EUPs are autonomous entities, financed by the donor, but unlike the AAP, EUPs are composed of provincial-level MOH officials, in addition to technical experts, and are accountable to a *Conseil d'Administration* (i.e., a board), which includes representatives of the administrative and health hierarchy at provincial level. The idea behind this set-up is that the EUP could become a provincial basket fund in which funds from different donors could be pooled before being channeled to the facilities, following the approach and priorities defined at provincial level.

In the World Bank scheme, facilities sign contracts with the NGO implementing the project and the ECZ. These contracts are valid for one year.

3.6.4 PAYMENT

In most schemes, including those managed by Cordaid, EC, GTZ/Maniema, and the IRC/Kinshasa and Katanga, the method of payment is fee for service (FFS). Payment conditional on meeting targets has rarely been adopted in the DRC, in part because of the difficulty in determining a denominator in the context of an extremely weak information management system.

3.6.5 VERIFICATION

Nearly all the experiments discussed have established an external audit, or at least conducted verification by an external agency and the ECZ. This was done, for example, in the GTZ project in the south PARSS zone and in Maniema, Equateur, and Katanga. In the Cordaid projects, verification is the responsibility of the agency that channels funds (AAP). The EC opted for an assessment at two levels: (1) the data are verified by the ECZ with NGO support (this is routine), and (2) an audit of the EUP is conducted once a year by an external firm.

Some projects (Cordaid and the World Bank's pilot in Katanga) also contract local associations to conduct checks at the community level, with the aim of verifying the existence of patients, the service received, and the perceived quality of care.

3.6.6 QUALITY AND EQUITY

To ensure that increases in the quantity of services delivered are not made at the expense of quality, some projects have established quality controls. Cordaid/South Kivu provides an additional 15 percent of the quarterly payments when facilities score 100 percent on a quality assessment, which consists of (1) monitoring compliance with rules and standards, (2) verifying, through community groups, the services delivered and patient satisfaction, and (3) ensuring quality control has been performed by the ECZ for health facilities and through a peer review for hospitals. In the Cordaid project in Bas Congo, quality is evaluated using environmental health as a proxy, and four indicators (presence of an incinerator, a garden, a latrine, and a water filter) are included in the monthly assessment. In the EC project, health facilities must be accredited in order to participate in the scheme, which is one mechanism to ensure a certain baseline of quality. At the time of this writing, quality measures mostly focus on facility preparedness and not on the clinical content of care.

Likewise, some of the schemes explicitly consider equity in order to make sure increases in quantity do not result in increased socioeconomic inequalities. The EC projects in Kasai Occidental and Oriental established equity funds at the hospital level, with local associations identifying the poor. Some programs (Cordaid and EC) also pay higher premiums, depending on a facility's degree of isolation, in order to ensure equity.

3.6.7 RESULTS

Comparing the results of PBI schemes in the DRC is challenging. Data used in each project are typically collected and validated with different procedures. The projects also operate in different contexts: some provinces have more and better infrastructure, and some are close to urban areas, while others are extremely isolated. In some regions, particularly in the east, war is ongoing. Furthermore, other donor interventions overlap with the PBI schemes, which can make it difficult to tease out the particular effect of incentives.

Despite challenges, some projects have tried to document results. An EC evaluation suggests that the utilization rate for curative services significantly improved in PBC areas. Similarly, assisted delivery rates seem to have sharply increased (PS9FED 2009). However, rates higher than 100 percent raise questions about possible over-reporting and/or the possibility that health centers provide services to patients who live outside the catchment area.

A study of a World Bank-financed project that began in 2002, based on HMIS data collected by a Kinshasa-based NGO, concluded that greater improvement was realized in service utilization indicators in health zones that implemented PBC compared to those that did not, but this effect could not be disentangled from the various overall resource levels in different areas (Porignon et al. 2005).

An evaluation of Cordaid's South Kivu scheme confirms that the performance for new consultations improved in all areas during the program. In addition, assisted deliveries experienced a significant increase, and patient-perceived quality also improved modestly in facilities participating in the PBI program (Paalman et al. 2010, Kimanuka et al. 2011).

Another study based on HMIS data from South Kivu found that health zones supported by Cordaid showed significantly better improvements in service utilization than zones without PBC that received similar or larger resource flows (Kimanuka et al. 2011). The study emphasizes that the facilities have had significant autonomy over resources.

3.6.8 COMMON CHALLENGES

Although their designs and implementation paths have differed, the PBI schemes in the DRC have all faced common challenges. Most projects required long periods of preparation before programs could launch. It took nearly three years, for example, for the EC's program to become fully operational. Although no project reported heavy investments in infrastructure (equipment, training, etc.) before the PBI scheme began, most schemes built upon preexisting interventions, which had supported the health zones and facilities through a traditional input-based approach. It is likely, therefore, that the facilities had already reached a certain level of operational capacity and technical skills. Furthermore, all the PBI programs required health facilities to reserve a portion of the PBI payment for small investments and improvements to facilities.

Another common challenge is ensuring facilities have essential medicines and supplies. The vastness of the country, coupled with the logistical problems implicit in a lack of infrastructure, low population density, and protracted low-level conflict, have resulted in weak supply chains. Aside from vaccines, which are provided through the supply chain managed by the Expanded Programme on Immunization, some projects (World Bank) buy their own medicines and distribute them to health facilities, often with considerable delays. Other projects (Cordaid, EC) include the purchase of drugs in the PBI envelope. The Cordaid approach enables facilities to purchase drugs at any public or private pharmacy, so long as they are approved by the Provincial Directorate of Health. This has raised serious concern about ensuring the quality of such drugs. The EC scheme allows purchasing only from the public *Centrale de Distribution Régionale* (CDR), whom they support at provincial level, along with the *Fédération des Centrales d'Approvisionnement en Médicaments Essentiels* (FEDECAME) at national level. However, both

the FEDECAME and CDRs remain weak. As reported in the mid-term evaluation of the EC project, most donors still do not use the FEDECAME for purchasing and distributing drugs, and 80 percent of CDRs' clients are actually the facilities that have an open budget line through the project, which illustrates a general lack of trust in the FEDECAME. This weakness results in frequent drug stock outs at CDRs and delays in the delivery of the drugs and supply. As a consequence, ensuring drug availability proved to be a key problem.

3.6.9 LOOKING AHEAD

The PBI landscape in the DRC has varied, and, until recently, there was little coordination with the central MOH. But that is changing: two developments – the incorporation of PBI into the MOH's application for Round 9 Global Fund funding and a planned decentralization reform (whereby provinces would become responsible for government health worker salaries) – are providing an opportunity for the MOH to structure PBI initiatives in the country.

Several workshops sharing PBI experiences were organized by the MOH and its partners between 2008 and 2010. Notably, the last workshop, organized in October 2010 by the MOH with support from USAID's Health Systems 20/20, shared early results of a countrywide review of PBI and identified good practices and principles. A policy document outlining the basic principles and guidelines of the PBI approach was approved and adopted by the MOH and partners during a meeting of the Technical Coordination Committee of the National Steering Committee in January 2011.

Next for PBI in DRC is the challenge of designing and implementing a large-scale, government-run PBI scheme funded with Global Fund, Global Alliance for Vaccines and Immunization (GAVI), and EU resources with technical assistance from USAID through Health Systems 20/20 and the integrated health program, Cordaid, and the EU.

Many challenges remain to implement PBI in the DRC. The DRC is a large country with a diverse environment. Its public health care system is slowly recovering from years of neglect and conflict, however, DRC's experience over the last decade has provided key lessons. As in many other settings, it is necessary for facilities to have a basic minimum level of infrastructure and supplies, including drugs and equipment. PBI cannot motivate staff if they lack the input necessary to improve performance. Another key lesson for the DRC has been the importance of appropriate staffing levels in facilities. Unlike many African countries, the DRC very often has too many health staff in facilities, and many of them are not accounted for in official registers. Incentives for teams of health workers motivate workers only if the incentive amount is appropriate, and getting this amount right has been difficult in situations where there are more health workers in facilities than contained in registers.

DRC Highlights

- Dynamic PBI environment, with many players implementing or planning to implement schemes, including the EC, Cordaid, the World Bank, GTZ, and USAID.
- Limited evidence suggests PBI improved service utilization
- Common challenges in all schemes include information verification and supply of medicines and other inputs.
- Changing landscape: DRC MOH increasingly taking the reins, and currently developing a PBI scheme to be funded by the Global Fund, GAVI, and EC, with technical assistance from USAID, Cordaid, and the EU.
- A World Bank-supported pilot will also be rigorously evaluated, contributing to the evidence base.

Building on the various PBI initiatives and policy development work at the national level, the government now has a stronger basis for assessing the results of various approaches, and the discussion on PBI has

evolved from being one centered on individual pilots to a wide ranging discussion about the role of PBI in the health sector.

3.7 COUNTRIES TO WATCH

Zambia has begun implementing a supply-side PBI scheme. The country is considering two main designs: a World Bank-financed PBI scheme to be implemented in 27 districts, and a scheme led by Cordaid in partnership with the Christian Health Association of Zambia, which will be implemented in two districts. The World Bank began a prepilot in 2008 in the Katete district, which had been experimenting with various PBI schemes of its own since 2005/2006. The World Bank program will be rigorously evaluated, with the results intended to inform a potential nationwide scale up. The evaluation design will contain three arms: one treatment, in which incentives and performance contracts will be introduced, and two controls, one that will receive additional funding *not* linked to performance and another that will be paid according to preexisting financing mechanisms. Both the World Bank and Cordaid schemes seek to blanket the districts in which they operate, covering all health facilities therein.

Benin will soon begin piloting a supply-side scheme to incentivize public and PNFP facilities (including hospitals) in eight (out of 34) districts.³³ The scheme will also provide incentives to district teams and the MOH managerial units involved in implementation, will pay fees for services delivered, conditional on the quality of care, and will focus on maternal and neonatal health. The scheme will test two approaches. One group of facilities will receive increased financial management autonomy: the facility manager will decide the allocation of the PBI credit, in compliance with some rules (at least 50 percent will go toward equipment, drugs, and training sessions, and a maximum of 50 percent will go to health worker bonuses). The allocation of other facilities' bonuses will be determined by the health district officer.

Quantitative reports will be prepared monthly by health facilities and verified each month by district teams and an independent third-party district controller. Every three months, these results will be counter-verified by a contracted community-based organization. Each quarter, qualitative indicators will also be measured by district teams and by peers for hospitals and then verified during unannounced visits to a random sample of health facilities, which will be conducted every six months by district controllers and community-based organizations. Facilities will be paid every three months.

Many other countries, including Mozambique, Malawi, Nigeria, Ethiopia, and Burkina Faso, are only beginning to conduct feasibility studies and design programs to improve the supply of services. There will be many experiences to learn from in the years ahead.

³³ The Benin scheme was still being finalized at the time of this writing, therefore, some elements of design may change.

4. PERFORMANCE-BASED CONTRACTING: INCENTIVIZING NGOS TO IMPROVE THE SUPPLY OF HEALTH SERVICES

In countries that are rebuilding after years, even decades, of war, PBC – another supply-side PBI mechanism wherein contracts are signed between a financing agent and an implementing agent (usually an NGO) “with [a portion of] payment depending on achievement of a performance measure” (Musgrove 2010) – is increasingly viewed as a way to motivate the health workforce, focus attention on (and provide demonstrable evidence of) results, strengthen information systems, build local capacity to manage and deliver health services, and, of course, improve health.

The success of schemes globally has varied. In Haiti, for example, NGOs under performance-based contracts had consistently better results than their counterparts. In Afghanistan, contracting NGOs itself helped to expand service delivery rapidly, and the PBC model outperformed other schemes, but the differences were relatively small. South Sudan is off to a slow start, but Liberia has seen solid results with a PBC pilot. Two African experiences with PBC are described below.

4.1 THE STEAM TRAIN: LIBERIA³⁴

Liberia has made encouraging progress since its 14 years of civil war drew to a close, but many health sector woes persist: deteriorated infrastructure and a shortage of skilled workers,³⁵ fragmented and uneven health care delivery (with the distribution of trained health workers heavily skewed in favor of urban areas), and an improving but still rudimentary HMIS and drug supply chain.

In 2009, the USAID-funded Rebuilding Basic Health Services (RBHS) project launched a PBC scheme that contracts five NGOs³⁶ to manage and support MOHSW health facilities (over 100 of them in seven counties) and to help build the capacity of County Health Teams (CHT) (counties being the equivalent of districts).

³⁴ This section is based primarily on Morgan, 2010, *When the Hustle Gets Rough: Making Performance Based Contracting Work in Liberia*.

³⁵ A census carried out in 2009 reports a total of almost 9,000 health workers, of whom 5,461 have technical skills. This total corresponds to roughly twice the number considered as active in 2006. Available data suggest that gross overstaffing is commonplace among many cadres of health workers, even if often invisible because of widespread absenteeism. The personnel of many hospitals, for instance, largely exceed their respective number of beds. There are nearly 550 health facilities in Liberia (personal communication with the MOHSW Director of M&E). According to the 2010 MOHSW Accreditation Survey, there are 330 public clinics, 30 health centers, and 18 hospitals.

³⁶ Africare, EQUIP, International Rescue Committee, Medical Emergency Relief Cooperation International (MERC), and Medical Teams International; 105 facilities in year one, 112 in year two.

Twelve performance indicators were selected in year one, and five were added and several tweaked in year two.³⁷ Indicators relate to service delivery (e.g., the number of children under one year old who receive one-third dose of pentavalent vaccine) and to administrative and management practices (e.g., the number of facilities submitting a timely, accurate, and complete HMIS report to the CHT during the quarter).

NGOs were asked to propose baselines and targets.³⁸ Where they could not establish baselines, RBHS senior management made the determination and targets were negotiated. In the end, baselines and targets were imperfect, since they relied on patchy health facility data, the 2007 Demographic and Health Survey (DHS), and, in some cases, averages for regional data. This, along with differences of interpretation of indicator definitions, contributed, say some NGOs, to their failure to meet some targets in year one.

Service delivery indicators are linked to a potential 6 percent annual bonus while administrative and management indicators are linked to potential quarterly penalties. During the first year, bonuses were awarded at the end of the year, but RBHS senior management and implementing NGOs agree that the frequency was not sufficient to motivate frontline staff. In year two, bonuses will be awarded each quarter.

The contracts allow relative flexibility on how bonuses are spent but they are meant to reach frontline staff at facilities, and CHTs and are subject to the approval of RBHS. Most of the bonuses are being used as cash incentives for facility staff, CHTs, NGO staff, and, in some cases, community health volunteers. Partners have also used the bonuses to buy equipment for clinics (e.g., motorcycles), and at least one CHT has used the money to make extensions to clinics.³⁹

All providers are required to report through the HMIS, but RBHS has established additional mechanisms to verify performance, including random facility visits by independent monitors (three randomly selected health facilities per NGO per county each quarter) to cross-check reports against the facilities' records.

RBHS and its partners documented solid results during the first year of implementation. Facility-based deliveries increased, as did couple-years of family planning protection⁴⁰ and the number of pregnant women receiving a second dose of intermittent preventive treatment of malaria (IPT2). The number of individuals tested for HIV exceeded targets by a factor of close to four.

There was also progress in program management – 99 percent of health workers were paid on time by the end of year one and 94 percent of HMIS reports were submitted to the MOHSW on time. The emphasis on data to drive the program led to some unexpected results: by scrutinizing data, one implementing NGO found instances where some facilities' good performance was not being captured due to poor record keeping.⁴¹

³⁷ Implementing partners also report on 74 other indicators not directly linked to incentives, most of which are routinely collected through the HMIS. They are reported to monitor progress of the health services, which are considered for NGOs' contract extension and allow RBHS to monitor for any potential perverse effects by incentivizing some indicators over others. For more on how indicators were selected, see Brennan et al, 2010.

³⁸ Partners used their own household surveys, facilities' historical data, and the 2007 DHS to establish baselines.

³⁹ Personal correspondence with RBHS Chief of Party Rick Brennan, August 30, 2011.

⁴⁰ Couple years of protection (CYP) is the estimated protection provided by contraceptive methods during a one-year period, based on the volume of all contraceptives sold or distributed free of charge to clients during that period.

⁴¹ For example, the IPT2 indicator reflects the imperative for women to take two doses during pregnancy to prevent malaria. But even when facilities were giving women the second dose, the facilities did not always register this in the ledger. At times they only marked the second dose on the women's cards or marked it as an antenatal visit. As a result, PBC became an opportunity to improve the facility's score by improving data collection.

Overall, RBHS partners met 63 percent of administrative targets, which translated into an average penalty of 1.85 percent of their quarterly budget per NGO. Partners also met 52 percent of the annual performance targets, resulting in an average bonus of 3.1 percent.

Crucially, goodwill was maintained among RBHS partners despite the fact that the first year of implementation was not entirely smooth, as it never is. Management placed a priority on frequent communication between players and flexibility, or the ability to correct course and learn as you go. For example, RBHS holds monthly meetings with partners to discuss implementation challenges and possible solutions in addition to quarterly monitoring and evaluation meetings to review data and progress.

Furthermore, RBHS was slow to penalize in the first year. For example, it did not hold partners accountable for the indicator on drug stock outs when procurement problems delayed the drugs' arrival, and RBHS made it a priority to train their independent monitors, letting them know it was okay to share reports with partners when they were told that a reluctance to share was creating acrimony among the partners.

Liberia Highlights

- NGOs receive bonus based on performance on service delivery indicators and face penalties for nonperformance on administrative and management indicators.
- Program emphasizes learning as you go and responds to partner concerns.
- MOH experiment contracting both NGOs and CHTs; results are forthcoming.

With technical support from RBHS, the MOHSW is beginning to implement PBC (beginning July 2011), and starting in July 2012, USAID-funded performance-based contracts will be managed by the MOHSW, with RBHS providing technical support.

4.2 THE NEW COUNTRY: SOUTH SUDAN

Following the signing of the comprehensive peace agreement in 2005, which ended decades of civil war, development assistance for health flowed steadily and generously into South Sudan. But despite the cash, progress was slow. In 2009, the MOH and two donors – the World Bank and USAID – began experimenting with PBC. This section describes their experience.

The World Bank-administered Multi-Donor Trust Fund's Umbrella Program for Health Sector Development (UPHSD) is one of the main financial channels to support the health sector in South Sudan. In phase one, NGOs were reimbursed for expenditures, but phase two of the UPHSD (2009–2011) was redesigned to make contracts to NGOs performance based.

A baseline was established for targets based on the 2006 Sudan Household Health Survey (SHHS).⁴² Lead agencies (LAs) were then given the opportunity to modify targets, in consultation with the government and the bank, based on their analyses of their catchment areas, which they conducted during phase one. The MOH-Government of South Sudan (GOSS), with technical assistance from the World Bank, determined the targets based on the 2006 SHHS and the LAs' reports (Table 3).

⁴² The 2006 SHHS, if not the gold standard for health statistics in southern Sudan, is the frequently cited source of, albeit, slightly out of date but generally credible information. The government conducted another household survey in 2010 but, at the time of this writing, the data were not yet available.

**TABLE 3. INDICATORS AND TARGETS FOR THE LEAD AGENCY CONTRACT –
MOH/WORLD BANK PBC SCHEME IN SOUTH SUDAN**

Indicator	Baseline*	Approximate Target**	Means for Data Collection
Percentage of children 12- to 23-months old who received DPT3/measles vaccine before the age of 12 months	67.5%	85%	A, B, C*
Percentage of children under 5 sleeping under an ITN the night before the survey	9.4%***	35%	B, C
Vitamin A coverage: among children 6-59 months percentage receiving it in the last 6 months	65.6%	80%	A, B, C
Antenatal care from skilled providers, percentage among women giving birth in the last 2 years	27.5%	40%	A, B, C
Skilled birth attendance in a health facility.	15.2%	25%	A, B, C
Family planning – Contraceptive prevalence rate for modern methods.	1.6%	7%	B, C
Treatment of diarrhea, acute respiratory infection (ARI), malaria – outpatient visits among <5 per capita	NA		A, B, C
Underweight (Weight for age < -2 SD)	NA	TBD	A, B, C
HMIS strengthening – percentage of health facilities submitting new, standardized HMIS monthly reports within one month of the reporting month	NA	60%	A, D, E D, E
Strengthen supervision – percentage of health facilities with structured supervision visit within one month before the supervisory visit (using quantified supervisory checklist)	NA (likely 0%)	50%	D, E
Staffing – percentage of primary health care units (PHCUs) with at least one male and female trained health worker (CHW or higher)	NA	60%	D, E
Drug supply – percentage of facilities having 10 essential drugs at the time of supervisory visit	NA	80%	D, E
Knowledge of health workers in managing important ailments as judged by clinical vignettes	NA	40%	D, E

Note: A=Health Management Information System, B=Lot Quality Assurance Sampling, C=national household survey, D=health facility survey, E=Quantitative Supervisory Checklist, NA = Not available

* Baseline data are from the 2006 SHHS for Central Equatoria State unless otherwise stated.

** Targets should be seen as approximate rather than exact given the limits of precision in measurement of these indicators and uncertainties about the actual baselines at the beginning of the contract. What is important is statistically and programmatically significant changes in these parameters.

*** The only relevant indicator from the SHHS 2006 is percentage of households with at least one insecticide-treated net (ITN).

Each quarter, LAs submit reports to the MOH-GOSS, documenting progress on targets, along with a one-page financial statement. The reports are checked against the HMIS data submitted by facilities each month. LA reports are also checked against a health facility survey carried out with technical assistance from the Liverpool Associates in Tropical Health. The MOH-GOSS has also initiated monthly review meeting with LAs, representatives of state MOHs, the World Bank, and others partners.

LAs are paid every six months; 70 percent of the payment is made upon submission of the report, while 30 percent is withheld until results are considered and verified by the MOH-GOSS. If targets are not met, the MOH has 30 days to discuss bottlenecks and ways to overcome them with the LAs.

There is no language in the contracts stating that the agencies will not receive the 30 percent – in essence, the 30 percent is probably *not* at risk. Rather, withholding a portion of the funds is meant to

force government review of NGO performance, hence building government capacity to manage the health system while enhancing NGO accountability. LAs are concerned, however, about having 30 percent of their funding hinge on the MOH having the capacity and motivation to review their performance and pay them in a timely manner, particularly given that there is no penalty if the MOH does not do this.

Phase two of the USAID Sudan Health Transformation Project also evolved into a PBC scheme, but rather than withhold funds, the pilot offers implementing partners the opportunity to receive an additional 6 percent of the overall quarterly budget if they meet targets on a random subset of indicators, conditional on quality.⁴³ In the USAID scheme, the performance-based payment mechanisms work as follows: quarterly invoices from the implementing NGOs are reviewed for progress based on achievement of targets, and the payment to the NGO is based on the organization's quality score. If an NGO scores <80 percent of the targets for the indicators on the scorecard, it receives only 95 percent of its payment for that quarter. If the NGO achieves between 80 and 100 percent of its assigned targets, it receives 100 percent of the payment. If it achieves >100 percent of its targets, then it receives 106 percent of the payment.

Implementing PBC has proved difficult in South Sudan. Both the UPHSD and USAID programs were beset with delays. Because it took time for the various players to reach a shared understanding of PBC and for design details to be hammered out, contracts between the MOH and LAs for phase two of the UPHSD were not signed until April 2010 – six months into a two-year program.

Similarly, while USAID's PBC scheme officially launched in November 2009, some of the contracts between Management Sciences for Health – the organization managing implementation – and implementing partners were not signed until February 2010. As other country experiences have shown (see Uganda above), unpredictable delays at the outset can be demotivating and can squander goodwill between players (Morgan 2010).⁴⁴

Another obstacle was a lack of communication, or miscommunication, between partners. In both PBC schemes there are several layers of institutions, each with its own mandate, constraints, and understanding of the program. In the UPHSD scheme, there was confusion among LAs about the overall management structure of the program. There were also disconnects in the USAID scheme. For example, the number of indicators linked to the performance incentive was reduced from 50 to 16 following concerns from implementing partners (although they must still report on all 50). But targets were not modified despite repeated requests from implementing partners, who had little role in determining targets in the first place). USAID officials point to the reduced number of indicators, saying that partner concerns have been addressed; while the partners, noting what they consider are unfair targets, say they have not.

A lesson, therefore, from South Sudan is that simply adding an incentive on top of broken systems is not enough to overcome the challenges of interbureaucracy communication.

South Sudan Highlights

- World Bank/MOH scheme withholds portion of payment until results are verified in order to increase dialogue between MOH and NGO service providers.
- USAID scheme offers partners bonuses for results achieved.
- Challenges with delays, poor communication between players. Scheme as of this writing is not very successful.

⁴³ This system is still under review.

⁴⁴ As was the case with a pilot RBF program in Uganda.

4.3 COUNTRY TO WATCH: SOMALILAND⁴⁵

In January 2008, the UK-based NGO Health Protection Agency launched a reproductive health program supporting six health facilities (five health centers and the national hospital), with the aim of expanding access to reproductive health services for vulnerable groups in the Maroodi Jeex region near Hargeisa, the capital of Somaliland.

In 2009, the program adopted a performance-based approach to increase the volume of institutional deliveries and enhance the productivity of health staff. In addition to paying a flat rate salary supplement to six staff per facility (four nurses and two cleaners), nurses had the potential to receive individual monthly bonus payments for meeting targets for increasing the number of institutional deliveries in their facilities. The program also paid traditional birth attendants a fee for each mother referred and provided small nonmonetary incentives (baby gifts) for mothers delivering at the health facility.

The pilot stimulated large increases in the number of institutional deliveries (data will be available in Costarelli, forthcoming), however, the small size of the pilot makes lessons difficult to draw.

The Somaliland case is unusual in the world of PBI in that it only rewarded one output: institutional deliveries. All other supply-side schemes discussed here reward groups of indicators while simultaneously monitoring progress on nonrewarded indicators to ensure that rewarding some outputs does not lead to neglect of others. However, the incentive payment did appear to spur strategies that led to increases in utilization of other services. One such strategy was the Health Protection Agency's decision to roll out 24-hour services in all clinics (previously open only six hours a day).

The small Somaliland pilot will be expanded to another six clinics in Hargeisa, and UNICEF plans to pilot a similar program in 15 clinics and five hospitals around the country, therefore, further evidence may be forthcoming. The potential for PBI may be great in Somaliland. Some have suggested that well-conceived incentives might trigger dramatic improvements: "The capacity discussion would benefit from focussing on the incentives that condition the performance of the healthcare system, rather than on the individual and organisational skills that capacity-building measures are supposed to generate. Provided with appealing enticements, Somali actors have demonstrated their individual and collective capacity to deliver results" (Pavignani, forthcoming).

⁴⁵ Information presented here is from Costarelli, forthcoming.

5. VOUCHERS: A SUPPLY- AND DEMAND-SIDE APPROACH

Voucher programs are the only PBI approach that explicitly incentivizes both users and providers as a matter of course. In voucher schemes, a purchaser contracts accredited health facilities and vouchers are distributed to patients entitling them to services at any contracted facility of their choice. The voucher is either heavily subsidized or free for the patient, and the provider is reimbursed for the cost of provision, plus a reasonable profit, after delivery has been verified. This section describes two voucher schemes for reproductive health services in East Africa (Kenya and Uganda), both of which are being evaluated by the Population Council and implemented with funding from the German Development Bank and other partners. Another reproductive health voucher scheme is being planned for neighboring Tanzania.⁴⁶

5.1 KENYA⁴⁷

Kenya began piloting a voucher scheme in 2006 in three rural districts and two Nairobi slums. The program sells highly subsidized vouchers, one for safe motherhood services, which entitles women to four antenatal visits, the delivery visit, and postnatal care within six weeks after delivery (which includes basic vaccination for the infant) at any contracted facility, and another for family planning services. The family planning voucher can be used for any of several long-term contraceptive methods: bilateral tubal ligation, vasectomy, hormone-based implants, or intrauterine contraceptive devices. The program also provides vouchers for gender-based violence (GBV) counseling and recovery services for free for all girls and women (poor and nonpoor) living in a voucher area.⁴⁸

Distributors sell vouchers and disseminate information about the program to communities. In order to target the poorest, they assess clients with a Poverty Grading Tool, developed by the UK-based NGO Marie Stopes, on criteria ranging from housing, water sources and sanitation, to daily income and number of meals per day. An advertising agency was also contracted to market the vouchers during the launch of the program; vouchers were presented at public meetings, religious gatherings, and during market days, and through radio advertisements.

Originally, voucher distributors earned a commission on every voucher sold. But when spot checks found distributors were selling vouchers to women who did not qualify (i.e., nonpoor), reimbursement was changed (beginning in the final year of the first phase of the program) to a fixed monthly salary. (In the Uganda voucher scheme, as discussed below, voucher distributors are paid a commission on each voucher they sell, as there is less concern about nonqualifying clients in largely rural communities where virtually everyone is poor.)

⁴⁶ The Population Council is also evaluating schemes in Bangladesh and Cambodia.

⁴⁷ For supporting information on this section, see Gorter, 2011a, 2011b, and 2010; Bellows et al. 2009; and Morgan, 2010a.

⁴⁸ The vouchers are distributed to the participating clinics, and each time a victim accesses the services, a voucher and accompanying documentation are submitted to the voucher management agency for payment of the services.

Vouchers can be redeemed at any accredited public or private facility, which then receive reimbursement for services whose delivery has been verified.⁴⁹ Fifty-four health facilities were initially contracted as voucher service providers (VSPs) in Kenya, and the NGO Marie Stopes Kenya provided family planning outreach services in all the project sites. In phase one, 54 VSPs were contracted. Five left the program (some because of fraud) and 25 new VSPs entered the program, for a total of 74 VSPs.⁵⁰

Facilities must meet certain standards to be accredited, such as having a basic level of laboratory capacity, running water, and electricity during at least part of the day, among other things. They receive the reimbursement rates shown in Table 4.⁵¹

TABLE 4. REIMBURSEMENT RATES BY SERVICE FOR SAFE MOTHERHOOD, FAMILY PLANNING, AND GBV VOUCHERS, KENYA

Rates for safe motherhood services include 1,000 KSh for 4 antenatal visits, about US\$3.50 per visit in 2009.

Voucher service	Kenyan Shilling	US\$
SM: Normal delivery	4,000	\$56
SM: C-section	20,000	\$280
Complications	Actual costs	Actual costs
FP: BTL and vasectomy	3,000	\$42
FP: Implant	2,000	\$28
FP: IUCD	1,000	\$14
GBV	Full cost	Full cost

The typical turnaround time for reimbursement is 30 days. Public facilities have been reimbursed through the district health office, although under new health sector reforms, they have begun to open bank accounts and manage their own finances. There are no requirements for how service providers use the profit (although the money may not be used to pay staff bonuses in public facilities), but many use funds to upgrade or expand facilities, buy equipment, and hire new staff.

Both the service costs and fees charged by providers varied for nonvoucher patients. According to Bellows et al. (2009), variation was greatest for C-sections, for which providers charged KSh 12,000–30,000 for nonvoucher patients, while voucher program reimbursements were KSh 20,000. A few private providers reported that their costs for complicated deliveries exceeded the reimbursement amount (some providers, especially in public clinics, were not sure of their costs).⁵²

A voucher management agency (PricewaterhouseCoopers) is responsible for identifying potential facilities prior to accreditation, contracting those that are accredited, managing voucher distributors, processing claims, and disbursing reimbursements. Claims management is cited as the most time-consuming and challenging aspect of the scheme by the voucher management agency, but fraud is a central concern.

Under the first phase of the pilot, the National Hospital Insurance Fund accredited facilities (this function is now carried out by a body within the MOH comprising representatives from the Department of Reproductive Health and the project steering committee), and the National Coordinating Agency for

⁴⁹ Less than 40 percent of the voucher service providers were public in phase one of the scheme; in phase two, public and private facilities were equally represented, although some private facilities have found the voucher scheme less profitable.

⁵⁰ Half of the VSPs are now public providers and half are private, for-profit and non-profit VSPs: 17 private-for-profit, 16 faith-based organizations, and 4 NGOs. See Gorter, 2011a.

⁵¹ At the time of this writing, fee changes were being considered, but no changes have been announced.

⁵² For more information, see Gorter, 2011a.

Population and Development was responsible for program oversight, with support from the steering committee, which is composed of representatives from the MOH and German Development Bank (KfW). Beginning in 2011, program oversight was transferred to the MOH (Ministry of Public Health and Sanitation), still with support from the same steering committee. The scheme is currently undergoing a redesign in which service packages are being improved, a new geographical voucher area is being added, and aspects such as external monitoring and evaluation, quality assurance, and collaboration with district health offices are receiving more attention. Finally, a health card will be piloted, that is, a composite voucher rather than separate vouchers for each service (safe motherhood, family planning, and GBV). This health card is considered a possible precursor to social health insurance coverage for the poor in the areas of sexual and reproductive health (with other services added later). The voucher program in Kenya is financed by KfW with US\$ 6.6 million for phase one (2005–2008) and US\$10 million for phase two (2008–2011).

5.1.1 IMPACT

The impact of the program has been significant, both for patients and facilities. Initially, the program aimed for 46,000 voucher-subsidized deliveries in the first phase (July 2006–October 2008) of the program. Once the program began, however, actual use of the voucher surpassed the target – nearly 80,000 were sold – and 54,000 deliveries were attended.

Family planning had a much slower start. More than 25,000 family planning vouchers were sold, but only 48 percent were redeemed between 2006 and 2008 (Gorter 2011).

The decisions behind seeking family planning and GBV counseling services are personal and complex. Barriers behind slow uptake of family planning methods, for example, may not be mainly financial, but rather social (e.g., stigma, social norms, preferences, lack of understanding).

A combination of intensive community marketing by the voucher distributors, increased provision of outreach services (including by public facilities), and word of mouth of satisfied clients helped to improve family planning voucher redemption between 2008 and 2011, according to program managers, and uptake rose during the second phase. Analysis by Gorter (2011) shows that uptake of long-term family planning methods increased considerably in 2010 and continues to rise in 2011, nearly tripling from what was observed in phase one, particularly in Kisumu, but also in Kiambu and Nairobi, and especially for implants.

Finally, despite DHS data suggesting that GBV is widespread in Kenya (CBS 2004)⁵³, and counselling and recovery services financially out of reach for the poor, fewer than 1,300 GBV vouchers were redeemed. There are many possible explanations for this, such as the fact that few facilities provide the services, no referral system is in place, and there is unfamiliarity of the victims with the services provided. These issues will be tackled in phase three, including the training of more health facilities in GBV counseling and recovery.

The impact of increased income from voucher patients has been significant at facilities. Many providers used the additional revenue to expand their facilities, purchase beds, buy equipment and generators, and hire additional staff. The voucher program has also allowed providers to capitalize much more rapidly than they could have done previously with the increased level of demand.

There are a handful of approaches built into the program to assess and monitor quality, including facility accreditation, the requirement that facilities establish quality committees, and monitoring by the voucher management agency. Informants, however, have cited gaps in these approaches: accreditation appears to have been weak, the responsibilities of quality committees unclear and their organization ad hoc, and the

⁵³ The 2003 Kenya DHS found high proportions of married women and divorced or separated women experienced different forms of violence by their current or last husbands.

yearly PWC assessments in need of strengthening. In the third phase of the program, an expanded project management unit plans to strengthen quality assurance throughout the program.

There are also several family planning-related changes being planned for phase three:

- The voucher will cover the cost of *removal* of implants.
- Short-term methods will also be covered.
- A health card (voucher booklet offering several services) is currently being tested. The aim is to present it as a form of insurance for essential reproductive health services for the poor, which could be used as a possible precursor to social health insurance.

The costs of establishing and managing voucher pilots vary. In Kenya, the portion of costs spent on management, training, and marketing was 20 percent of the phase one budget (although in each subsequent year of the project the overhead to disbursement ratio fell) (Gorter 2010).

Kenya Highlights

- Both public and private accredited facilities may participate in the scheme, which sells vouchers for safe motherhood and family planning and distributes vouchers for GBV counseling services for free.
- Sales of safe motherhood voucher exceeded expectations, while uptake for family planning started slowly but is now increasing considerably. Few GBV vouchers were redeemed.
- Claims management is cited as the most time-consuming and challenging aspect of the scheme by the voucher management agency, but fraud is a central concern.
- Increased focus on the quality of services is envisaged for phase three of the program.

5.2 UGANDA⁵⁴

Uganda launched a voucher program for safe motherhood services and management of sexually transmitted infections (STIs) in southwestern Uganda in 2008 after success with an earlier STI voucher pilot (2006–2008).

The program is managed by Marie Stopes Uganda (MSU), a UK-based NGO, which is responsible for both management and oversight. MSU contracts local, community-based distributors to sell the safe motherhood voucher to qualified low-income mothers. As in Kenya, distributors target the poorest using a Poverty Grading Tool, assessing beneficiaries on criteria ranging from housing, water sources and sanitation, to daily income and number of meals per day.

To market the STI vouchers, MSU branded the STI voucher “HealthyLife,” with a colorful logo that appeared both on the voucher and on the placards that identified participating facilities and distribution locations. Prior to program launch, radio advertisements were run on five regional stations. Radio call-in shows and call-in quizzes were also broadcast, designed to educate listeners on STI symptoms and to increase awareness of the HealthyLife voucher.

The safe motherhood voucher costs Ugandan Shillings (USh) 3,000 (approximately US\$1.60). Voucher distributors are paid a commission on each voucher they sell, because, unlike in Kenya’s Nairobi pilot areas, there is less concern about “leakage” in largely rural communities where virtually everyone is poor.

⁵⁴ For more information on this section, see Bellows and Hamilton, 2010, and Morgan, 2010a.

The safe motherhood service covers the costs of three ANC visits, the delivery including any emergency obstetric care, and one postnatal care visit. Included in the ANC package are malaria prophylaxis, iron supplements for anemia, HIV screening and services, and general monitoring of the health of mother and fetus. The voucher program also reimburses facilities for medical supplies, examinations, and drugs, and pays a fee for normal and complicated deliveries.

The STI vouchers were sold at drug shops for USh 3,000 (approximately US\$1.60) to anyone who complained of STI symptoms. The price of the voucher was 80 percent lower than the average out-of-pocket expense of USh 15,000 for STI treatment in the region. The voucher consists of two parts; patients used half of the voucher at accredited facilities and were encouraged to give the other half of the voucher to their sexual partner.

Unlike in Kenya, Uganda's scheme only operates in the private sector due to an MOH policy prohibiting cost sharing in public health facilities. To receive payment, facilities submit invoices to a voucher management agency and are paid generally within 30 days. Reimbursement is made directly into facilities' bank accounts.

Fraud is a central concern in voucher programs. For example, a provider may buy vouchers from distributors and file fake claims. There are also situations where different treatment regimes for the same disease have different cost structures; for example, treating a patient with syphilis could cost USh 10,000 if the patient is pregnant, or USh 5,000 for other syphilis cases. Using the claims form to distinguish whether a female patient is truly pregnant is impossible without additional costs to verify her status.

MSU originally contracted a private firm to manage claims, but the partnership sunset near the end of the first pilot, at which point MSU began reviewing claims itself, entering data in widely available spreadsheet software. One year later, MSU contracted another firm to develop a new database for managing claims, but, as of this writing, MSU continues to process claims internally and is working down a backlog of more than 1,000 claims accrued since the initial uptick in client visits.

MSU hired medical professionals to review claims as they are entered into a database. Unusual treatments, high numbers of C-sections, chronic errors on claims forms, and delays in claims submission all trigger follow-up. However, there are few random site visits to compare MSU records with facility data or interview clients, which may explain why MSU has found so little evidence of fraud.

The STI voucher resulted in 19,656 voucher patient visits between July 2006 and April 2008. An evaluation found that knowledge of STI symptoms increased 18 percent between the first and second years. The prevalence of syphilis decreased 42 percent between the baseline and endline surveys.

KfW and the World Bank co-financed the scheme with US\$6.3 million between 2008 and 2011. USAID is financing a new family planning voucher, which launched in early 2011 in the southwestern region. KfW's support is drawing to a close and World Bank support ends in June 2011.⁵⁵ Although USAID has awarded MSU a five-year grant to subsidize new family planning vouchers, all safe motherhood and STI vouchers have been sold. A concerted effort will be needed to get a new round of funding in place.

⁵⁵ The KfW decision has to do with competing priorities at the parent BMZ ministry in Berlin, which is emphasizing other sectors (energy, finance) as priorities. The World Bank originally approached the voucher scheme as a way to expand an interesting KfW project. To continue the project now, the bank will need to be convinced that it is worth more support. Discussions are ongoing.

Uganda Highlights

- Only private facilities may participate in the scheme, which sells vouchers for detection and treatment of STI, safe motherhood services, and, most recently, family planning services.
- Voucher for detection and treatment of STI shows success.
- As with Kenya, claims management is time-consuming, costly, and imperfect.
- Verification of claims is limited.

6. DEMAND-SIDE APPROACHES: CONDITIONAL CASH (OR IN- KIND) TRANSFERS

CCTs, what *The Economist* called "the world's favorite new anti-poverty device," (July 2009), are meant to ease constraints on household investment in human capital development by reducing out-of-pocket expenses and opportunity costs. CCTs are meant to induce long-term health and nutrition behavior changes by conditioning the transfers on the use of preventive health services and attendance to health education talks. CCTs can be a way to offset the costs of seeking health care and can also help to overcome social barriers.

The use of these transfers has been widespread in Latin America, but less so in Africa. Where they have been tried, it has typically been on a small scale and for discrete services, particularly related to the detection and treatment of HIV and other STIs. Rather than being used as a form of ongoing income support as in Latin America, in Africa they are used to provide stronger immediate rewards for healthy behavior, where rewards (such as being HIV negative) in the future may not be strong enough to impel healthy behavior today. This section describes four documented experiences with CCTs in Africa, all of which were rigorously evaluated.⁵⁶

6.1 MALAWI: CASH TRANSFERS TO REDUCE HIV INFECTIONS AMONG ADOLESCENT GIRLS⁵⁷

Malawi has implemented a series of CCT programs, each rigorously evaluated to test the effect of the incentive. The overarching aim of the schemes is to see what works to reduce HIV infection, in a country with an adult HIV prevalence of around 11 percent, the ninth highest prevalence in the world (UNAIDS 2009). Behavior change interventions to reduce the spread of HIV typically include education, motivational counseling, skills building, condom promotion and distribution, and improved sexual and reproductive health services. The assumption behind these schemes is that "current behavior change interventions, by themselves, have been limited in their ability to control HIV infection in women and girls in low- and middle-income countries" (McCoy et al. 2009).

The first scheme discussed here, which was supported by the World Bank, set out to find if small cash transfers would reduce school drop-out rates among teenage girls, and thereby protect these girls aged 13 to 22 from HIV infection. Drop-out rates are high among teenage girls in Malawi, both because of the high cost of secondary school and the fact that Malawian girls tend to marry at a young age. The study sought to test the theory that schooling and poverty reduction, especially for women, are key components to combatting HIV/AIDS.

⁵⁶ Being studies, these programs were well-documented. It is likely that many other experiences with CCTs in sub-Saharan Africa exist that have not been documented.

⁵⁷ This section summarizes the work of Berk Özler, a senior economist with the World Bank's Development Research Group; Sarah Baird of the George Washington University; and Craig McIntosh of the University of California, San Diego. See Baird et al. 2010.

In this two-year experiment in the Zomba district in southern Malawi (Zomba is divided into 550 enumeration areas containing an average of 250 households), households with schoolgirls aged 13 to 22 who had never been married were offered cash; some offers were conditional on regular school attendance, while others were unconditional. Transfer amounts ranged from \$1 to \$5 per month for the adolescent girls, to \$4 to \$10 per month for parents. To determine payment amounts, and ensure the process was perceived as fair and transparent by communities, public lotteries were held in which patients chose their payout randomly out of a hat. All recipients in a given enumeration area received the same amount. In addition, the school fees for all CCT recipients eligible to attend secondary school were paid.

Nearly 4,000 adolescent girls from 176 enumeration areas in Zomba were enrolled in the program. Less than 15 percent of the girls had already dropped out of school; the rest were enrolled when the study began.

The local NGO hired to implement the program held meetings in each treatment enumeration area between December 2007 and January 2008 with program beneficiaries and their parents/guardians to discuss program details (conditions, duration) and monthly transfer amounts.

Cash transfers were paid each month. The school attendance of all the CCT recipients was monitored every month and payment for the following month was withheld for any student whose attendance rate was below 80 percent the previous month. Participants were never removed from the program for failing to meet the monthly attendance rate; if their attendance rate improved, their payments resumed.

Among girls not required to attend school in order to receive the cash transfer, the monthly transfer amounts paid were adjusted upwards by an amount equal to the average secondary school fees paid in the conditional treatment arm. This ensured that the average transfer offered in the treatment and control arms was identical and that the only difference between the two groups was the conditionality of the transfers on school attendance. No attendance checks were conducted for the unconditional treatment recipients – they received cash transfers every month simply by showing up at their cash transfer locations.

6.1.1 RESULTS

Eighteen months after the program began, the HIV prevalence among program beneficiaries (i.e., among those who received both conditional and unconditional incentives) was 60 percent lower than the control group (1.2 percent vs. 3 percent). Similarly, the prevalence of herpes simplex virus – type 2 (HSV-2), which is the common cause of genital herpes, was more than 75 percent lower in the combined treatment group (0.7 percent vs. 3 percent). No significant differences were detected, however, between those offered conditional and unconditional payments.

The incentive also had a powerful effect on schooling: the cash transfer program led to large declines in school dropout and significant improvements in regular school attendance; however, as with HIV and HSV-2 prevalence, the differences were not significant between those offered conditional and unconditional payments.

Schooling is clearly an important correlate of STI status, as the experiment demonstrated: among the control group. The probability of being infected with at least one STI was 2.9 percent for those attending school regularly at follow-up, compared with 14.7 percent among those who are not. However, beneficiaries of unconditional cash transfers, even if they were not attending school at follow-up, were also significantly less likely to be infected with HIV or HSV-2 than girls in the control group who were not attending school. This suggests that cash transfers to households can reduce the HIV risk of adolescent girls through channels other than schooling; for example, by making it much less likely that

they engage in “transactional sex.” It is notable that onset of sexual activity was 38 percent lower among all program beneficiaries versus the control group.

Why did the program have such a large impact on new infections of STIs among adolescent girls? “The answer seems to be that the program not only changed the sexual behaviors that are usually targeted in behavior change campaigns, but the makeup of sexual partners and the frequency of sexual activity as well” (Baird et al. 2010).

According to the authors of the study, the evidence suggests that the changes in self-reported sexual behavior accounted for less than half of the program’s impact on HIV. The rest was due to a change in the risk profile of sexual partners, with simulations (based on partner characteristics as reported by study participants) indicating that HIV prevalence among male sexual partners of program beneficiaries was approximately 50 percent less than the rate among partners of young women in the control group.⁵⁸

But are the effects of the scheme the result of increased school enrollment or increased income? The results of this study suggest it is the latter. Though schooling is related to STI status – among the control group, the probability of being infected with at least one STI was 2.9 percent for those attending school regularly at follow-up, compared with 14.7 percent among those who were not – beneficiaries of unconditional cash transfers who were not attending school at follow-up were also significantly less likely to be infected with HIV or HSV-2 than girls who received no cash payment and were not attending school. “This suggests that cash transfers to households can reduce the HIV risk of adolescent girls through channels other than schooling—for example, by making it much less likely that they engage in ‘transactional sex’” (Baird et al. 2010).

Did the extra income empower girls and enable them to choose partners who are less likely to be infected with HIV? The evidence suggests that it did, but in order to see if the impact of the program lasts or if it simply temporarily delayed infection, the research team collected Biomarker data six months after the completion of the cash transfer experiment, and will do so again in 2012 to assess longer-term impacts.

6.2 MALAWI: INCENTIVES TO RETURN TO LEARN HIV STATUS⁵⁹

The government of Malawi, like many countries where HIV prevalence is high, is increasingly focused on prevention in addition to treatment. Part of the prevention strategy is testing, the assumption being that those diagnosed HIV positive will take precautions to protect others (while those diagnosed negative can protect themselves from being infected). A focus on testing as a prevention strategy also reflects an understanding that it is sometimes difficult to convince people to learn their HIV status, in part because of psychological and/or social barriers. Because of this, spending on social marketing to defuse the stigma associated with infection are generally assumed to be necessary, but what role might cash incentives play?

In this second CCT program in Malawi, a study led by Rebecca Thornton of Poverty Action Lab sought to find if cash incentives would result in increases in the numbers of people who would go to voluntary counseling and testing (VCT) sites to learn their HIV status, and if, in turn, this knowledge would affect their sexual behavior.

⁵⁸ For example “It is well known that older males are, on average, much more likely to be HIV positive than the male peers of schoolgirls. At the 12-month follow-up, the age gap between adolescent girls and their male partners was one year smaller in the treatment group and the sexual partners were 33% more likely to have been tested for HIV. In addition, the chances of having an older partner, as well as the amount of gifts and cash received from the partner, decline significantly as the total amount of cash payments offered by the program goes up.” See Baird, McIntosh, and Ozler, 2010.

⁵⁹ This section summarizes the work of Thornton 2008.

In developing countries, there are a host of disincentives to seeking testing. First, the costs of testing and travel are prohibitive, although the extent to which testing rates are low even when testing services are free or low cost suggests there are other factors at work. In Malawi, though HIV testing is free, only 14 percent of respondents in the 2004 DHS reported ever having been tested. (NSO and ORC Macro, 2005). In addition, as the Thornton study notes, even when individuals choose to be tested for HIV, many do not return for their results (Thornton 2008).

There may be other barriers to learning HIV status, including the fact that it is incurable, access to antiretroviral therapies is often limited, and even when antiretroviral therapy is available, most patients must wait until they have severe symptoms before receiving treatment.

Cash incentives may motivate individuals to learn their HIV status by subsidizing the costs of transportation and compensating for costs associated with lost time due to travel. Cash incentives may also reduce actual or anticipated social stigma. “For example, while others could interpret attending a VCT center as a signal of self-perceived risk of infection or of prior unsafe sexual behavior, monetary incentives may provide individuals with an excuse for going to the center, thereby reducing negative inferences made by others.” (Thornton 2008)

For the study, researchers randomly selected 120 villages in 1998, and in each village, approximately 25 percent of married households were randomly selected to participate. An additional group (sample) of young adults aged 15–24 was added to the program in 2004. Between May and August 2004, participants were offered a free door-to-door HIV test and were given randomly assigned vouchers for between \$0 and \$3, redeemable upon obtaining their results at a nearby VCT center. The location of each VCT center was also randomized in order to evaluate the impact of distance/travel time on VCT attendance. Only individuals who accepted an HIV test (2,812 people) were included in the evaluation.

6.2.1 RESULTS

Participants who received the incentive, no matter the size of the payment, were twice as likely to go to the VCT center to obtain their HIV test results as were individuals receiving no incentive. The demand for HIV test results among those who received no cash incentive was moderate at 34 percent. The average incentive was worth about a day’s wage, but even the smallest amount resulted in large attendance gains. In terms of distance to VCT centers/travel time, the study found that living more than one kilometer away from the VCT center reduced attendance by 6 percent.

Follow-up interviews were conducted several months after the study and participants were given the opportunity to purchase condoms. Participants who tested HIV positive (and who were sexually active) were significantly more likely to purchase condoms: on average, they purchased two more condoms than HIV-positive individuals who did not learn their results. The study concluded: “Because changes in sexual behavior, evidenced in condom purchase, were contained within the small proportion of sexually active HIV-positive individuals who chose to learn their status and the costs of door-to-door testing is quite high – \$44.06 for testing per person – a better targeted intervention may be more cost-effective.” (Thornton 2008) In other words, because door-to-door HIV testing is expensive and learning status had no effect on sexual behavior, as measured by condom purchases, outside the small group who were HIV positive and sexually active, other, less expensive means need to be considered to encourage testing and safer sexual practices. However, the incentives themselves, as with the previous Malawi program that gave incentives to girls and their parents, did have a significant effect. In the previous study, the conditionality had little effect, and in this study, the behavior change observed was relatively minor. But nonetheless, among very poor populations, modest incentives made a difference.

6.3 MALAWI: INCENTIVES TO MAINTAIN HIV STATUS⁶⁰

A third CCT experiment in Malawi involved CCT to maintain HIV status. The individuals in this study were part of the study described in the previous section, which offered financial rewards for traveling to clinics to learn HIV results. This subsequent program offered financial incentives to men and women to *maintain* their HIV-negative status for approximately one year. The study tested the effect of varying cash amounts and whether participants would exert the effort needed to receive the cash payment, even though the incentive could not be obtained until one year in the future.

The study involved the following. In 2006, approximately 1,300 men and women were tested for HIV. One to two months later, each individual was visited and introduced to the incentive program. During these visits, each individual or couple randomly drew a token out of a bag to determine their incentive amount, which ranged from 0, 500 Kwacha (approximately US\$4), or 2,000 Kwacha (approximately US\$16) for an individual, or 0, 1,000 Kwacha, or 4,000 Kwacha (approximately US\$32) for a couple. According to the study authors, the financial incentives were viewed as a significant amount among participants, most of whom were subsistence farmers who earn daily wages of about 20 Kwacha for men and 5–10 Kwacha for women.

Each individual was given a voucher and told that they must maintain their HIV status in order to receive the cash approximately one year later. For couples, both members were required to maintain their HIV status in order for the couple to receive the money. Couples who divorced, separated, or for whom one member was away, would receive half of the couple incentives after one year if the individual who tested maintained his/her status.

Individuals who were HIV positive when the study began would automatically receive the transfer at the end of the study, so long as they participated in the final HIV test and survey.

Three times over the following year, participants were interviewed in their homes and asked about their recent sexual behavior (particularly about the previous nine days and condom use). Interviewers arrived unannounced approximately every three months, and the same questionnaire was used each time. At the end of the third round, participants were visited by a project nurse and were offered another HIV test. Participants were given a gift for participation. After the second round of testing, the incentives program stopped.

6.3.1 RESULTS

The results of the scheme were disappointing: the incentive had no effect on HIV status or on reported sexual behavior. Furthermore, shortly after receiving the reward, men who received the cash transfer were 8.5 percentage points more likely and women were 7.5 percentage points less likely to engage in risky sex, a similar outcome to the first Malawi CCT pilot described above, where the CCT may have resulted in girls being less likely to engage in transactional sex.

According to the study authors, “The failure of the monetary incentive to motivate behavior change is likely due to a number of different factors. Rural men and women in Malawi may be less likely to respond to financial incentives than higher risk individuals such as urban men and women or individuals who are not in a stable marital relationships. It may also be that the amount of money was too small to induce a change in behavior. Another possibility is that the offer of the financial reward one year in the future was too far away from the present to overcome hyperbolic discounting or that there were concerns by respondents about the creditability of receiving the incentive payment in about one year conditional on their HIV status.” (Kohler and Thornton 2010)

⁶⁰ This section summarizes research and analysis by authors of the study. See Kohler and Thornton, 2010.

6.4 TANZANIA: INCENTIVES TO REMAIN STI-FREE⁶¹

As with the study in Malawi, this CCT scheme in rural Tanzania, a joint effort by the World Bank, the University of California/Berkeley, and the Ifakara Health Institute in Dar es Salaam (the same institute that is evaluating the soon-to-launch supply-side PBI scheme), set to test if financial incentives could complement existing behavior change strategies to slow the spread of HIV. The hypothesis behind the scheme was that “a system of rapid feedback and positive reinforcement using cash as the primary incentive can be used to reduce risky sexual activity among young people, male and female, who are at high risk of HIV infection.” (de Walque et al. 2010)

The RESPECT study (World Bank et al. 2010) enrolled 2,399 participants in 10 villages in the Kilombero/Ulangu district of southwest Tanzania, located 100 kilometers south of the major highway connecting Dar es Salaam with Zambia and Malawi. Study participants were randomly assigned to one of three study arms: a control, a low-value cash reward, and a high-value cash reward arm. Participants were tested every four months over a 12-month period for common STIs.⁶² These STIs served as a proxy for risky sexual behavior and therefore vulnerability to HIV infection.

Patients were tested for curable STIs rather than HIV because those who tested positive could continue to participate in the study after they were treated and cured of the infection. This encouraged participation and learning, since mistakes could be corrected and overcome. (Note that HIV acquisition did not result in being dropped from any arm of the study.)

A small payment was provided to all participants (regardless of which study arm they were assigned to) to minimize attrition from the study. Counseling was provided to participants both before and after testing, and anyone testing positive for an STI received free STI treatment and counseling. Monthly group counseling sessions were also made available to all study participants in all villages.

Participants in the high value payment arm could receive payments of up to \$60 over the course of the study (\$20 payments every four months). The lower value payment was for up to \$30 (\$10 every four months). “These amounts represent a significant proportion of household income in a country where GDP per capita was \$440 in 2008, and particularly among study participants, who had mean individual annual earnings of approximately \$250.”(de Walque et al. 2010, and World Bank et al. 2010).

The study lasted two years and cost \$1.8 million. Funding was received from the World Bank Research Committee, the Spanish Impact Evaluation Fund managed by the World Bank, and the William and Flora Hewlett Foundation through the Population Reference Bureau.

6.4.1 RESULTS

At the end of the study, 9 percent of participants eligible for the highest incentive amount tested positive for the infections compared to 12 percent among the control group. While the results showed a significant reduction in STI incidence in the group that was eligible for the \$20 quarterly payments, no such reduction was found for the group receiving the \$10 quarterly payments. Furthermore, while the impact of the incentives did not differ between males and females, the impact was larger among poorer households and in rural areas.

The cash transfers were discontinued during the second year of the experiment, but at the end of the second year, in the spring of 2011, all study participants were tested one last time, in order to test if the gains in preventing STI transmission are sustained over time in the absence of continued incentives.

⁶¹ This section summarizes the research and analysis of Damien de Walque (The World Bank), William H. Dow (University of California - Berkeley), and Rose Nathan (Ifakara Health Institute). See: de Walque et al. 2010, and World Bank et al. 2010.

⁶² They included chlamydia, gonorrhea, trichomonas, mycoplasma genitalium, and syphilis.

6.5 DISCUSSION: ARE CCTS AN EFFECTIVE TOOL IN SUB-SAHARAN AFRICA?

Incentives do have an effect, and the larger the incentive and poorer the recipient, the larger the effect. But it is not completely straightforward. Conditionality is not necessarily required; the frequency of payment matters; and incentives, though they may spur individuals to specific, time-limited actions, may not be enough to result in more complex behavior change. Moreover, it is difficult to imagine scale up and institutionalization of such programs. All four studies have been completed. Could the studies have contributed to gradual changes in the norms associated with sexual health and behavior? Maybe. It is hard to tell. But in southern Africa, where HIV prevalence is the highest in the world, CCTs may be one tool that if used strategically, could complement other behavior change tools.

7. HOW IS THINKING ABOUT PBI IN AFRICA EVOLVING?

As experiences with PBI in Africa have grown over the last decade, thinking about its design and implementation has evolved.

7.1 WHAT PERFORMANCE IS REWARDED?

In most cases, schemes begin by rewarding progress on indicators that are relatively simple to measure and track and on high impact interventions, such as DTP3 coverage, which are almost always part of existing health management information systems. These indicators are also often first priorities because increased utilization of these interventions matches the goals of reducing child and maternal mortality, which are top priorities for most developing countries. Moreover, the earliest PBI schemes tended to focus on rapidly increasing the use of these key health services in extremely low-resource and low-utilization settings.

As programs evolve, the *quality* of care, in addition to the quantity of services provided, is also being rewarded. Most schemes being designed today incorporate quality measures from the start, whether by requiring that facilities be accredited to participate, rewarding clinical content of care, or linking performance payment to quality scores as measured by various quality assessment tools.⁶³

Schemes often begin with facility-level assessments of structural elements considered to be preconditions necessary to deliver quality services. Elements such as running water, cleanliness, organized stock rooms, essential equipment, and waste disposal are often included. As programs evolve, attention turns to more complex quality indicators, including measures of clinical quality and responsiveness to patients. For example, in addition to counting the number of institutional deliveries, schemes may reward correct use of a partograph and/or use of a uterotonic in the third stage of labor. In Rwanda, experience rewarding content of care (e.g., a woman receiving tetanus vaccine during pregnancy) combined with PBI payment conditioned on a quality score suggests that the PBI payment approach gave providers the motivation to translate their knowledge about prenatal care into better practice. These additional measures are typically not part of routine health management information systems and, therefore, imply establishing a parallel reporting and tracking system.

There are many essential health interventions known to improve health that have, thus far, not been linked to incentives because they are difficult to measure and track. For example, while exclusive breastfeeding for six months is a highly effective health enhancing intervention for both children and mothers, it is impossible to hold health workers or moms accountable and it is challenging to verify. Similarly, the use of oral rehydration therapy/zinc to treat child diarrhea is a life-saving intervention, but it depends on quick recognition and action by caregivers and not by the formal health delivery system, making it a challenging indicator to reward at the facility level.⁶⁴ In addition, while the detection and appropriate treatment of upper respiratory tract infections is critical for reducing child morbidity and

⁶³ For example, voucher service providers must be accredited to participate. In Liberia, one of the performance indicators relates to facilities' score on the national accreditation. A Malawi PBI scheme will reward facilities for their scores on Standards-based Management and Recognition, a continuous quality improvement process developed by Jhpiego, which has become national policy in the country.

⁶⁴ Community-based distributors may receive commissions or markups for sales, which may provide incentives to educate households.

mortality, it is hard to verify correct diagnosis and treatment. Appropriate feeding practices by households, also critical for child health, are not easy to reward because of measurement challenges. These and other essential health interventions and health-enhancing practices would benefit from innovation in measurement so that they can form part of the core package of priority services that can be rewarded.

Another area ripe for incorporation into PBI programs is supply chain management. In many countries in Africa, public supply chains for drugs and commodities are handicapped or broken. Yet, without access to a reliable supply of essential commodities and drugs, facilities cannot increase use of the services for which they are rewarded. In some settings, such as in the PBI scheme in South Kivu in the DRC, facilities are allowed to purchase drugs, commodities, and supplies directly from private wholesalers. This may help to alleviate the problem of stock outs, but quality control may be lacking and cost control hampered when individual facilities pay higher prices than a centralized national procurement can negotiate when buying large volumes. One solution to reducing stock outs that is being explored in Mozambique is to introduce performance incentives throughout the supply chain, starting with the Central Medical Store (Connor et al. 2011).

The next frontier of PBI may well be in noncommunicable diseases. As countries develop and maternal and child health and infectious disease priorities are addressed, we can expect a transition to a focus on preventing and managing chronic noncommunicable diseases such as diabetes and cardiovascular disease. PBI approaches from developed countries can be expected to be adapted to low-resource settings to contribute to strengthening the systems and providing the incentives to both providers and patients to prevent disability and mortality from chronic conditions.

7.2 WHO IS REWARDED?

Supply-side schemes in Africa have typically rewarded health facilities, with rewards then distributed among facility staff and/or used to invest in facility infrastructural improvements or engage in outreach with communities. However, schemes are evolving in Africa, increasingly rewarding subnational and district-level teams for results that are aligned with the results rewarded at the facility level or rewards for population-based coverage of high impact services. For example, in Tanzania, CHMTs and RHMTs are rewarded when a majority of the facilities reach performance targets. This is being done to provide incentives to DHMTs and RHMTs to provide support to low-performing facilities and to solve supply, staffing, and other bottlenecks. However, once subnational teams are rewarded for the same indicators as the facilities they supervise, they cannot also verify results because of the conflict of interest.

CHWs are also increasingly being incorporated into schemes, as strategies to address health human resource shortages in many countries include training and deploying CHWs to deliver services previously provided by higher trained health workers. Voucher distributors that educate the population, assess their eligibility to access subsidized vouchers, and sell vouchers are a form of CHW. The range of services and/or products they provide, who they report to, how they are supported, and whether and how they are paid varies.

Rwanda has begun implementation of a pilot that rewards CHWs through community cooperatives for reaching such health goals as child nutrition, safe motherhood, and family planning. Senegal will also soon launch a scheme that provides incentives to CHWs, among other cadres of health workers. In addition, Malawi and Mozambique are considering how to motivate their CHWs as part of the performance incentive schemes they are developing.

Finally, demand-side incentive schemes have yet to be implemented at large scale in Africa. Part of the reason may be a reluctance to incentivize demand without ensuring adequate supply is available. But this may be changing as there is also growing recognition that much of health depends on what happens at

the household level, and thus program managers and policymakers are increasingly considering complementing supply-side programs with demand-side elements.

7.3 WHAT ARE THE PAYMENT RULES?

One of the differences between the programs described above is in the award mechanism: some schemes pay a fee per service delivered, whereas others award incentives based on achievement of targets. Both approaches have advantages and disadvantages.

Proponents of paying facilities to reach targets related to population coverage argue that the approach may stimulate more outreach, planning, and strategizing, and may encourage health facility staff to work together and to recognize the relative roles of CHWs, nurses, and other staff to achieve results. FFS proponents argue that paying a fee for each service stimulates the same actions and is more easily understood. For underutilized preventive services, there is little evidence about relative effectiveness. There is, however, a large literature in health economics that demonstrates that paying fees for services results in excessive provision for services where providers have the ability to induce excess supply (Gosden et al. 2001).

A clear advantage of a target approach is that planners can set a maximum budget envelope. With FFS, there is some budget risk as the quantity of many services cannot be adequately predicted. However, with FFS, there is less risk for the provider, as he or she is paid for each unit. This may be less stressful for the provider, but also may be less motivating than target approaches, which usually pay for "all or nothing" achievement (i.e., the health team receives payment if they reach each target but not if they do not – although in target-based schemes in Senegal and Tanzania, reward is given for partial attainment of targets). This may be more stressful and/or it may stimulate extra planning and be more motivating.

Determining an appropriate target can be challenging in target approaches, which rely on accurate knowledge of the catchment population, since targets are usually set as reaching a percentage of a target population with a specific service. Usually the denominator can be estimated from district-level or national-level stats (e.g., one might know the population in a district and then apply the proportion of women of reproductive age in the entire country to this district population to get the denominator for the number of reproductive age women). An adaptation to target setting in percent terms can be target setting in levels: for example, if a facility performed 35 deliveries last quarter, then the target is 45 for the next quarter. Targets may also be translated into units, which removes the risk of arguments between facilities and PBI managers about changes in the denominator over the course of the contract.

Another advantage of FFS is that it is easy for providers to understand, and understanding is critical to the success of P4P: if beneficiaries do not understand the program, they will not be motivated by it. On the other hand, there is a large literature in health economics that suggests that paying FFS can generate too many services. Payment for each curative care visit in a health center in Rwanda or Burundi, for example, may result in providers generating excessive curative care services in response to the opportunity to earn the additional income. FFS proponents in developing countries argue that this is not an issue in low-utilization settings and that we may want to encourage over utilization of preventive services.

There is also variation in how scores on quality assessments affect payment in PBI programs. In many countries (Rwanda, Senegal, among others), facility PBI payments are *discounted* by the score they receive on a quality assessment. Other countries (Burundi, DRC-Cordaid) inflate payments depending on the quality score. Both approaches are intended to spur the maximum motivation among staff to improve the quality of services. Some think that additional payments will motivate health workers to work extra hard to get the extra funds, while others say that attaching a bonus to quality improvement sends a signal that focusing only on quality is "extra," since bonuses can still be obtained by focusing only on the potentially easier quantity indicators. Linking the "stick" of potential reduced payment to quality

is thought to send a signal that increasing the quantity of services delivered is not enough, and indeed, there is some evidence from behavioral economics that suggests that people may be more motivated by the risk of losing something they were expecting than by the possibility of receiving extra (Lazear, 2000; Thaler and Sunstein, 2008; and Ariely, 2008). This design element would benefit from research.

Payment in all PBI approaches benefit from ongoing monitoring to assess whether they are working as intended and to inform modifications, if necessary. In the voucher scheme in Kenya, for example, voucher distributors were previously paid commissions for each voucher sold, but this strategy was halted after it was discovered that this created an incentive to sell to individuals who did not qualify (i.e., were not poor).

7.4 WHO PAYS?

PBI programs in Africa have typically begun as donor-funded pilots, with payment by a donor or donor-contracted entity to the recipients. As countries, with Rwanda in the lead, choose PBI as national policy, they transition to direct management of payments. As formerly fragile states demonstrate the ability to manage and account for donor funding, we can expect to see a transition to country direct management of these NGO contracts. Liberia, for example, is in the process of transition from a USAID contractor managing NGO contracts to government management through a contract management unit and pooled funding from multiple donors.

Momentum is also growing to create national and community-based health insurance mechanisms to pool risk and to cover payments for services. There is a significant opportunity to incorporate performance incentives into the way insurance entities pay providers and how they subsidize the poorest.

7.5 INFORMATION SYSTEMS ARE THE BACKBONE OF PBI – AND PBI STRENGTHENS INFORMATION SYSTEMS

Reliable health information is the backbone of any PBI system and, in many countries, the HMIS is strengthened as a result of PBI. The need to generate timely and reliable data on which to base payment, combined with the benefits of providing timely feedback to those being rewarded, is increasing the focus on strengthening health information systems and on applications of technologies to improve them.

Most schemes rely on routine service delivery data, which are generated and recorded at the point of service provision, and eventually entered into the HMIS and/or other data management systems. Reliance on national HMIS systems may help to spur much-needed improvements in reporting systems and data quality, particularly when financial and technical support are provided. The verification function in PBI schemes can also help to increase the validity of HMIS data.

Some schemes conduct assessments of the reliability of the HMIS system prior to launch. Meant to ensure that procedures for collecting, processing, analyzing, and reporting data are adequate to minimize risks to data quality, these assessments may include recommendations for actions the country can take to improve the HMIS system prior to and during implementation of PBI.

Because of the premium placed on reliable information, countries with PBI programs may see a strengthening of their HMISs, as well as emergence of creative applications of technology for collecting, reporting, and verifying performance in the future. For example, Rwanda and Burundi run Internet-based reporting systems that generate data that can be viewed publicly (the site is only public in Rwanda). Other countries are experimenting with use of tablet computing devices to generate scores on quality tools (Malawi) while on site at facilities.

7.6 HOW DO SCHEMES VERIFY THE RESULTS THAT ARE REWARDED?

A process to verify that rewarded results truly occurred, and to detect incentive-induced gaming, is key to the success of any PBI scheme. Countries have developed a range of approaches, which differ in terms of entities involved (e.g., external auditors, NGOs, MOH staff, peer facilities), frequency, level (e.g., facility-based, community-based), degree of rigor, and cost.

Most schemes rely on routine service delivery data, which are generated and recorded at the point of service provision and eventually entered into the HMIS and/or other data management systems. The verification process usually includes some assessment of the reliability of reporting by providers and/or their supervisors through a cross-check of HMIS data against data entered in facility registers.

In addition, some schemes ensure reliable reporting by confirming that patients who were reported to have received services actually received them. This can be done through a random household spot check of a sample of patients drawn from health facility registers (i.e., patient follow-up) or a systematic, population-based household survey.

Another method for verifying results is to rely on direct observation of the conditions of service delivery and care, in addition to self-reporting and patient follow-up. In these cases, independent, third-party agents may carry out a health facility assessment or survey, which may include interviews with health staff and patients, direct observation of preventive and/or curative care, and an audit of management practices, equipment, supplies, and information. Incentives are provided when the overall performance of the health facility or providers, often quantified in a composite “score,” is judged to be in accordance with established benchmarks or is equal to or surpasses the predetermined performance standard.

PBI programs are increasingly seeking to engage community organizations, as a complement to traditional, top-down verification. The potentials of social accountability have influenced some countries to consider various mechanisms for engaging communities in PBI schemes, particularly contracting local community organizations to conduct verification of results achieved and to gauge client satisfaction with services. For example:

- In Senegal, community-based organizations will be contracted to conduct surveys among a randomly selected sample of service recipients, and community health workers are among the beneficiaries of the scheme.
- In Burundi, facilities can earn bonuses of up to 25 percent of total fees earned the previous quarter depending on their quality performance, which is determined in part by community client surveys conducted at random each quarter by local grassroots organizations. These organizations verify whether services have actually been delivered and gauge client satisfaction with services.
- In the DRC, a PBI scheme implemented by Cordaid in South Kivu, and another being implemented by IRC and supported by the World Bank in Haut-Katanga, provides an additional 15 percent of the initial payment when facilities score 100 percent on a quality assessment, which consists in part of verification by community groups of services delivered and patient satisfaction.

7.7 EQUITY

Addressing equity is also increasingly viewed as important to consider in the early stages of PBI development. Some worry that project benefits will tend to accrue first to those within the eligible population who are easiest to reach and that these people will usually be better off socially and economically than others. This is especially true in supply-side schemes: the stronger the incentive to simply provide a higher volume of services, the less likely the poor are to benefit.

Whether a PBI program addresses inequities or exacerbates them depends on how the programs are designed and implemented. There are many approaches that can help to direct benefits toward the poor. Program designers can limit eligibility to poor people or families (as in voucher programs), focus on deprived geographic areas (most programs do this), encourage service provision in those areas by increasing rewards for facilities/providers through isolation bonuses (as in Burundi and the DRC), or use channels that reach the poor, such as the private sector or CHWs (as in voucher schemes).

7.8 SUSTAINABILITY

For a health sector reform like PBI, which introduces powerful, behavior-changing incentives, the question of how it will be sustained is critical.

In most PBI programs, the cost of the actual incentives is relatively small. After the upfront investments are made to establish the systems needed to operationalize PBI, it may be feasible for some countries to assume responsibility for paying the performance incentives directly. Experience also suggests that engaging a wide range of stakeholders beyond MOHs (such as the Ministry of Finance and trade unions) and channeling money through existing national systems (such as health insurance schemes) are critical for generating buy-in for the concept and ensuring sustainability.

Moreover, PBIs can be integrated into a country's overall payment strategy, alongside other payment mechanisms, all of which can be combined in a way that sets incentives that will achieve the country's health goals.

Finally, for many low-income countries in SSA, where donors are likely to continue to finance large shares of the health budgets for the foreseeable future and where there is interest and commitment from the government, PBI can contribute to increasing the effectiveness of development assistance.

8. CONCLUSION

Incentives are powerful, and in many countries in SSA, health managers, nurses, and doctors face significant disincentives for delivering high-quality care to population, and families face disincentives for seeking and accessing care. PBI schemes have in many cases been shown to realign those incentives, and motivate and enable health workers and families to take the action that leads to better health and strengthened health systems. PBI is no panacea: these programs require careful management, verification, and the ability to revise and learn as you go. Financial or in-kind incentives on their own are not enough: the more complex the behavior change desired, the more slowly incentives have an effect. But PBI has emerged as an important and promising tool to improve health in SSA. The continent has gained a wealth of experience over the last decades with a variety of PBI approach, and this is set to grow in the coming years as more and more countries implement and evaluate programs. The second generation of PBI should build on the success of the past while learning from the pitfalls and addressing the gaps in knowledge and practice.

ANNEX A. LEARN MORE

For a collection of case studies, technical working papers, and other tools, see the following:

The USAID-funded Health Systems 20/20 project's PBI website:

<http://www.healthsystems2020.org/section/topics/p4p>

The World Bank Health Results Innovation Trust Fund: rbfhealth.org

Canavan, Ann, Jurriën Toonen, and Riku Elovainio. December 2008. *Performance Based Financing: An international review of the literature*. KIT Development Policy & Practice.

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