

Performance-based financing and changing the district health system: experience from Rwanda

Robert Soeters,^a Christian Habineza,^b & Peter Bob Peerenboom^c

Abstract Evidence from low-income Asian countries shows that performance-based financing (as a specific form of contracting) can improve health service delivery more successfully than traditional input financing mechanisms. We report a field experience from Rwanda demonstrating that performance-based financing is a feasible strategy in sub-Saharan Africa too. Performance-based financing requires at least one new actor, an independent well equipped fundholder organization in the district health system separating the purchasing, service delivery as well as regulatory roles of local health authorities from the technical role of contract negotiation and fund disbursement. In Rwanda, local community groups, through patient surveys, verified the performance of health facilities and monitored consumer satisfaction. A precondition for the success of performance-based financing is that authorities must respect the autonomous management of health facilities competing for public subsidies. These changes are an opportunity to redistribute roles within the health district in a more transparent and efficient fashion.

Bulletin of the World Health Organization 2006;84:884-889.

Voir page 888 le résumé en français. En la página 889 figura un resumen en español.

يمكن الاطلاع على الملخص بالعربية في صفحة 889.

Introduction

Contractual relationships are variously termed as “contractual approach”, “contracting” and more recently, “performance-based financing” or “P4P” (payment for performance). The generic term “contracting” is too general to define this relationship in the health sector. This is because contractual arrangements in the health sector should not only focus on the judicial aspects of rigid contracts and profit orientation (as in the private for profit sector), but also emphasize supportive partnerships between different actors, who share similar social aims such as the Millennium Development Goals.^{1,2} Several studies from low-income Asian countries have shown that performance-based financing had better outcomes for improving health services than the traditional “input” approaches which are characterized by centralized planning and the distribution of inputs such as salaries, essential drugs, medical equipment.^{3,4} While exhaustive examples of performance-based contracts from Africa are still rare, Rwanda started several promising initiatives of performance financing from 2001. We describe the experience with performance-based

contractual relationships in Cyangugu province, Rwanda, and the changes that were made in the organization of the district health system to facilitate the process.

Background

After the 1994 genocide, Rwanda became an impoverished country with a largely destroyed health infrastructure dependant on international assistance for providing health services free of charge. Rwanda has subsequently made substantial progress in stabilizing and rehabilitating its economy to pre-1994 levels. Rwanda has one of the best economies in Africa (with the exception of African countries that experienced oil windfalls) with a growth rate of 9.9% in 2002.⁵ The country is business-friendly, has strengthened property rights and pursued sensible fiscal and monetary policies. The government seems to be genuine in its efforts to seek improvements for the population. Rwanda is largely poor, with about 90% of households engaged in subsistence agriculture.⁶

After the war, the new government re-adopted the district health model to rebuild the health system along the

1987 orientations of the Regional Committee of Africa of the World Health Organization.^{7,8} Provincial health offices and district health teams obtained the responsibility for, or monopoly on, all aspects of the health system including planning, provision, regulation and input disbursements. Each health district had an office, a hospital and government- or church-owned health centres providing services to an average of 20 000 people. Nevertheless, there were no formal planning procedures or health plans.

By 2000, the Rwandan Government shifted its health policy towards decentralization, leaving health service supply and demand to market forces. These major changes were triggered by decreasing international assistance and limited government health expenditure. The meagre government funding was characterized by centralized allocation, parallel vertical health programmes such as immunization and unclear linkage with intended results. When the demand for health services started to exceed the capacity of health facilities to meet this demand free of charge, the government allowed health facilities to set user fee levels autonomously and spend the

^a Public health and financing consultant to Cordaid, Kramsvogellaan 22, 2566 CC Den Haag, Netherlands. Correspondence to this author (email: Robert_Soeters@hotmail.com).

^b Cordaid, Rwanda.

^c Public health and institutional development consultant to Cordaid, Netherlands.

Ref. No. 06-029991

(Submitted: 1 March 2006 – Final revised version received: 22 August 2006 – Accepted: 23 August 2006)

Robert Soeters et al.

revenues at their own discretion. As a result, health service quality improved, but cost-sharing put an unreasonable financial burden on the predominantly poor population, and consequently, utilization rates dropped. In 2001, the annual government health expenditure amounted to US\$ 3 per person, of which only US\$ 1 reached the frontline health providers, while the health centres generated 60–80% of their revenues from cost-sharing.

From 2001 several contracting initiatives were started in Butare,⁹ Cyangugu and Kigali provinces. Cyangugu province, with 620 000 inhabitants, is situated between a high mountain range, Burundi, and the Democratic Republic of the Congo. Roads and education improved considerably and the establishment of mobile phone networks was helpful for development activities. Authorities promoted the involvement of religious/church-owned health facilities, covering 40% of the population and receiving the same public funding as government health facilities. The private for-profit health sector in Cyangugu is small by African standards. The meagre government and aid agency support for the health services in 2001 helped create an enabling environment for innovation. Health providers learned to run their facilities autonomously, but eagerly accepted any new support. Communities and local authorities had high user fees and welcomed new approaches. As administrative restrictions were few, it was an excellent opportunity to field test innovative ideas. Other favourable factors in the health system were the existence of a computerized health management information system and a non-monopolistic essential drugs distribution network involving both government and private wholesalers.

The international nongovernmental organization (NGO) Cordaid, operating in Cyangugu since 1998, responded to the favourable conditions for change in the health sector. In 2001, Cordaid committed itself to innovative performance-based financing. It started contracting in 2002 and by January 2003, all 24 health centres and four district hospitals had signed contracts.

Institutional setup for contracting

Based on best practices from the literature and pragmatic considerations,

a new institutional setup was proposed for contracting in Cyangugu province (see Fig. 1). Its main aim was to create checks and balances at the district level between the four main stakeholders: (1) health service providers, (2) consumers, (3) a purchasing organization and (4) the regulators. This implied reinforcing the autonomy of the health provider management, strengthening the consumer voice, and the creation of a fundholder organization that was independent of the regulatory and administrative authorities. The new set-up had the following main functions and responsibilities.

- *Health service delivery.* After signing the contracts, the health centres and hospitals delivered health services autonomously as organizational entities instead of as individual health workers. Health committees with community representatives helped in linking to the population, while management teams coordinated internal planning and implementation.
- *Strengthening the consumer voice.* Patients using the health services influenced provider behaviour directly by paying user fees and indirectly through membership in pre-payment schemes, as well as by providing feedback through patient satisfaction surveys.
- *Fundholding.* An independent well-equipped fundholder operating from a district location negotiated contracts with health providers, monitored output and disbursed the per-

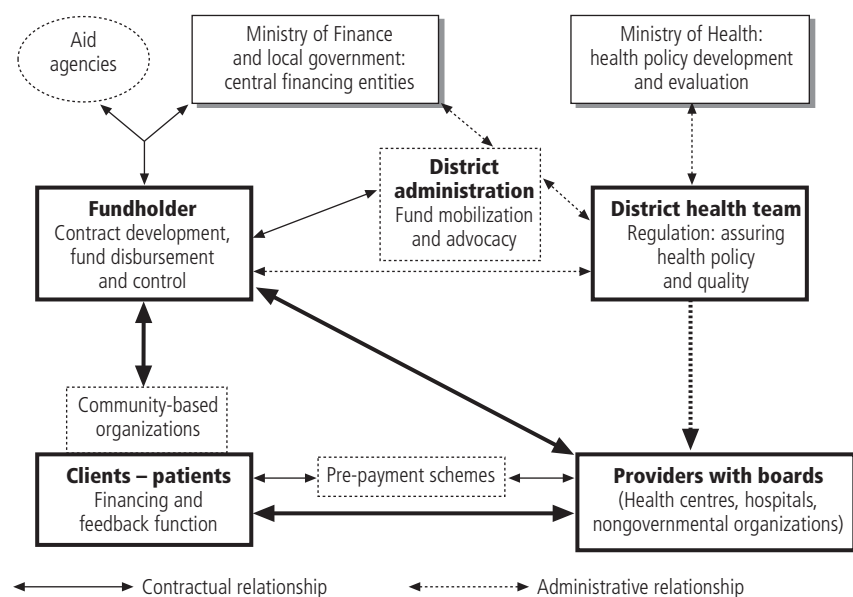
formance subsidies.

- *Regulation, planning and quality assurance.* Decision-makers at the national level defined the priorities based on the complex task of balancing political priorities with technical rationale, such as identifying cost-effective interventions for essential health packages or Millennium Development Goals. At the peripheral level, the district health teams assured the implementation of national health policy and conducted quality reviews.

In Cyangugu province, the authorities played a decisive role in supporting the programme financially, and successfully advocated the introduction of performance-based financing at the national level. The newly emerged district health system was guided by a coordination committee of provincial and administrative district authorities in which the health providers and fundholders also participated. The fundholder was accountable to a committee in which all stakeholders participated, including the Ministry of Health and the Ministry of Local Government. This committee was also responsible for arbitration on contractual issues and the application of penalties in worst-case scenarios.

The performance-based financing management cycle in Cyangugu province was conducted in four phases (Fig. 2). During the first phase of the contracting process (planning), the fundholder

Fig. 1. The institutional set-up for performance-based financing, Cyangugu province, Rwanda



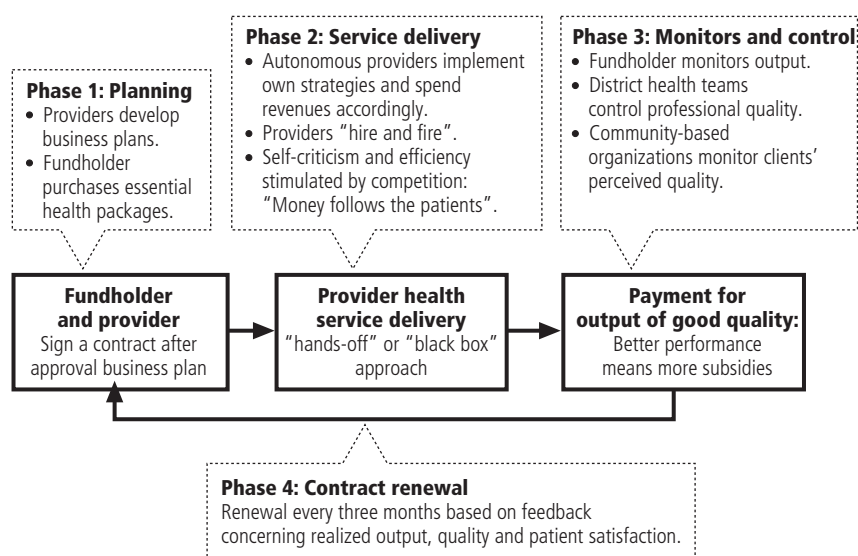
invited the health provider management (with their boards) to develop a business plan explaining how to deliver a good-quality essential health package to the population at an affordable cost. The business plan considered the services in the health facility and all curative, preventive and promotional services in their catchment areas. These plans probably involved health committees with population representatives and other (private) providers in the catchment area. The first phase ended with the fundholder approving the business plan. The fundholder approved the plan only if it adhered to national and local regulatory guidelines.

The second phase (service delivery) was concerned with the implementation of the business plan by the health providers. External actors applied a “hands-off” or “black box” approach concerning user-fee issues and decisions on where to buy drugs or other inputs. Hiring and firing of locally recruited health workers, representing approximately 70% of Cyangugu province, was also decentralized. If more patients used these good-quality services, the health facility was rewarded with more subsidies. Yet this hands-off approach does not equal a “laissez-faire” approach, because during the third phase (monitoring and control), the fundholder, the district health teams and community-based organizations strictly monitored the results for output and quality. The fourth phase (contract renewal) of the contracting management cycle included reviewing the feedback, renegotiation and the renewal of contracts.

Survey results

We discuss the results of two household surveys conducted in January 2003 and October 2005 in Cyangugu province, and of a World Bank study conducted

Fig. 2. Schematic presentation of the contracting management cycle between fundholders, health providers, district health teams and consumers, Cyangugu province, Rwanda



in 2005 in four provinces of Rwanda. The results from Cyangugu province were encouraging; detailed results are published elsewhere.¹⁰

We present the results of cost-sharing, standard essential package indicators and demographic changes in Cyangugu province, Rwanda (Table 1). Though the household surveys had relatively small sample sizes of 240 and 320 households, respectively, the results were significant and consistent with the World Bank study. Out-of-pocket health expenditure decreased by 62% from US\$ 9.05 to US\$ 3.45. The percentage of respondents declaring that user fee payments had been “catastrophic” decreased from 2.5% in 2003 to 0.7% in 2005. The proportion of women delivering in a health facility increased from 25% to 60%. The increase in family planning coverage might have contributed to the decrease in demographic pressure as the

result of overpopulation and hardship at the household level in a politically volatile region of Africa.

We observed an unexpected result — that to expand their production, health facility managers created 120 new jobs for skilled and previously unemployed workers.

Discussion

In key health policy documents, there is a growing consensus that policy-making and health-provision roles must be separated — known as the purchaser–provider split — and that there should be some form of performance-based relationship between them.^{11,12} Using this as the basis we made three assumptions: (1) that the “state”, represented by policy-makers and politicians, should negotiate results from health providers; (2) that providers must be remunerated with public funds

Table 1. Cost-sharing, standard essential package indicators and demographic changes, Cyangugu province, Rwanda

Indicators measured during household surveys	January 2003	October 2005	Difference 2005/2003
Per capita out-of-pocket expenditure per annum (US\$)	9.05 (7.3–10.8) ^a	3.43 (2.5–4.3)	–62%
% episodes with catastrophic expenditure	2.5 (1.1–3.9)	0.7 (0–1.5)	–72%
Institutional deliveries conducted by skilled persons (%)	25 (15–35)	61 (49–71)	144%
Family planning coverage, women 15–49 years (%)	5.4 (3–8)	11.6 (9–14)	115%
% unmet demand for family planning, women 15–49 years	23 (19–27)	11.2 (8–14)	–51%
% respondents knowing the risk of HIV transmission through skin-piercing objects	35 (29–41)	58 (53–63)	23%

^a Figures in parentheses are confidence intervals.

Robert Soeters et al.

as closely as possible according to their results; and (3) that there are instruments in place to measure results and remunerate the providers.

From the above assumptions, the need for a well-equipped autonomous fundholder organization capable of purchasing those health services emerged. The concept of the independent “purchaser” is well established in middle- and high-income countries, commonly through health insurance organizations. They receive premiums from their members and revenues from the government, for example to cover expenditures for chronic diseases, as in the Netherlands, or to cover the costs for the very poor as in France.²

The need for a similar fundholder organization is equally strong even where insurance mechanisms are either non-existent or still in their infancy stage in low-income countries. It is sometimes argued that the strengthened district health teams should be the purchasers of health delivery services, such as in Zambia.¹³ We believe that this argument is conceptually flawed, because it may lead to unwanted conflicts of interest if the district health team is also responsible for administration, regulatory control and fund disbursement. This set-up resembles a monopoly of power and lacks the necessary checks and balances that prevent rent-seeking. We argue that assigning the purchasing role to strengthened district health teams seems equally unrealistic from a practical perspective. Theoretically, while health authorities may aim at defending the public interest, salaries in developing countries are at such a low level that there is a considerable risk of pursuit of self-interest.

We suggest that district health authorities control the system and that an independent team, without political or regulatory responsibilities, implements the contracting process based on agreed objectives and targets. Such fundholder organizations should be technically well equipped, transparent and autonomous, as well as being under competitive pressure to achieve set targets and objectives monitored by a central and a peripheral unit. In Cyangugu province, a mix of international and local agencies recruited staff for such a fundholder organization — senior managers with good negotiation and diplomatic skills, with a focus on achieving targets, as well as sufficient

public health, health financing and administrative skills.

Cordaid data showed that the administrative costs of the fundholder were about 25% (or US\$ 0.50–0.75) of the total contracting costs. We believe that with the introduction of other subsidized activities, such as human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) care and nutrition supplementation, this percentage can be lowered significantly in the future. We suggest that the size of the target population that the fundholder should serve should be between 300 000 and one million, large enough for economies of scale but small enough so that the system does not become too complex.

Respecting the autonomous management of the service providers is important to encourage their entrepreneurial spirit. We observed a noticeable change in mentality of health facility managers from a passive attitude of receiving orders towards proactive entrepreneurship that is more common among the private sector. This “black box” or “hands-off” approach also requires changing the mindset among some central government civil servants and aid agency staff. They tend to retain a top-down attitude of deciding who needs what, when and where, assuming that they have knowledge and skills that are superior to those of the “frontline” workers. The contractual approach showed that the health service providers were capable of recruiting additional staff, motivating personnel by financial incentives and subcontracting with the private sector, all leading to better performance.

It is important to strictly verify results to assure that intended outcomes are realized and suit the audit procedures required by the government or donors. We suggest that these indicators be verifiable and serve as the basis for subsidy payments. The number of output indicators, such as a delivery or a fully immunized child, should not exceed 25 for easy verification of payments that are made every month without disproportionate administrative procedures. These monthly subsidies should constitute the bulk of the health facility revenues, allowing them to pay salaries, among other expenditures. We found a more refined rewarding system for quality in Cyangugu with a larger number of indicators (around 120). As quality reviews

take time, these were conducted only once every three months by the district health management teams, leading to the payment of a quality bonus by the fundholder. We observed that despite the district health teams having a contract with the fundholder in Cyangugu province, this created an undesirable financial dependency of the district regulator on the fundholder. In our opinion, these tasks would be better organized through a contract between the district health team and the central authority, such as in Zambia.¹⁴

An important question was how to strengthen the consumer voice towards influencing the quality of and access to health services. Consumers influence service providers first by directly paying (nominal) user fees. As this is an important incentive for the providers and an empowerment tool for the consumer, we think that performance-based subsidies for curative care should preferably not completely replace user fee payments. The Rwanda experience showed that the combination of free patient choice for service providers and performance subsidies as well as collecting feedback through patient surveys led to a decrease in user fee prices and improved quality without interference from central authorities in the internal health provider management. For this, the contestability for contracts is equally important.¹⁵ We believe that competitive pressure should be exerted at the start of the contracting process and maintained through a three-monthly contract renewal process. If the performance is satisfactory, the contract gets renewed automatically, but the threat of losing the contract due to poor performance should remain in place.

We observed that as a type of decentralized sectorwide approach, pooling of funds from different aid agencies and (vertical) national programmes were important strategies for the fundholder. If peripheral fundholder agencies are well organized, it is easier to convince decision-makers to fund them. Similar promotion for fund pooling at the peripheral level also appears in the literature for national programmes, such as tuberculosis, as it avoids the negative consequences of multiple parallel financing systems.¹⁶

Despite these positive initiatives, the funding stability of the contracting schemes in Rwanda was challenged. For example, in 2005 it took the government

almost a year to assure funding for Butare and Cyangugu provinces, resulting in erratic programme funding. In Cyangugu however, the fundholder, Cordaid, continued by providing interim financing from its own resources despite risking the non-reimbursements of large sums of money. International NGOs can add this important value, if they advocate innovations, link stakeholders and provide interim financing. We believe that the only way to ensure a sustainable system is to adopt performance-based financing at the national policy level and develop a financing mechanism through the national budgeting process.

Conclusions

In Cyangugu, the performance-based financing initiative showed good results in terms of use of services, financial accessibility and motivation of health staff as well as in the incorporation of the private sector. The Rwandan experience may provide lessons for other countries. The preconditions for success are decentralizing power and management as well as verification of results balancing quantitative indicators with measurement of quality of care.

Despite the apparent success in Cyangugu, several issues remain unresolved. The first issue is that of the best organization to play the role of the fundholder — NGO, semi-public organization, for-profit organization, or in the future an insurance organization.

While an international NGO with a local steering committee played this role in Cyangugu, it would be difficult to give the fundholder a public status, more so if it were independent from the district health authority, as this would require solving intrinsic public sector problems. A private solution seems more flexible, and it may allow the government to put fundholder organizations under competitive pressure through contract renewals.

The second issue is how to develop performance-based financing for contracting community programmes aimed at personal hygiene, sanitation, water supply and bednet distribution, as well as the indicators in other sectors, such as education or rural development. Some actors believe that these programmes should have different funding mechanisms. If so, it would require the creation of new fundholder organizations, for example working through the administrative authorities in addition to the current more health-specific fundholders.

Another issue is integrating contracting into the ambitious and challenging pre-payment schemes in Rwanda that were introduced nationwide from 2004. Evidence suggests that performance-based purchasing of health services for the poor is an important supplement to community-based health insurance schemes or “mutuelles”, as they are called in French-speaking areas in Africa. Several authors who analysed community-

based health insurance schemes likewise were in support of similar supplementary financing mechanisms.^{17,18}

We conclude that operational research is required to further study and improve performance-based financing in a changing environment and to learn lessons from different projects and countries. In Rwanda, the challenge would be to develop a comprehensive financing mechanism in which money is simultaneously drawn from public contracting sources, direct user-fees payments and pre-payment premiums. This would require a flexible approach, allowing time to study and pilot different initiatives while ensuring continued political commitment for funding. ■

Acknowledgements

We thank the representatives of the Ministry of Health, the Ministry of Local Government and Social Affairs, the World Bank and, the Netherlands Embassy, as well as provincial and district authorities for supporting the project. In particular, we would like to thank all staff in the health facilities and district health teams in Cyangugu province as well as the Cordaid team. We gratefully acknowledge the comments of Jean Perrot and Niek Thijssen as well as the anonymous *Bulletin* reviewers on earlier versions.

Conflict of interest: none declared.

Résumé

Financement en fonction des résultats et modification du système de santé de district : expérimentation au Rwanda

Des éléments provenant de pays asiatiques à faible revenu montrent qu'un financement dépendant des résultats (en tant que forme particulière d'externalisation) est susceptible d'améliorer la prestation des services de santé plus efficacement que les mécanismes classiques de financement des intrants. Nous rapportons les résultats d'une expérience menée sur le terrain au Rwanda montrant qu'une stratégie de financement en fonction des résultats est également applicable en Afrique sub-saharienne. Ce type de financement suppose la présence d'un nouvel acteur au moins (une organisation indépendante et bien équipée, détentrice d'une enveloppe budgétaire) dans le système de santé de district, de manière à ce que les achats, la prestation de services et les missions de réglementation des

autorités sanitaires locales soient séparés des rôles techniques de négociation des contrats et de remboursement des fonds. Au Rwanda, des groupes communautaires locaux contrôlent, à travers des enquêtes auprès des patients, les performances des établissements de santé et surveillent le niveau de satisfaction des usagers. L'une des préalables au bon fonctionnement d'un mode de financement sur la base des résultats est le respect par les autorités de l'autonomie de gestion des établissements de santé en compétition pour l'obtention des subventions publiques. Ces changements sont aussi l'occasion de redistribuer de manière plus transparente et plus efficace les rôles au sein du système de santé de district.

Resumen

Financiación basada en el rendimiento y cambios en el sistema de salud de distrito: la experiencia de Rwanda

La evidencia obtenida en los países asiáticos de bajos ingresos muestra que la financiación basada en el rendimiento (como modalidad de contratación) puede mejorar la prestación de servicios de salud más eficazmente que los mecanismos tradicionales de financiación de insumos. Informamos aquí de una experiencia sobre el terreno llevada a cabo en Rwanda que demuestra que la financiación basada en el rendimiento es también una estrategia viable en el África subsahariana. Ese tipo de financiación requiere al menos un nuevo agente, una organización tenedora de fondos independiente y bien equipada que, actuando en el sistema de salud de distrito, separe la adquisición, la prestación de servicios

y las funciones normativas de las autoridades sanitarias locales de la función técnica de negociación de contratos y desembolso de fondos. En Rwanda, grupos de las comunidades locales encuestaron a los pacientes para determinar el rendimiento de los centros de salud y el grado de satisfacción de los consumidores. Una condición del éxito de la financiación basada en el rendimiento es que las autoridades respeten la autonomía de gestión de los centros de salud que compiten por subvenciones públicas. Estos cambios brindan una oportunidad para redistribuir las funciones en el distrito de salud de manera más transparente y eficiente.

ملخص

التمويل تأسيساً على الأداء وتغيير النظام الصحي في المقاطعة: الخبرة المستفادة في راوندا

وإيتاء الخدمات والأدوار التنظيمية للسلطات الصحية المحلية عن الدور التقني للتفاوض حول العقود وإنفاق الأموال. وفي راوندا تحققت مجموعات المجتمع المحلي من خلال المسوحات على المرضى من أداء المرافق الصحية، ورصدت رضى المستهلكين. إن من الشروط المسبقة للنجاح في التمويل تأسيساً على الأداء أنه على السلطات أن تحترم الإدارة المستقلة للمرافق الصحية التي تتنافس للحصول على التعويضات من القطاع العام. وهذه التغييرات بمثابة فرصة لإعادة توزيع الأدوار ضمن المقاطعة الصحية، بنمط أكثر شفافية وأكثر كفاءة.

أوضحت البينات المستمدة من البلدان الآسيوية المنخفضة الدخل أن التمويل تأسيساً على الأداء (كأحد أشكال التعاقدات)، يمكن أن يحسن من إيتاء الخدمات الصحية بشكل أكثر نجاحاً من آليات التمويل ذات المداخل التقليدية. وقد عرضنا في هذا التقرير الخبرة المستفادة في راوندا، والتي تظهر أن التمويل تأسيساً على الأداء من الاستراتيجيات الممكنة التطبيق أيضاً في البلدان الواقعة جنوبي الصحراء الأفريقية. ويتطلب التمويل تأسيساً على الأداء عاملاً فاعلاً جديداً على الأقل، وهو منظمة مستقلة تتمتع بتجهيز جيد للإسك بالتمويل ضمن النظام الصحي في المقاطعة، على أن تفصل الشراء

References

- Perrot J. *The role of contracting in improving health systems performance*. Discussion paper. Geneva: World Health Organization; 2004. EIP/FER/ DPE.04.4. Available from: <http://www.who.int/contracting/fr>
- Perrot J, de Roodenbeke E, editors. *La contractualisation dans les systèmes de santé*, Paris, France: Editions Karthala ; 2005.
- Loevinsohn B, Harding A. Buying results? Contracting for health service delivery in developing countries. *Lancet* 2005;366:676-81.
- Soeters R, Griffiths F. Improving government health services through contract management: a case from Cambodia. *Health Policy Plan* 2003;18:74-83.
- Economic focus: Lion cubs on a wire in Africa. *Economist* August 14, 2003.
- World Bank. Available from: <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/RWANDAEXTN/0,,menuPK:368660~pagePK:141159~piPK:141110~theSitePK:368651,00.html>
- Ministère de la Santé. *Politique nationale en matière de Santé, Kigali, Rwanda*. 1995.
- WHO Regional Office for Africa. *Operational support for primary health care: the role of the district level in accelerating HFA/2000 for all Africans*. Congo: WHO Regional Office for Africa. Committee Report;1987.
- Meessen B, Musango L, Kashala J. *L'Initiative pour la Performance, Province de Butare, Rwanda*. Butare: HealthNet International; 2004. p. 57
- Soeters R, Musango L, Meessen B. *Comparison of two output based schemes in Butare and Cyangugu provinces with two control provinces in Rwanda, 2005*. World Bank. Global Partnership on Output-Based Aid (GPOBA). Meeting report September 2005, Kigali.
- World Health Organization. *World health report 2000. Health system: for a better performance*. Geneva: WHO; 2000.
- World Bank. *World development report 2004. Making services work for the poor*. Washington (DC): World Bank; 2004.
- Bossert T, Chitah MB, Brower D. Decentralization in Zambia: resource allocation and district performance. *Health Policy Plan* 2003;18:357-69.
- Bossert TJ, Beauvais JC. Decentralization of health systems in Ghana, Zambia, Uganda and Philippines: a comparative analysis of decision space. *Health Policy Plan* 2002;17:14-31.
- Enthoven AC. The history and principles of managed competition. *Health Aff (Millwood)* 1993;12 Suppl:24-48.
- Zafar Ullah AN, Lubben M, Newell JN. A model for effective involvement of private medical practitioners in TB care. *Int J Health Plann Manage* 2004; 19:227-45.
- Ekman B. Community-based health insurance in low-income countries: a systematic review of the evidence. *Health Policy Plan* 2004;19:249-70.
- Schneider P. Why should the poor insure? Theories of decision making in the context of health services. *Health Policy Plan* 2004;19:349-55.