

## Removal of user fees no guarantee of universal health coverage: observations from Burkina Faso

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**Abstract** In theory, the removal of user fees puts health services within reach of everyone, including the very poor. When Burkina Faso adopted the DOTS strategy for the control of tuberculosis, the intention was to provide free tuberculosis care. In 2007–2008, interviews were used to collect information from 242 smear-positive patients with pulmonary tuberculosis who were enrolled in the national tuberculosis control programme in six rural districts. The median direct costs associated with tuberculosis were estimated at 101 United States dollars (US\$) per patient. These costs represented 23% of the mean annual income of a patient's household. During the course of their care, three quarters of the interviewed patients apparently faced "catastrophic" health expenditure. Inadequacies in the health system and policies appeared to be responsible for nearly half of the direct costs (US\$ 45 per patient). Although the households of patients developed coping strategies, these had far-reaching, adverse effects on the quality of lives of the households' members and the socioeconomic stability of the households. Each tuberculosis patient lost a median of 45 days of work as a result of the illness. For a population living on or below the poverty line, every failure in health-care delivery increases the risk of "catastrophic" health expenditure, exacerbates socioeconomic inequalities, and reduces the probability of adequate treatment and cure. In Burkina Faso, a policy of "free" care for tuberculosis patients has not met with complete success. These observations should help define post-2015 global strategies for tuberculosis care, prevention and control.

Abstracts in **عربي**, **中文**, **Français**, **Русский** and **Español** at the end of each article.

### Introduction

Every year since the adoption of the United Nations Millennium Development Goals (MDGs) in 2000, tens of billions of United States dollars (US\$) have been spent on attempts to improve health systems in developing countries.<sup>1</sup> Over recent years, increasing numbers of the key players in global health have recognized that, in such attempts, universal health coverage is an absolute priority.<sup>2</sup> The attainment of universal coverage was one of the main recommendations resulting from the Prince Mahidol Award Conference that was held in Bangkok, Thailand, on 24–28 January 2012.<sup>3</sup> The participants at this conference argued that free health care was vital in attempts to improve maternal and child health and combat problems such as human immunodeficiency virus infection, malaria and tuberculosis. In the poorer countries of the world, where most people live on less than US\$ 2 per day and expenditure on health care can plunge patients and their families into extreme poverty, the removal of user fees for health is seen as a matter of real urgency. Unfortunately, this is unlikely to be enough to ensure truly universal coverage.<sup>4–6</sup> Even when medicines and medical examinations are available for free, patients must often still bear the costs of any associated travel, consultations and, sometimes, "under-the-table" payments. Patients are also exposed to indirect costs, such as loss of working days through treatments, lay-offs and even dismissal by employers, and the intangible costs related to the social stigma associated with their illness, potential breakdown of the family unit and/or the coping strategies developed by households faced with illness and health-related expenditure. As seen in a recent study in Burkina Faso, much of the expenditure faced by patients in

the absence of user fees can often be directly linked to health service failures.

### Case study

In 2007–2008, a detailed study of the costs that have to be paid by patients with pulmonary tuberculosis was conducted in Burkina Faso as part of a larger research project.<sup>7,8</sup> Over a period of 12 months, all 242 patients with smear-positive pulmonary tuberculosis from six rural districts who enrolled in the national tuberculosis control programme (and were, therefore, treated using the DOTS strategy) were interviewed by trained investigators. At the time of the study, the combined population of the six study districts (Bousse, Koupela, Ouargaye, Zabre, Ziniare and Zorgho) was about 1.5 million. We were able to estimate the direct and indirect costs associated with tuberculosis for 229 (95%) of the eligible patients; although all 242 eligible patients agreed to be interviewed, 13 were excluded from the final analysis because of incoherent or incomplete information.

Each interview lasted for a mean of 3 hours. To ensure the quality and the precision of the data collected, each patient was questioned in his or her own language by two of the investigators. The questions covered an exhaustive list of the expenses that might be incurred by tuberculosis patients and were also intended to quantify the incomes and assets of the patients and their households (Appendix A, available at: <https://dl.dropbox.com/u/63347818/BLT-2012-110015/Appendix%20A.htm>). The annual income of each patient's household was estimated from the mean monthly income reported for the 3 months immediately preceding the patient's diagnosis.

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The assessment of the economic burden associated with tuberculosis was based on a socioeconomic approach that encompassed several dimensions<sup>9</sup> and included investigation of the direct and indirect costs borne by each patient's household, including those associated with any coping strategies. The investigated direct costs included the medical "out-of-pocket" expenses (e.g. the charges made for examinations, laboratory tests, drugs and hospital care, and consultation fees) and the non-medical "out-of-pocket" expenses (e.g. the costs of travel, services provided by traditional healers and any food supplements) related to the tuberculosis-care pathway. Indirect costs were estimated from (i) the work time lost by each patient while seeking tuberculosis care; (ii) the number of workdays lost by each patient and any of his or her household members as a result of treatment; (iii) the patient's inability to work because of his or her tuberculosis; (iv) the costs of any tuberculosis-associated social stigma (i.e. adverse changes in each patient's social or professional status or any other form of discrimination); (v) the costs of repaying any tuberculosis-associated social debt (i.e. services rendered by each patient to his or her household and community in compensation for the support given to the patient); (vi) and the costs of any tuberculosis-related coping strategies followed by each patient's household (e.g. the use of savings, decreases in consumption, sales of goods and services and loans received).

The total costs associated with the entire care pathway, from onset of symptoms to end of treatment, were estimated for each patient and categorized as "catastrophic" health expenditures if, for the household of the patient involved, they represented at least 10% of its annual income. To be considered catastrophic, health expenditure must represent an excessive burden relative to the income of a patient or his or her household.<sup>2,9</sup> The World Health Organization has suggested that, although the exact definition may vary with the country and local economy involved, health expenditures may generally be considered catastrophic if they exceed 40% of the patient's household's capacity to pay (i.e. 40% of the household's annual disposable income).<sup>10-12</sup> The alternative threshold used in the present study (10% of the total annual income of the patient's household) was chosen as a better

reflection of the financial pressures that may exist in low-income households in rural communities.<sup>9,13,14</sup> In the present study, we systematically explored those medical and non-medical out-of-pocket expenses<sup>15,16</sup> that resulted from apparent failures to follow the national policy for tuberculosis care. These failures included policy gaps resulting in extra services that were justified but not covered by the free-of-charge strategy, and health-system inadequacies that led to unjustified services, poor patient management and poor health-care delivery.

### The cost of "free" tuberculosis care

According to national policy, the free "tuberculosis package" in Burkina Faso includes diagnosis (based on three examinations by sputum smear microscopy), antituberculosis drugs and repeat smears to determine treatment outcome. Despite this, only 2% of the patients interviewed during the present study reported that they had received completely free tuberculosis care. The median direct costs of the tuberculosis care, which were estimated for the 229 patients included in the final analysis, amounted to US\$ 101 per patient. These costs were equivalent to 23% of the estimated mean annual income of a patient's household and therefore fell well above the 10% threshold set for "catastrophic" health expenditure. In fact, it appeared that the households of 172 (75%) of the patients included in the final analysis had had to bear catastrophic health expenditures. Even when more conservative thresholds for catastrophic health expenditure were applied – 15% or 25% of annual household income<sup>17,18</sup> – many of the households of tuberculosis patients (66% and 48%, respectively) still appeared to have been faced with tuberculosis-related expenditures that were categorized as catastrophic. We therefore conclude that, in rural districts of Burkina Faso, the risk of catastrophic health expenditure associated with tuberculosis is high, even in the context of a "free" package of tuberculosis care.

### Impact of inefficient patient management

Inefficient patient management appeared to be a major cause of the catastrophic health expenditure that was frequently associated with tuberculosis care. From diagnosis to cure, the median direct costs attributed to health system

inadequacies or policy gaps totalled US\$ 45 per patient: nearly half of the median out-of-pocket expenditure. Health service failures were particularly common during the early phase of the tuberculosis care pathway, in which the tuberculosis is diagnosed. The national policy prescribes four consultations with public health-care providers to establish a diagnosis of tuberculosis. The costs of the first contact (before referral to the relevant centre for the microscopic detection of tuberculosis) should be charged to the patient, and the next three contacts (each involving sputum collection and examination) should be free. In the present study, however, 39% of the patients had been charged between the first contact and the end of diagnosis for sputum examinations, chest X-rays, other examinations or hospitalization (Table 1). In addition, the median direct costs incurred during this period of diagnosis, which amounted to US\$ 8 per patient, had had to be paid within a fairly short period of time.

Beyond these direct costs are non-medical costs, such as those associated with travel, which seem to have been raised by prolonged diagnostic periods (a third of the patients needed over 1 week to complete three sputum examinations) and by requests to attend more than the four pre-treatment consultations recommended in the national policy (reported by nearly one fifth of the patients, with some patients being asked to attend 11 consultations before their tuberculosis treatment began). Slow diagnosis not only adds to patient expenses but also increases the risk of pre-treatment transmission.

To deal with the often high costs of tuberculosis and tuberculosis care, the members of the households of tuberculosis patients must resort to coping strategies that have far-reaching effects on their qualities of life and on the economic and social stability of the households.<sup>18</sup> Households that are directly affected by tuberculosis must often spend savings, sell capital goods and household assets, take out loans and incur debt in their communities. The indirect costs of tuberculosis are often extremely high. For example, of the 229 patients included in the final analysis in the present study, 107 (46.7%) had had to stop working, 102 (44.6%) had incurred social debts and 135 (59.0%) had had to sell cattle, seeds for the following year's sowing or even some of their land.

Table 1. **Apparent failures in health-care delivery during the diagnostic period among 229 tuberculosis patients, Burkina Faso, 2007–2008**

Type of failure	Prevalence (%)	Median (IQR) direct economic burden per patient	
		Cost (US\$) <sup>a</sup>	Percentage of annual household income
Sputum-smear microscopy for which patient was charged	14.8	6.7 (3.4–8.9)	3.3 (1.7–6.5)
Chest X-ray <sup>b</sup>	14.0	11.1 (7.7–25.1)	1.1 (0.3–2.1)
Hospitalization	12.2	5.5 (2.0–12.8)	1.0 (0.4–1.9)
Additional tests <sup>b</sup>	15.8	5.5 (2.0–16.6)	1.7 (0.4–5.0)
Any	39.4	8.3 (4.4–14.4)	2.1 (0.7–4.2)

IQR, interquartile range; US\$, United States dollars.

<sup>a</sup> Costs were converted to US\$ using the mean conversion rate for the study period: 449.47 West African CFA francs=US\$ 1.00.

<sup>b</sup> In excess of the recommendations of the national policy for tuberculosis control.

Most (63.0%) of the patients had had to take loans from family or community members and 39 (17.0%) reported that they had suffered some form of social stigma (e.g. a forced change of employment, family breakdown or social rejection) as a result of their tuberculosis. Of the 46 patients' households that had had monetary savings when the tuberculosis was diagnosed, 23 (50.0%) had spent all of it on coping with the tuberculosis. The median work time lost by the tuberculosis patients, as a result of their illness and its treatment, was 45 days (IQR: 10–109 days).

For the people who live in the study districts, many of whom live below the “poverty line”,<sup>19</sup> every health policy or health system failure increases the risk of catastrophic health expenditure, exacerbates socioeconomic inequalities and reduces the chances of being cured. Such failures explain why, despite the adoption of international recommendations for tuberculosis control and despite progress in some areas, the rates of tuberculosis case detection and successful treatment generally remain lower than envisaged in the MDGs.<sup>20</sup> The identification of such failures and effective methods for their elimination are now research priorities.

### Study limitations

The present study has several limitations. The study covered all of the new, treatment-seeking cases of pulmonary tuberculosis that occurred over a 12-month period in six rural districts. Although this approach avoided selection bias, it also focused on communities that were particularly vulnerable to catastrophic health expenditure. The data

should not be considered representative of the whole of Burkina Faso (because none was collected from urban districts) or even of rural areas of the country (because such areas may vary widely in access to health care, road quality and other factors). A second limitation is that annual household income was estimated from mean monthly incomes for a short period immediately preceding the diagnostic phase, as reported by the patients. It was hoped that the patients' recall of recent monthly expenditures would be good, but our estimates of annual incomes are only likely to be rough approximations of the true values. A third limitation is that recall errors may have led to the incorrect attribution of some health spending to tuberculosis treatment and control. The extensive interviews, which involved a pair of investigators working as interviewees and asking questions in each interviewee's native language, were designed to maximize the accuracy of the data collected. Fourth, any expenditure incurred by patients on procedures that were not covered by the national policy for tuberculosis care was considered avoidable or unnecessary. For example, as the policy does not recommend chest X-rays for smear-positive tuberculosis patients, any charges incurred by such patients for chest radiography were considered avoidable. However, the possibility remains that chest radiography or other “unnecessary” procedures were justifiable for some of the tuberculosis cases investigated in the present study. Finally, the present estimates of the frequency of catastrophic health expenditure will be lower than the true values because they are based on two assumptions: that

each household affected by tuberculosis only had one ill member and that the ill person only had tuberculosis. The use of a relatively low threshold for catastrophic health expenditure was an attempt to compensate for our failure to assess health expenditures associated with illnesses other than tuberculosis.

### Policy implications

At least in the districts investigated in the present study, the costs incurred by tuberculosis cases in 2007–2008 often included those of repeated investigations and procedures that fell outside the package of tuberculosis care recommended and supported by national policy. It appears that in Burkina Faso, as in other countries,<sup>21</sup> health-care providers may be finding largely unjustified ways of generating revenue from tuberculosis patients. Concrete and coordinated solutions to the problems revealed in this study, that political decision-makers, managers of health programmes and health services could rapidly apply, need to be developed as soon as possible. Decentralization of tuberculosis diagnosis and case management could reduce travel and other indirect costs, and early case detection might be improved by the strengthening of community care. The skills of health-care providers need to be supplemented, with emphasis on the socioeconomic and cultural aspects of health and on “patient-centred” care.<sup>22</sup> Similarly, tuberculosis patients need to be empowered, via psychosocial support, the exchange of experience with former patients and innovative mechanisms to support the patients' ability to pay. Equity in health care needs further promotion, with increased support for the poorest households. Programmes of “free” tuberculosis care must include regular and ongoing, local social and economic evaluations to solve policy gaps, prevent health-system failures and the shifting of cost burdens onto the patients, meet the needs of vulnerable populations and ensure programme efficiency.

To conclude, we call for the effective and free distribution of tuberculosis services in Burkina Faso, with increased financial support for any medically justified examinations or tests that fall outside the national policy for tuberculosis care, particularly for the poorest households that, otherwise, face catastrophic health expenditures

## Lessons for health policies globally

The failures identified in the national strategy for tuberculosis care in Burkina Faso are no doubt identical to those that occur in many other health programmes in Burkina Faso and many other developing countries. Feedback mechanisms need to be set up to evaluate the financial reality of health care that is meant to be free to patients. International strategies for health care should not be applied in any country without an appreciation of, and adjustment for, the national situation. Any approach to the implementation and evaluation of a national

programme for the control of a disease needs to be contextually sensitive and data-driven.<sup>23</sup> To ensure that new policies are both effective and sustainable, it is essential not only to have a clear understanding of the demand but also to identify possible policy gaps or failures in service provision.<sup>21</sup> The comprehensive process of socioeconomic evaluation used in the present study should inspire researchers, planners and managers of national programmes who wish to establish mechanisms for the on-going improvement of health service provision. Since we are only a few years away from 2015 – the deadline set for the MDGs – the resolution of the problems caused by policy gaps

and health-service failures is a matter of priority, for Burkina Faso and many other countries. ■

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## ملخص

### إزالة الرسوم المفروضة على المستخدمين ليست ضماناً لتغطية صحية عالمية: ملاحظات من بوركينا فاسو

الصحي والسياسات الصحية مسؤولة عن نصف التكاليف المباشرة تقريباً (45 دولاراً أمريكياً لكل مريض). وبرغم قيام أسر المرضى بوضع استراتيجيات للتصدي للوضع، كان لهذه الاستراتيجيات آثار ضارة واسعة النطاق على نوعية الحياة بالنسبة لأفراد الأسر والاستقرار الاجتماعي والاقتصادي لهذه الأسر. وفقد كل مريض من مرضى السل في المتوسط 45 يوماً من أيام العمل نتيجة للمرض. وبالنسبة للسكان الذين يعيشون على خط الفقر أو تحته، يؤدي كل إخفاق في إتياء الرعاية الصحية إلى زيادة مخاطر الإنفاق الصحي "الباهظ" وتفاقم الفوارق الاجتماعية والاقتصادية وتقليل احتمالية العلاج والشفاء على نحو كاف. وفي بوركينا فاسو، لم تكن سياسة الرعاية "المجانية" لمرضى السل بنجاح تام. وينبغي أن تساعد هذه الملاحظات في تحديد الاستراتيجيات العالمية لما بعد عام 2015 من أجل رعاية السل وتوقيه ومكافحته.

تؤدي إزالة الرسوم المفروضة على المستخدمين، نظرياً، إلى جعل الخدمات الصحية في متناول الجميع، بما في ذلك الأشد فقراً. وعندما اعتمدت بوركينا فاسو استراتيجية المعالجة قصيرة الأمد تحت الإشراف المباشر (DOTS) لمكافحة السل، كان القصد من ذلك هو تقديم رعاية السل المجانية. وفي الفترة من 2007 إلى 2008، استخدمت المقابلات لجمع المعلومات من 242 مريضاً بالسل الرئوي أثبتت التحليل الخاصة بهم أن نتائج اختبار اللطاخة إيجابية وتم تسجيلهم في البرنامج الوطني لمكافحة السل في ست مقاطعات ريفية. وتم تقدير متوسط التكاليف المباشرة المرتبطة بالسل بنحو 101 دولاراً أمريكياً لكل مريض. ومثلت هذه التكاليف 23٪ من متوسط الدخل السنوي لأسرة المريض. وقد واجه ثلاثة أرباع المرضى الذين تمت مقابلتهم، بشكل واضح، إنفاقاً صحياً "باهظاً" أثناء رعايتهم. وبدت أوجه عدم الكفاية في النظام

## 摘要

### 免除用户费用不能保证全民医疗保障：布基纳法索的观察

理论上，免除用户费用让每个人都有机会享受卫生服务，非常贫穷的人也包括在内。布基纳法索采用结核病控制DOTS策略旨在提供免费的结核病护理。在2007-2008年间，使用访谈的方式收集六个农村地区中参加国家结核病控制计划的242名痰涂片阳性肺结核患者的信息。与结核病相关的直接费用中值估计为每名患者101美元 (US\$)。这些成本占到患者家庭年平均收入的23%。在接受护理过程中，四分之三的受访病人显然面临“灾难性”的卫生支出问题。卫生系统和政策的不足似乎要对近一半的直接

成本 (每名患者45美元) 负责。尽管患者家庭形成了应对策略，这些支出对家庭成员的生活质量和家庭的社会经济稳定造成深远的负面影响。每名肺结核患者因为疾病平均失去了45个工作日。对于生活在贫困线附近或以下的人群而言，每一次无法接受医疗保健服务都会增加“灾难性”卫生支出的风险，加剧社会不平等，降低充分治疗和治愈的几率。在布基纳法索，“免费”护理肺结核患者的政策并没有圆满成功。这些观察应有助于定义2015年后全球结核病护理、预防和控制策略。

## Résumé

### La suppression des frais d'utilisation n'est pas une garantie de couverture de santé universelle: observations au Burkina Faso

En théorie, la suppression des frais d'utilisation des services de santé met ces derniers à la portée de tous, y compris des plus pauvres. Lorsque le Burkina Faso a adopté la stratégie DOTS de lutte contre la tuberculose, son intention était de fournir un traitement gratuit contre la tuberculose. En 2007-2008, on a recouru à des entretiens pour recueillir

des informations auprès de 242 patients à frottis positifs, atteints de tuberculose pulmonaire et inscrits dans le programme national de lutte antituberculeuse, dans six districts ruraux. Le coût médian direct associé à la tuberculose était estimé à 101 dollars des États-Unis (US\$) par patient. Ces coûts représentaient 23% du revenu annuel moyen



du ménage d'un patient. Au cours de leur prise en charge, les trois quarts des patients interrogés auraient apparemment fait face à des dépenses de santé «catastrophiques». Les insuffisances du système et les politiques de santé semblent être responsables de près de la moitié des coûts directs (45 US\$ par patient). Bien que les ménages des patients aient développé des stratégies d'adaptation, ces coûts ont eu des effets importants et néfastes sur la qualité de vie des membres des ménages et sur leur stabilité socio-économique. La médiane du nombre de journées de travail perdues en raison de la maladie était de 45 jours.

Pour une population vivant au niveau ou sous le seuil de pauvreté, chaque défaut de prestation de soins augmente le risque de dépenses de santé «catastrophiques», exacerbe les inégalités socio-économiques et réduit la probabilité de traitement adéquat et de guérison. Au Burkina Faso, une politique de soins «gratuits» pour les patients atteints de la tuberculose n'a pas remporté un succès total. Ces observations devraient aider à définir des stratégies globales pour le traitement, la prévention et la lutte contre la tuberculose après 2015.

## Резюме

### Отмена взносов пациентов не гарантирует всеобщей доступности медицинского обеспечения: наблюдения ситуации в Буркина-Фасо

Отмена платы пациентов теоретически должна способствовать обеспечению общедоступности системы здравоохранения, в том числе для малоимущих слоев населения. После принятия стратегии DOTS по контролю туберкулеза в Буркина-Фасо, ее целью было предоставление бесплатного лечения туберкулеза. В 2007–2008 гг. для сбора информации был проведен опрос 242 пациентов, больных туберкулезом легких, имевших положительный результат мазка мокроты, которые были зачислены в национальную программу контроля туберкулеза в шести сельских районах. Средние прямые затраты, связанные с туберкулезом, оценивались в 101 доллар США на пациента. Эти расходы составляют 23% от среднего годового дохода семьи больного. Во время курса лечения, три четверти опрошенных пациентов очевидно сталкивались с чрезвычайно высокими расходами на медицинское обслуживание. Несостоятельность системы здравоохранения и стратегий в области здравоохранения

по-видимому являются причиной почти половины прямых расходов (45 долларов США на пациента). Несмотря на то, что семьи пациентов преодолевали трудности, они имели далеко идущие негативные последствия на качество жизни членов семей и социально-экономическую стабильность домохозяйств. Вследствие болезни каждый больной туберкулезом потерял в среднем 45 рабочих дней. Для населения, живущего на грани нищеты или за чертой бедности, недостаточное медицинское обслуживание повышает риск чрезвычайно высоких расходов на здравоохранение, обостряет социально-экономическое неравенство, и уменьшает вероятность правильного лечения и ухода. В Буркина-Фасо стратегия «бесплатной» медицинской помощи для больных туберкулезом не достигла полного успеха. Эти наблюдения должны способствовать определению глобальных стратегий на период после 2015 года по лечению, профилактике и контролю туберкулеза.

## Resumen

### La eliminación de las tarifas a los usuarios no garantiza la cobertura sanitaria universal: observaciones desde Burkina Faso

En teoría, la eliminación de las tarifas a los usuarios pone los servicios sanitarios al alcance de todos, incluidas las personas muy pobres. Cuando Burkina Faso adoptó la estrategia DOTS para el control de la tuberculosis, la intención era brindar atención sanitaria gratuita contra dicha enfermedad. En los años 2007 y 2008, se emplearon entrevistas para recoger información de 242 pacientes bacilíferos de tuberculosis pulmonar que se inscribieron en el programa nacional para el control de la tuberculosis en seis distritos rurales. Se calculó que los costes directos medios asociados con la tuberculosis ascendieron a 101 dólares estadounidenses (US\$) por paciente. Estos costes representaron el 23% de los ingresos anuales medios en el hogar del paciente. Al parecer, tres cuartas partes de los pacientes entrevistados tuvieron que hacer frente a gastos sanitarios «catastróficos» durante el transcurso de la atención sanitaria. Las deficiencias en el sistema y las políticas sanitarias parecen ser responsables de casi la mitad de todos los costes directos (45 US\$ por

paciente). Aunque los hogares de los pacientes desarrollaron estrategias de supervivencia, éstas tuvieron efectos adversos de largo alcance en la calidad de vida de los miembros del hogar, así como en la estabilidad socioeconómica del mismo. Cada paciente de tuberculosis se ausentó de su trabajo una media de 45 días como consecuencia de la enfermedad. Para una población que vive por debajo del límite de la pobreza, cualquier fallo en la prestación de servicios sanitarios aumenta el riesgo de tener que hacer frente a gastos sanitarios «catastróficos», agrava las desigualdades socioeconómicas y reduce la probabilidad de recibir un tratamiento apropiado y recuperarse. En Burkina Faso, la estrategia de atención sanitaria «gratuita» para los pacientes con tuberculosis no ha tenido un éxito absoluto. Las presentes observaciones deberían ayudar a definir las estrategias globales a partir del año 2015 para la atención sanitaria, la prevención y el control de la tuberculosis.

## References

1. Ravishankar N, Gubbins P, Cooley RJ, Leach-Kemon K, Michaud CM, Jamison DT et al. Financing of global health: tracking development assistance for health from 1990 to 2007. *Lancet* 2009;373:2113–24. doi:10.1016/S0140-6736(09)60881-3 PMID:19541038
2. *The world health report – health systems financing: the path to universal coverage*. Geneva: World Health Organization; 2010. Available from: [http://whqlibdoc.who.int/whr/2010/9789241564021\\_eng.pdf](http://whqlibdoc.who.int/whr/2010/9789241564021_eng.pdf) [accessed 27 November 2012].
3. The Bangkok statement on universal health coverage. *Lancet* 2012;379:494. doi:10.1016/S0140-6736(12)60212-8 PMID:22325646
4. Nabyonga Orem J, Mugisha F, Kirunga C, Macq J, Criel B. Abolition of user fees: the Uganda paradox. *Health Policy Plan* 2011;26:ii41–51. doi:10.1093/heapol/czr065 PMID:22027918
5. Ukwaja KN, Modebe O, Igwenyi C, Alobu I. The economic burden of tuberculosis care for patients and households in Africa: a systematic review. *Int J Tuberc Lung Dis* 2012;16:733–9. PMID:22410546

6. McIntyre D, Mills A. Research to support universal coverage reforms in Africa: the SHIELD project. *Health Policy Plan* 2012;27:i1–3. doi:10.1093/heapol/czs017 PMID:22388494
7. Dembele SM, Ouédraogo HZ, Combarry AI, Sondo B, Macq J, Dujardin B. Are patients who present spontaneously with PTB symptoms to the health services in Burkina Faso well managed? *Int J Tuberc Lung Dis* 2006;10:436–40. PMID:16602409
8. Drabo KM, Dauby C, Coste T, Dembelé M, Hien C, Ouedraogo A et al. Decentralising tuberculosis case management in two districts of Burkina Faso. *Int J Tuberc Lung Dis* 2006;10:93–8. PMID:16466044
9. Russell S. The economic burden of illness for households in developing countries: a review of studies focusing on malaria, tuberculosis, and human immunodeficiency virus/acquired immunodeficiency syndrome. *Am J Trop Med Hyg* 2004;71:147–55. PMID:15331831
10. *Distribution of health payments and catastrophic expenditures: methodology*. Geneva: World Health Organization; 2005. Available from: [http://www.who.int/health\\_financing/documents/dp\\_e\\_05\\_2-distribution\\_of\\_health\\_payments.pdf](http://www.who.int/health_financing/documents/dp_e_05_2-distribution_of_health_payments.pdf) [accessed 27 November 2012].
11. Xu K, Evans DB, Kawabata K, Zeramdini R, Klavus J, Murray CJ. Household catastrophic health expenditure: a multicountry analysis. *Lancet* 2003;362:111–7. doi:10.1016/S0140-6736(03)13861-5 PMID:12867110
12. Xu K, Evans DB, Carrin G, Aguilar-Rivera AM. *Designing health financing systems to reduce catastrophic health expenditure: technical brief for policy-makers*. Geneva: World Health Organization; 2005. Available from: [http://www.who.int/health\\_financing/documents/cov-pb\\_e\\_05\\_2-cata\\_sys/en/index.html](http://www.who.int/health_financing/documents/cov-pb_e_05_2-cata_sys/en/index.html) [accessed 27 November 2012].
13. Ranson MK. Reduction of catastrophic health care expenditures by a community-based health insurance scheme in Gujarat, India: current experiences and challenges. *Bull World Health Organ* 2002;80:613–21. PMID:12219151
14. Storeng KT, Baggaley RF, Ganaba R, Ouattara F, Akoum MS, Filippi V. Paying the price: the cost and consequences of emergency obstetric care in Burkina Faso. *Soc Sci Med* 2008;66:545–57. doi:10.1016/j.socscimed.2007.10.001 PMID:18061325
15. Mauch V, Woods N, Kirubi B, Kipruto H, Sitienei J, Klinkenberg E. Assessing access barriers to tuberculosis care with the tool to Estimate Patients' Costs: pilot results from two districts in Kenya. *BMC Public Health* 2011;11:43. doi:10.1186/1471-2458-11-43 PMID:21244656
16. Grietens KP, Boock AU, Peeters H, Hausmann-Muela S, Toomer E, Ribera JM. "It is me who endures but my family that suffers": social isolation as a consequence of the household cost burden of Buruli ulcer free of charge hospital treatment. *PLoS Negl Trop Dis* 2008;2:e321. doi:10.1371/journal.pntd.0000321 PMID:18923711
17. Adhikari SR, Maskay NM, Sharma BP. Paying for hospital-based care of Kala-azar in Nepal: assessing catastrophic, impoverishment and economic consequences. *Health Policy Plan* 2009;24:129–39. doi:10.1093/heapol/czn052 PMID:19181674
18. Flores G, Krishnakumar J, O'Donnell O, van Doorslaer E. Coping with health-care costs: implications for the measurement of catastrophic expenditures and poverty. *Health Econ* 2008;17:1393–412. doi:10.1002/hec.1338 PMID:18246595
19. The World Bank. PovcalNet – interactive poverty analysis tool [Internet]. Washington: The World Bank; 2011. Available from: <http://iresearch.worldbank.org/PovcalNet/index.htm> [accessed 27 November 2012].
20. Lawn SD, Zumla AI. Tuberculosis. *Lancet* 2011;378:57–72. doi:10.1016/S0140-6736(10)62173-3 PMID:21420161
21. Long Q, Smith H, Zhang T, Tang S, Garner P. Patient medical costs for tuberculosis treatment and impact on adherence in China: a systematic review. *BMC Public Health* 2011;11:393. doi:10.1186/1471-2458-11-393 PMID:21615930
22. Mead N, Bower P. Patient-centredness: a conceptual framework and review of the empirical literature. *Soc Sci Med* 2000;51:1087–110. doi:10.1016/S0277-9536(00)00098-8 PMID:11005395
23. Svoronos T, Mate KS. Evaluating large-scale health programmes at a district level in resource-limited countries. *Bull World Health Organ* 2011;89:831–7. doi:10.2471/BLT.11.088138 PMID:22084529