



Do incentives matter when working for god? The impact of performance-based financing on faith-based healthcare in Uganda

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ABSTRACT

Can extrinsic incentives motivate faith-based healthcare providers? This paper challenges the finding that religious providers are intrinsically motivated to serve (poor) patients, and that extrinsic incentives may crowd-out such motivation. We use a unique panel of output and expenditure data from small faith-based nonprofit healthcare facilities in Uganda to estimate the effect of introducing performance-based financing. The output of the observed facilities is less than 50% of their potential. Performance-based financing increases output and efficiency robustly by at least 27%, with no apparent reduction in the perceived quality of services. Religious nonprofit healthcare providers may well be intrinsically motivated, but respond positively to extrinsic incentives. Whether working for god or not, incentives matter.

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1. Introduction

Public healthcare systems in many developing countries suffer from severe dysfunctionalities and endemic absenteeism: among public health workers in Uganda, unauthorized absence from duty may be as high as 50% (Björkman & Svensson, 2009). One way to improve the delivery of health services is to allow competition among different providers, regardless of their ownership status, guided by a principle of non-discrimination in the allocation of resources. This calls for a shift of responsibilities to the private and nonprofit sector. In fact, private healthcare represents a large share of health provision around the world, and this share is even greater among the poorest and most vulnerable. According to the World Health Organization Global Health Expenditure database, private healthcare providers account for 60% of health spending in low-income countries (Walton & Matthees, 2017). While for profit enterprises are growing rapidly, especially in urban areas, a large share of them is still faith-based: they are so called religious nonprofit organizations (RNPOs). In Uganda, 82% of all private nonprofit health facilities are coordinated by one of three faith-based organizations: the Uganda Protestant Medical Bureau (UPMB), the Uganda Catholic Medical Bureau (UCMB), and the Uganda Muslim Supreme Council (UMSC)—with a far greater share among

smaller dispensaries in rural areas (Reinikka & Svensson, 2010). Since 2000, the Ugandan government initiated a program in which every nonprofit primary health unit received an untied grant to help them offer their services. In a seminal paper, Reinikka and Svensson (2010) show that RNPOs responded to this unconditional surge in resources by increasing output. They interpret this to be consistent with the view that religious nonprofit providers are “working for God”, and thus intrinsically motivated and non-opportunistic.

Given growing budget pressures in many countries, and growing frustration with the lack of progress engendered by standard funding practices, a different approach to increasing healthcare output is recently becoming more popular: setting incentives that make the amount of funding a healthcare provider receives conditional on performance. There is increasing body of evidence that Performance-Based Financing (PBF), as this approach is often referred to, can increase both output and efficiency of healthcare in developing countries if the incentives are clear and well designed (Brenzel, 2009; Bhatnagar & George, 2016; Eldridge & Palmer, 2009; Hecht, Batson, & Brenzel, 2004; Honda, 2013; Novignon & Nonvignon, 2017). So far nonetheless, most rigorous studies on PBF have focused on public and private healthcare facilities, and did not investigate the heterogeneity of outcomes across sectors (Banerjee, Glennerster, & Duflo, 2008; Basinga et al., 2011; Bonfrer, Van de Poel, & Van Doorslaer, 2014; Bhatnagar & George, 2016; Meessen, Kashala, & Musango, 2007; Morgan, 2010; Soeters, Peerenboom, Mushagalusa, & Kimanuka,

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2011; Sekabaraga, Diop, & Soucat, 2011).² Do intrinsically motivated RNPOs respond to extrinsic incentives in the same way as public sector? Or do extrinsic incentives erode the intrinsic motivation inherent to religious nonprofit healthcare outfits, potentially going as far as reducing their efficiency and quality of service?

We use a panel dataset from Uganda spanning a period of thirteen years and up to 246 small- to mid-sized health units belonging to the UCMB to estimate the effects of introducing PBF on healthcare output and – by extension – on the efficiency of their healthcare service delivery. We first analyze the data using data envelopment analysis (DEA) and stochastic frontier analysis (SFA)—standard approaches in healthcare production studies, both estimating the degree of inefficiency compared to some optimal benchmark frontier. Frontier efficiency measurements are common in studies focused on healthcare provision in developed countries, but – to the best of our knowledge – we are the first ones to apply them in a PBF evaluation in the context of a developing country. Next we estimate the parameters of a production function by means of a regression analysis and a more general parametric approach, using a dynamic version of the generalized method of moments (system-GMM). In this case, PBF can be seen as a new technology which shifts the whole production frontier. We find that the output of the observed facilities is less than 50% of their potential. Also, performance-based financing increases output and efficiency robustly by at least 27%. By conducting an independent client satisfaction survey we also show that this comes at no expense of the perceived quality of services provided. Jointly these results point towards a RNPO sector that is both responsive to extrinsic incentives and in dire need for increased efficiency. Whether working for God or not, incentives seem to matter—and can help deliver more healthcare services at a lower cost.

The remainder of the paper is structured as follows: in Section 2 we provide the background for the study, focusing on the latest literature on PBF and a description of the healthcare system in Uganda. Section 3 describes the data, while the methodological approach is outlined in Section 4. We present the main results on efficiency in Section 5 and additional results on perceived quality of service in Section 6. In Section 7, we discuss the results and conclude.

2. Background

2.1. PBF: one policy, many faces

The growing evidence that the health of its population is an important determinant of a country's economic growth (Bloom & Canning, 2000; Weil, 2007) has provided an additional argument – besides the ethical ones – for the need for functional and accessible healthcare provision. In contrast to the traditional perception that healthcare provision is essentially a function of structural inputs (including people, infrastructure, knowledge, drugs, material, equipment, and technology), the PBF paradigm focuses on the processes transforming these inputs into outputs (Eichler, 2006). Though usually thought of as complementary, the right processes can – to an extent – make up for the lack of inputs (Peabody, Tozija, Munoz, Nordyke, & Luck, 2004). By improving the transforming processes, more output can be produced using the same limited inputs.

In recent years, PBF has become one of the favorite ways to stimulate such improvements (Brenzel, 2009; Eldridge & Palmer, 2009; Hecht et al., 2004; Honda, 2013). However, while the

principal-agent problem has been successfully reduced by conditioning payment on performance in many other professional contexts (Miller, 2008; Zhao, 2005), it is rather difficult in processes with such multi-dimensional output as healthcare. While some level of agreement on best practices (increasingly grounded in economic theory and based on achieving specific, measurable, attainable, relevant, and time-bound – or SMART – indicators) has emerged over the past years (Fritsche, Soeters, & Meessen, 2014), the way in which various PBF components affect the multiple dimensions of healthcare delivery is still not fully understood (Renmans, Holvoet, Orach, & Criel, 2016; Renmans, Holvoet, Criel, & Meessen, 2017b).

Even if performance is understood in its most limited sense as output, thus excluding quality considerations, the many different types of output produced by a healthcare provider have to be taken into account when assessing its performance—either individually or according to some conversion logic. Expanding the notion of performance to include the quality and relevance of produced output, which are hard to quantify in a single metric, complicates the matter even further, and there is an ongoing debate on how best to measure these aspects of healthcare production. Despite these challenges, recent PBF schemes have now incorporated quality indicators in their design, typically based on checklists of observable structural and process measures (Josephson et al., 2017).³ Such designs usually pay for output conditional on quality in a setting where the principal contracts the health facilities and the management of these providers then contracts the staff.

While this general framework is becoming commonplace, PBF programs operate in their specific settings, and many try to experiment with innovations, making each design unique. In our case, incentive payments are determined at the facility level, and make up only a fraction of total facility income with capped incremental bonuses. The allocation of the bonus payments is at the discretion of the in-charge of the facility, and typically redistributed to employees.⁴

Several studies document positive effects of PBF, at least on public healthcare delivery (Basinga et al., 2011; Bonfrer et al., 2014; Meessen, Musango, Kashala, & Lemlin, 2006; Meessen et al., 2007; Soeters et al., 2011; Sekabaraga et al., 2011). Others find no lasting effects (Banerjee et al., 2008; Morgan, 2010; Turcotte-Tremblay, Spagnolo, De Allegri, & Ridde, 2016); characteristically, when incentives do not trickle down to individuals in one way or another, or if other PBF design feasibility criteria are not met.

Existing literature, however, also identifies several potential pitfalls of PBF. Oxman and Fretheim (2008) warn against the danger of widening the already existing gap between poorly- and well-performing facilities, which may lead to an increasing gap in access to quality healthcare. Other concerns include the risk of increased gaming, i.e. systematic reporting bias (Kalk, Paul, & Grabosch, 2010; Kalk, 2011; Lu, 1999), target-led distortions resulting in the production of services with negative marginal value (Wynia, 2009), and cherry-picking of patients who are most suited to achieve targets (Ireland, Paul, & Dujardin, 2011).⁵ Finally, direct

³ While indices of structural and process measures are now probably the most common way in which PBF schemes promote quality of healthcare production, other approaches have also been employed. The PBF program described by Soeters et al. (2011) for example tries to ensure quality maintenance through comprehensive agreements with providers and regulators, and measure it through patient-perceived quality surveys that do not directly influence bonuses, and quality reviews done by peripheral health authorities at primary level or through peer group reviews at hospital level.

⁴ This has since been standardized in most PBF designs by the indices management tool, which uses a group evaluation system rather than one where only the in-charge decides on the individual bonus payments of staff.

⁵ These unintended consequences may be a sign that the PBF design offers too strong incentives. To help diminish this concern it is important to regularly review targets and incentives, as is the case in our setting.

² Even though some of these studies do include a share of faith-based nonprofit facilities, they do not investigate the differences that may arise from variations in intrinsic motivation.

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