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Crowding out or no crowding out? A Self-Determination Theory approach to health worker motivation in performance-based financing

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ABSTRACT

Performance-based financing (PBF) is a common health system reform approach in low and middle income countries at present. Although increasing evidence on the effectiveness of PBF and knowledge of principles of good design are available, research is still lacking in regards to other aspects. Among these are a yet limited understanding of the complex role of health worker motivation in PBF and of potential side effects, for instance on intrinsic motivation. Our article aims to support meaningful future research by advancing the theoretical discussion around health worker motivation and PBF. We argue that an in-depth understanding of the motivational mechanisms and consequences of PBF at health worker level are of high practical relevance and should be at the heart of the PBF research agenda, and that predominant unidimensional conceptualizations of health worker motivation and descriptive rather than explanatory research approaches are insufficient to fully understand whether, how, and why PBF schemes alter health workers' motivational structures, mindsets, affect, and behavior. We introduce and apply Self-Determination Theory to the context of PBF as a valuable theoretical framework for future empirical exploration. From this, we conclude that PBF interventions are unlikely to have a generally adverse effect on intrinsic motivation as feared by parts of the PBF community. Rather, we posit that PBF can have positive and negative effects on both intrinsic and extrinsic motivation, to varying degrees depending on the specific design, implementation, and results of a particular intervention and on health workers' perceptions and evaluations of it.

1. Performance-based financing and health worker motivation

Enhancing the effectiveness and efficiency of healthcare delivery systems is one of the most important objectives in low- and middle income countries (LMICs). One health system reform approach currently receives particular attention from governments and development partners: Performance-based financing (PBF). PBF schemes have been introduced to a large number of LMICs all over the world in recent years. In 2013, in Sub-Saharan Africa alone, PBF was scaled up to national level in three countries (Rwanda, Burundi, Sierra Leone), piloted in 17 countries, and in the advanced planning stage or under discussion in numerous other countries (Fritsche et al., 2014). Since, Zimbabwe, Benin, and the Republic of the Congo have scaled up nationally, and further countries have introduced pilots (personal communication).

Many LMIC health systems are characterized by a dominant public sector with centralized, weak management structures, chronic lack of resources, lack of competition between facilities, lack of accountability, and a health workforce largely employed as civil servants with fixed salaries (Mills, 2014). In such systems, health workers have few incentives to work hard to provide good care to all people in need, at least in material terms. PBF schemes aim to introduce such incentives by injecting cash into facilities conditional on their performance while simultaneously increasing facilities' decision rights on financial and productive resources. To create an environment in which this inspires entrepreneurship and enables high performance, PBF schemes entail further reforms at all levels of the health system. From the health workers' perspective,

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this includes strengthening management structures and creating of a sense of competition between facilities by focusing attention on performance, enhancing transparency and accountability, and involving the private sector more strongly (Fritsche et al., 2014). In result, PBF schemes are expected to increase health workers' motivation to work harder, ultimately resulting in higher service coverage and quality and thus in better health outcomes for the communities they serve.

The modalities through which PBF is expected to produce change are usually explained with agency theory (e.g. Savedoff, 2010). Generally, an agency relationship exists when one person or entity – the principal – delegates work to another person or entity – the agent – in exchange for compensation. In PBF schemes, the payer – usually the Ministry of Health or a donor organization – acts as principal, and healthcare providers – usually healthcare facilities – act as agents. A major assumption of agency theory is inherent goal conflict between the principal and the agent, which results in an incongruity between the agent's behaviors and the principal's interests. The theory suggests that goal conflicts can be most efficiently addressed by realigning the agent's goals to those of the principal, and proposes financial rewards and penalties as the straightforward tool (Sekwat, 2000). In PBF, this is done through performance contracts, in which the principal communicates goals, priorities, and performance expectations to the agent. Compliance with performance contracts is ensured through close supervision and external verification and feedback processes.

In return for respecting their contract with the principal, agents are usually compensated in monetary terms. In PBF practice, several compensation modalities are common, all essentially quality-adjusted fee-for-service payments. Regardless of the approach, in LMICs payment levels are usually set so that providers do not incur existential financial risk, but rather a risk of loss of additional income in case of underperformance (Fritsche et al., 2014). Some PBF schemes also tie accreditation to adherence to performance contracts. The wish for additional income or retention of accreditation is thought to motivate health facilities and their staff to provide patient care in the principal's interest (Savedoff, 2010). Facilities are ideally completely autonomous in the decision as to how to spend their PBF surplus. Most current PBF schemes, however, prescribe that revenues generated through the intervention are to be partially reinvested into the facility, and partially available for reward payments to staff members (Fritsche et al., 2014).

Following agency theory, one major assumption in PBF is that financial gain is a key work motivator for health workers in low and middle-income settings (Eldridge and Palmer, 2009). Not surprisingly, this is supported by many studies. After all, unlike in other areas of life, 'exchanging' behavior for money (i.e. a salary) and other tangible benefits is an integral part of any job. At the same time, non-material factors seem equally important in shaping health workers' attitudes and behavior at work (Henderson and Tulloch, 2008; Mathauer and Imhoff, 2006; Okello and Gilson, 2015; Willis-Shattuck et al., 2008). In settings with low pay and suboptimal working and living conditions, altruistic motives, a sense of responsibility, and favorable effects on reputation have consistently been found to be key motivational drivers. In the economic and public health literature, such types of motivation are usually referred to as intrinsic motivation.

There are concerns that the financial incentives introduced by PBF, while enhancing extrinsic forms of motivation, might inadvertently undermine intrinsic motivation (Ireland et al., 2011; Kalk, 2011). This effect is referred to as 'intrinsic motivation crowding out' (Frey and Jegen, 2001). Given the importance of intrinsic motivation for healthcare provision in LMICs, fears are that systematic crowding out of intrinsic motivation might have potential detrimental effects on health worker performance and, consequently, on health systems' functioning.

Concerns about intrinsic motivation crowding out through financial incentives stem from research conducted by psychologists and economists, almost all from Western contexts and scenarios in which individuals are directly rewarded for specific activities (see Deci et al., 1999; Frey and Jegen, 2001; Gagné and Forest, 2008 for reviews). While empirical results are far from consistent, reviews and meta-analyses agree that crowding out of intrinsic motivation through performance-contingent financial incentives is possible, given certain conditions, and can have unfavorable effects on performance. It is unclear to what extent these findings are transferable to LMIC healthcare settings and applicable to PBF schemes, which go far beyond the mere provision of financial incentives for isolated behavior, and which do not directly reward individual health workers, but operate primarily at the health facility level. To our knowledge, only three studies have explicitly addressed the impact of PBF on health workers' intrinsic motivation in LMICs in real-life settings to date (Chimhutu et al., 2014; Dale, 2014; Huillery and Seban, 2014). Unfortunately, the scope of this body of research is yet too limited to draw any generalizable conclusions on whether intrinsic motivation is crowded out, as opposed to being unaffected or even fostered ('crowded in') by PBF. However, it does substantiate the possibility that introducing financial incentives might shift health workers' attention away from intrinsic work motivation towards a focus on material rewards.

Against this background, the aim of this conceptual article is to invite a new way of thinking about health worker motivation, in the context of PBF and beyond. We hope that this will enable meaningful research contributing to the development of an urgently needed comprehensive theory of change of PBF. Specifically, we will 1) discuss the potential implications, should PBF indeed crowd out intrinsic motivation; 2) discuss how current conceptualizations of health worker motivation need to be expanded to achieve an in-depth understanding of the "PBF black box" at health worker level; 3) introduce Self-Determination Theory (SDT; Deci and Ryan, 1985) to advance the theoretical debate around the motivational mechanisms of PBF; and 4), based on SDT and as input to future research, outline under which conditions PBF interventions are likely or unlikely to result in crowding out of intrinsic motivation, or rather in a strengthening of intrinsic and extrinsic forms of motivation ('crowding in').

2. Work motivation in the LMIC healthcare literature: a motivation intensity approach

Most available research on health worker motivation in the public health literature in LMICs focuses explicitly or implicitly on the overall amount of motivation that drives behavior at work, and on factors determining this overall amount (e.g. Agyepong et al., 2004; Bhatnagar and George, 2016; Chandler et al., 2009; Mathauer and Imhoff, 2006). In psychology, this 'intensity approach' represents only one of several approaches to work motivation. Work motivation is often defined as a "set of energetic forces that originate both within as well as beyond an individual's being, to initiate work-related behavior and to determine its form, direction, intensity, and duration" (Pinder, 2008, p.11). The definition implies that in addition to motivational intensity, work motivation can for instance be approached from its origin, its degree of internalization, or from its sustainability over time.

The assertion that most health worker motivation research has adopted an intensity approach does not mean that the available research ignores such other aspects. In fact, much research has focused on determinants of motivation and identified a vast number of internal and external drivers of behavior (Henderson and