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## **The effects of Performance-Based Financing on health worker motivation: A mixed methods study in Malawi and Burkina Faso**

Fach: Public Health

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Performance-based Financing (PBF) is among the currently most relevant health systems strengthening approaches in low- and middle income countries. Whereas evidence on the impact of PBF on health care utilization and quality is increasingly available, research on how and why PBF effects change is yet rare, particularly such aimed at exploring whether and how PBF affects health worker motivation, assumed to be one of the primary mechanisms of PBF. There is widespread concern in the academic and policy community that without such an understanding, PBF interventions are bound to fall short of their potential effectiveness and risk triggering unfavorable unintended consequences. ‘Intrinsic motivation crowding out’ is the potential unintended consequence most frequently discussed in the literature, referring to an erosion of high-quality, sustainable intrinsic motivation through the introduction of external incentives. To date, there is only very little and inconclusive evidence on the issue. Contributing factors to this gap in knowledge are conceptual and methodological limitations in the available literature on health worker motivation. Research has primarily conceptualized motivation in terms of its overall strength, leaving other relevant dimensions unexplored, and used either qualitative or, to a lesser extent, quantitative methods rather than combining the strengths of the two in mixed methods designs. Finally, there is a lack of context-adapted tools to quantify motivation.

My doctoral research makes a unique contribution to filling these research gaps. My first research objective (RO1) involved the development and validation of a quantitative tools to measure changes in motivation in Malawi and Burkina Faso. My second research objective (RO2) was to determine whether and how a PBF intervention in Malawi affected health workers’ motivation, using a mixed methods research design. I conceptualized motivation in a multidimensional way grounded in Self-Determination Theory (SDT), looking at both overall motivational strength (‘motivation intensity’) and its composition of different types of intrinsic and extrinsic motivation (‘motivation composition’).

In regards to RO1, I used the Work Extrinsic and Intrinsic Motivation Scale (WEIMS), an established psychometric, Likert-type scale to measure the SDT taxonomy of motivation composition in Malawi. Confirmatory Factor Analysis (CFA) and other psychometric evaluation results showed that WEIMS measurement properties were acceptable, but not optimal. Further, there were certain concerns related to the feasibility of scale administration and to response biases. Based on this experience in Malawi, I developed a new and better context-adapted tool in Burkina Faso, the Health Worker Motivation Composition Scale (HWMC Scale). I conducted an extensive pretest and applied the new scale in a cross-sectional health worker survey (n=1142). CFA and further psychometric evaluation showed that the scale adequately measures a slightly modified version of the SDT taxonomy of motivation composition. This is consistent with theory and previous research (content, structural, and convergent/discriminant validity). Results further showed that the scale measures motivation

composition equally well across health worker subgroups (measurement invariance). Feasibility of administration appeared improved compared to Malawi, whereas response bias concerns persisted. Issues for future exploration and development of the HWMC Scale include the rephrasing of certain items as well as to response biases and absolute interpretations of scale scores.

RO2 pertained to the motivational impact and mechanisms of PBF, specifically the Results-Based Financing for Maternal and Newborn Health (RBF4MNH) Initiative in Malawi. I used a prospective mixed-methods triangulation study design to on the one hand determine the impact of RBF4MNH on motivation intensity and composition, using both quantitative and qualitative methods to maximize the validity of conclusions, and on the other hand to qualitatively explore mechanisms and pathways through which impact was (or was not) brought about. The quantitative study component relied on a repeated cross-sectional pre- and post-test design with independent controls, with a structured health worker survey conducted in intervention and comparison facilities just before (n=74), one year after (n=97), and two years (n=100) after the introduction of RBF4MNH. The qualitative study component consisted in in-depth interviews, which I conducted with health workers in intervention facilities one year (n=21) and two years (n=20) after the introduction of RBF4MNH.

Triangulating quantitative and qualitative findings, RBF4MNH appears to have had a small positive impact on health workers' overall motivation intensity. Quantitative results showed no impact, but qualitative findings and contextual information indicated that RBF4MNH did have a small positive impact on motivation intensity, but that the quantitative component could not detect it. Qualitative findings indicated that the overall small positive effect was brought about by a combination of different counteracting and interacting positive and negative motivational effects. The most important positive contributor to RBF4MNH's overall motivating effect was an increased perceived ability to perform successfully in the job, which triggered a new sense of accomplishment and purpose at work in health workers. In terms of negative effects, respondents experienced a variety of frustrations with contextual constraints, perceived weaknesses of the intervention design, and implementation-related challenges, keeping RBF4MNH from developing its full motivating potential. As many frustrations were related to the individual financial rewards (e.g. perceived unfairness of amounts, delays in payment, interpersonal conflict related to sharing of rewards), the individual rewards were of limited motivational power.

Health workers' profound sense of professionalism served as a protective factor against overly negative motivational effects of the diverse frustrations. Many of the demotivating or motivation-attenuating aspects were potentially avoidable or mitigatable. Strategies could include better reciprocating health workers' efforts through adherence to implementation plans or explicitly offering autonomy and psychosocial support in addition to technical support.

I did not find an overall impact of RBF4MNH on motivation composition in either the quantitative or the qualitative study component. In particular, my results gave no indication that RBF4MNH crowded out intrinsic motivation. Similar to motivation intensity, qualitative findings indicated that this net null effect was brought about by both positive and negative intervention effects on intrinsic motivation. Although RBF4MNH contributed positively to intrinsic motivation in many ways, the diverse frustrations had a somewhat more important negative impact on intrinsic motivation than on overall motivation. Further, certain aspects

contributed positively to motivation intensity, but negatively impacted intrinsic motivation, such as the peer pressure introduced by RBF4MNH.

In conclusion, my findings substantiate that PBF can have a positive impact on health workers' work motivation. At the same time, the complexity of PBF design and implementation makes the approach prone to challenges uncondusive to motivation, particularly intrinsic motivation. PBF would benefit from more research and practical attention to motivation-relevant challenges and strategies to address them for future effective, efficient intervention design and implementation free of adverse unintended consequences.