



2.2 Poor performance, low productivity, and inefficient utilization of the health workforce



About the Health Finance and Governance Project

The Health Finance and Governance (HFG) Project works to address some of the greatest challenges facing health systems today. Drawing on the latest research, the project implements strategies to help countries increase their domestic resources for health, manage those precious resources more effectively, and make wise purchasing decisions. The project also assists countries in developing robust governance systems to ensure that financial investments for health achieve their intended results.

With activities in more than 40 countries, HFG collaborates with health stakeholders to protect families from catastrophic health care costs, expand access to priority services – such as maternal and child health care – and ensure equitable population coverage through:

- ▶ Improving financing by mobilizing domestic resources, reducing financial barriers, expanding health insurance, and implementing provider payment systems;
- ▶ Enhancing governance for better health system management and greater accountability and transparency;
- ▶ Improving management and operations systems to advance the delivery and effectiveness of health care, for example, through mobile money and public financial management; and
- ▶ Advancing techniques to measure progress in health systems performance, especially around universal health coverage.

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About the Technical Efficiency Guide

Health system stakeholders in low- and middle-income countries are exploring ways to achieve more with available resources, and realize savings that can be used to fill the gap in resources needed to expand effective health coverage to all. Where other guides and tools focus on improving allocative efficiency (“doing the right things”), this guide focuses on technical efficiency (“doing things right”). It is intended to **help diagnose and address technical inefficiencies** across health systems.



2.2.1 Inadequate performance and productivity

What's the inefficiency?

Once a health worker has begun work at a health facility, that worker's performance and productivity determines the quality and quantity of services provided. A health worker's productivity is the relationship between their labor, usually measured in terms of the number of hours they work, and health service outputs, such as patient visits, medical procedures, or inpatient days at a hospital (Scheffler et al. 2012).

Low productivity and performance may look like health workers sitting around a facility rather than attending to patients, or attending many trainings. Or, it may look like health workers attending to patients, but without having the skills or resources to provide services of a set standard. And sometimes low productivity looks like health workers absent from the facility for hours or days, or never showing up to provide services but still collecting a salary (a phenomenon known as 'ghost workers') (Scheffler et al. 2012). Health workers may also be demotivated, and so provide services to a lower standard (Cancedda et al. 2015, Scheffler et al. 2012, Dieleman and Harnmeijer 2006, Jaskiewicz and Tulenko 2012).

Why does this happen?

A health worker's performance and productivity is driven by four primary issues: competency, motivation, enabling environment, and absenteeism.

Competency: Inadequate training can be a key factor in inability to perform to expectations (Feldacker et al. 2015, Dieleman et al. 2009, Dieleman and Harnmeijer 2006). If health workers are not appropriately trained (see Module 2.1 for discussion of pre-service training), their level of performance will be limited (Scheffler et al. 2012). In some cases, health workers have received adequate training, but are being asked to perform a different scope of work. In a study of nurses in Botswana, only eight factors were found to be predictive of productivity, of which two were related to training (Forchheh and Fako 2007). Many countries employ supportive supervision to support health workers to improve their competency. However, the effectiveness of this approach depends upon whether supervisors are supportive of the health workers' growth, or are taking an inspection and fault-finding approach, and what types of tools or technology are used to guide the supervision (Frimpong et al. 2011, Benjamin W. Mkapa HIV/AIDS Foundation 2015).

Motivation: Many factors can affect health worker's motivation to do their job. Motivation is complex and multifaceted, and health workers may be motivated by different policies and incentives (Franco et al. 2002, Dieleman and Harnmeijer 2006). First, payment systems can create incentives that do not align with health system goals. Providers who remain employed and receive a salary regardless of the work they do or health outcomes they achieve, have no incentive to be productive. This is the case when there are no systems to track health worker performance and fire health workers who do not meet performance standards. It can also be due to input-based systems for paying providers, still common in many LMICs: for example, in Africa, many countries are experimenting with payment systems that incentivize productive behavior among providers, but in the majority of cases they are pilots and are not scaled nationally (Cotlear and Rosemberg 2018).

Management, leadership, and governance systems also play a role in motivation (WHO 2015a). Lack of career growth opportunities and even how health workers are recruited and posted can also affect



performance and productivity (Cancedda et al. 2015, Scheffler et al. 2012, Dussault and Franceschini 2006, Dieleman and Harnmeijer 2006). A study in Botswana found that nurses were motivated by being involved in the community (including developing the community, religious affiliation, and peer support), and by being involved in setting policies (Forchey and Fako 2007). A study in Tanzania found that the social prestige of being a health worker was the most important satisfier that helped them stay motivated (Benjamin W. Mkaia HIV/AIDS Foundation 2015). Staff empowerment and creating a sense of belonging and respect within the health care team also plays a role (Dieleman et al. 2009).

Enabling Environment: Systemic issues can produce a work environment that does not support productivity and performance. In countries where there is a shortage of health workers, the health workforce can become overwhelmed and demotivated by the number of patients they must see, and demoralized by working conditions such as lack of equipment and supplies, or inadequate safety (Cancedda et al. 2015, Scheffler et al. 2012, Dieleman and Harnmeijer 2006, Jaskiewicz and Tulenko 2012). How work is organized, including misallocation of staff that leads to overstaffing or understaffing, and regulation of the division of labor between cadres can reduce productivity (Scheffler et al. 2012, Vujicic et al. 2009, Ruwoldt and Hasset 2007). Gender can also play a role, as women are more likely to experience harassment, violence, or discrimination (WHO 2016).

Absenteeism: Productivity of the overall workforce can also be dragged down by high levels of absenteeism (Scheffler et al. 2012). The levels of absenteeism vary from country to country (see data on absenteeism <http://datatopics.worldbank.org/sdi/>), but high levels of unexcused absences increase the burden on the workforce, waste public funds, and affect quality of patient care. An underlying cause can be a government willing to employ underqualified or unnecessary staff as part of a policy to address unemployment or civil unrest, or it can be a result of poor performance management systems that do not hold health workers accountable. There are three main forms of absenteeism:

- ▶ **Ghost workers:** Employees who have died, retired, moved, or are permanently absent for some other reason are called ghost workers when the absent worker or his family continues to receive the salary. A primary cause is weak public financial management, specifically civil service administration and public payroll systems that are unable to accurately track the status of public employees and update the payroll system in a timely manner.
- ▶ **Dual practice:** Some public health workers work only some of their expected hours, and spend the rest of their time in private practice. Laws about dual practice vary widely, from always illegal to permitted, and payment mechanisms can influence this as well. Causes include a lack of regulation or systems or culture to enforce adequate regulation, and low salaries and/or delayed or non-payment. Poor remuneration can also be an underlying cause, driving health workers to find additional work elsewhere to make up for insufficient salaries (Dussault and Franceschini 2006).
- ▶ **Excessive unexcused absenteeism:** Health workers may also choose to not come to work for unexplained reasons. This type of absenteeism can be particularly difficult for the facility to work around, as it is more unpredictable and inconsistent than the other types of absenteeism.

It is important to note that, while performance and productivity are sometimes thought of separately, they often interact, so that when performance improves, productivity does as well (Scheffler et al. 2012). There can also be a negative relationship between the two factors; for example, when



productivity increases due to a large number of new patients, more mistakes might happen, resulting in lower performance (Scheffler et al. 2012).

What makes it technically inefficient?

Low productivity in the health workforce means that health workers are not providing the quantity of services expected. Because too few health interventions are provided to the population, improvements in health outcomes might stagnate, or even decline. In the case of absentee or ghost workers, salaries paid are wasted investments from the perspective of the health system, since this input could be removed without impacting the quantity or quality of work produced.

Low worker productivity can also reduce the performance of the workforce (Scheffler et al. 2012). Poor performance means that, although services are provided, they are not provided to set standards, affecting the health outcomes that can be achieved for the inputs provided. Performance gaps can lead to over- or underuse of supplies and equipment, lowering the efficiency of those investments. Performance gaps can also increase the disease burden in the population, requiring more expensive and/or frequent interventions.

What questions can help us diagnose the inefficiency?

- How does the training that health workers receive align with the needs of the population?
 - What aspects of the health worker's skills are the strongest? What are the weakest? Why?
- Are there standards for health workers?
 - If so, for which cadres? Can I have a copy?
 - If not, what guide's health workers' decisions?
- Do health workers feel adequately prepared to practice their full scope upon graduation?
 - If not, in which practice areas do they feel under prepared?
- What is the range in number of patients a health worker sees in a day? Week? *(This question is best asked at the facility level, or regional at highest.)*
 - What time of day do most patients come?
- What are the work conditions for the health workers like?
 - Facilities, equipment, supplies
 - Safety
- How is the compensation for health workers?
 - Salary, financial incentives, non-financial incentives
 - How do health workers receive their salaries?
 - Are there delays, and if so, how long are they?
- What are the opportunities for career progression for each cadre of health worker?
- How are health workers recognized for performance?
- In what ways are health workers empowered to do their jobs? Make decisions?
- How does the community involve the health worker in community affairs outside of the clinic?
 - What formal mechanisms are there to bring the community and health workers together?
- What are the relationships between health workers at facilities like?
 - What types of support are health workers provided to build a team?
- How often do health workers receive supportive supervision?
 - How is the supportive supervision done?
 - What is the focus?



- Are there any tools used for supportive supervision?
- How many ghost workers are estimated to be on the payroll?
 - Has the country undergone any investigations into the presence of ghost workers?
 - Have any ghost workers ever been removed from the system?
- Are there any regulations regarding dual practice?
 - How many health workers are estimated to be conducting dual practice?

Whom should we interview?

This list of potential interview respondents is given as an example. Their titles and positions may change depending on context and are not always representative of their level of knowledge in a particular domain. Thus, the list should be adapted and can change over the course of the interviews.

- ▶ Principal human resource officer, Ministry of Health (MOH)
- ▶ Members of the human resources unit or equivalent, MOH
- ▶ Regional human resource managers
- ▶ Members of human resources for health (HRH) technical working groups
- ▶ Health training institution administrators, including the chairs, deans
- ▶ Rural health facility in-charges
- ▶ Experienced health workers
- ▶ Professional councils, associations, and unions

What indicators can help diagnose the inefficiency?

Indicator	Calculation/precise definition*	What it measures	Potential sources of data	Source of indicator
Performance and Productivity				
1. Number and percent of health workers granted professional licensure by professional associations and/or councils	<i>Number:</i> Number of health workers attaining professional licensure <i>Percent:</i> Numerator: Number of health workers attaining professional licensure. Denominator: Number of health workers eligible for professional licensure	Provides information on the effectiveness of the licensing systems of the regulatory bodies	Regulatory body records, human resource information system (HRIS)	WHO 2009
2. Number and percent of health workers receiving renewed professional licensure in required renewal period (e.g. annually)	<i>Number:</i> Number of health workers receiving renewed professional licensure in required renewal period <i>Percent:</i> Numerator: Number of health workers receiving renewed professional licensure in required renewal period	The existence of regulation for renewal of professional licensure is a mark of a strong regulatory authority.	Regulatory authority records	HFG 2015



	Denominator: Number of all health workers who were required to renew licensure during the time period			
3. Number and percent of health facilities receiving supportive supervision visits	<p><i>Number:</i> Number of health facilities receiving supportive supervision visits</p> <p><i>Percent:</i> Numerator: Number of health facilities receiving supportive supervision visits Denominator: Total number of health facilities that should be receiving supportive supervision visits</p>	Measures the implementation of a supportive supervision system, which helps to improve health worker performance	Reports from MOH national, regional, or local health offices, project records	HFG 2015
4. Average number of hours worked per week	<p>Numerator: Number of hours worked in a week among staff at a health facility (or other delineating factor, such as cadre of staff)</p> <p>Denominator: Length of work week, in hours, multiplied by the number of staff at a health facility (or other delineating factor)</p>	Measures the level of health worker's absenteeism, and can serve as a proxy indicator of worker's productivity	Health facility attendance records, employee surveys, observation	Bossert et al. 2007
5. Rate of absenteeism among health workers.	<p>Numerator: Total number of days of employee absence over a defined period.</p> <p>Denominator: Total number of scheduled working days in the defined period, multiplied by the total number of employees</p>	Measures health worker's availability and productivity for their primary job	Facility staff records, payroll records, study cross-examining duty roster lists with actual head-counts on day of visit	WHO 2009

*Definitions have been taken directly or adapted from the listed sources, which provide indicator reference sheet information.



What are some examples of the inefficiency?

- ▶ Lack of equipment keeps health workers from applying skills: In Mozambique, one study found that over 70 percent of health workers were placed in facilities that did not have an on-site lab or capacity for x-rays, and over 75 percent were challenged by missing key clinical equipment. These equipment shortages kept the health workers from being able to practice as they had been trained to do (Feldacker et al. 2015).
- ▶ Addressing ghost workers and quality through pay for performance: Rwanda was facing inefficiencies in the form of ghost workers and poor quantity and quality of care provided in public clinics. In 2005, the government restructured health worker compensation to link wages to clinic attendance. Administrative districts were able to use this pay-for-performance strategy to increase productivity (Scheffler et al. 2012).
- ▶ Variations in productivity: A study in Zanzibar, Tanzania, found that health workers spent 61 percent of their time in productive activities, mostly on providing direct care for patients. However, 27 percent of their time was spent in unproductive activities, which was mostly composed of time spent waiting for patients, but also included absences of various kinds (8 percent of time). Productivity levels varied between cadres as well. Clinical officers were productive 88 percent of the time, but public health nurses were productive only 46 percent of the time (Ruwoldt and Hassett 2007).

2.2.2 Inappropriate staffing mix

What's the inefficiency?

The mix of health workers deployed to health facilities often does not comprise the right types of health workers to efficiently provide services. Historically, health worker training has prioritized training clinicians over other health professionals such as health managers and other auxiliary professionals, meaning that clinicians must do all aspects of clinical care, including managerial and administrative functions (Cancedda et al. 2015). Many countries have prioritized physician-centered health care teams, where a doctor provides most of the services with the support of a nurse or other cadre of health worker (All Party Parliamentary Group 2012).

Why does this happen?

Physician-centered service delivery models are traditional models of care. Physicians are highly trained and highly trusted. Pre-service training institutions train health workers to perform in this traditional model, and largely ignore the competencies required to work effectively together as a team (Cancedda et al. 2015). Regulatory bodies reinforce these models with strict codes of practice that outline what types of procedures each cadre of health worker is allowed to do. Because the physician-centered service delivery model has been used for so long, both health workers and patients' expectations reinforce the approach.

In light of worldwide health worker shortages, many countries have begun innovating around the types and mix of health workers they employ (All Party Parliamentary Group 2012). Shifting tasks to a different cadre of health worker or introducing a new type of health worker can increase access to health services, improve quality and cut costs, when done well (All Party Parliamentary Group 2012, WHO 2008). Studies have found that mid-level cadres can provide the same quality or, sometimes, better



quality when delivering services that have been task-shifted to them (GHWA 2012, Asfaw et al. 2014, Fulton et al. 2011).

However, while task sharing and the introduction of a new cadre often happens in the context of pressing health needs, such a change in skills mix is a big paradigm shift for current health workers, regulatory bodies, and training institutions. For example, many clinician groups resisting regulatory changes to allow other cadres to take on the tasks they traditionally perform (Dussault and Franceschini 2006). Political will to support the change is essential (All Party Parliamentary Group 2012, WHO 2007).

What makes it technically inefficient?

A physician-centered approach, as opposed to a team-based approach, can dramatically increase inequities in access to health services and health outcomes (Dussault and Franceschini 2006). Compared to other types of health workers, physicians take a long time to train and are expensive (All Party Parliamentary Group 2012). There are incentives for doctors to remain in urban areas, including opportunities for lucrative dual practice (practicing in the private sector while receiving a salary in the public sector). Dual practice creates shortages and limits access to care. While doctors are essential to a health system, using a doctor to provide services that a lower-level health worker (who takes less time to train, is less expensive, and may be easier to recruit to rural areas) can provide is an inefficient use of resources. Team-based care has also been shown to lead to better outcomes, such as decreased patient health care service utilization and costs (Strumpf et al. 2017).

What questions can help us diagnose the inefficiency?

- Which cadres of health workers does the country/facility need more of?
 - Are there any cadres that are particularly difficult to recruit for?
- How much task shifting is occurring?
 - What types of task shifting occur most often?
 - Are there any regulations to guide task shifting?
- What types of health care teams do you employ?
 - Physician-centered model? Patient-centered care teams?

Whom should we interview?

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- ▶ Members of HRH technical working groups
- ▶ Health training institution administrators, including the chairs, deans
- ▶ Rural health facility in-charges
- ▶ Experienced health workers
- ▶ Professional councils, associations, and unions



What indicators can help diagnose the inefficiency?

Indicator	Calculation/precise definition*	What it measures	Potential sources of data	Source of indicator
Skills Mix				
1. Distribution of HRH by occupation, specialization, or other skill-related characteristic	Numerator: Total number of physicians, nurses, and midwives (or other categories of health service providers). Denominator: Total number of health workers	Measures the types of health workers working within the system to ensure there is an appropriate mix of skills. May be disaggregated by urban and rural areas to determine location of skills	HRIS	WHO 2009

*Definitions have been taken directly or adapted from the listed sources, which provide indicator reference sheet information.

What are some examples of the inefficiency?

- ▶ Introducing community health worker cadres can increase access: Community health workers can increase access to, and use of care. In southeastern Brazil, these workers reduced the incidence of morbidity and mortality among children under five years. Utilization of services was found to be 77 percent higher (Dussault and Franceschini 2006). Ethiopia posted two health extension workers per village, increasing access to public health services to 87 percent from 61 percent (All Party Parliamentary Group 2012).
- ▶ Task shifting can maintain, or even improve, quality: In Tanzania, obstetric surgical officers were introduced in three health centers. Their introduction tripled the number of deliveries in the facilities, decreased stillbirth rates, and reduced obstetric referrals (All Party Parliamentary Group 2012).
- ▶ Task shifting can reduce costs: In Mozambique, *técnicos de cirurgia* (a lesser-trained health care worker) perform 92 percent of the caesarean sections in district hospitals. They perform to the same standards and produce similar clinical outcomes as doctors, but are only one-third of the cost. In Ghana, nurses or medical assistants providing antenatal care cost about 38 percent less than doctors; they also save on travel costs because they are based closer to the patient than are physicians, who work primarily in district hospitals (All Party Parliamentary Group 2012).



Materials for Team Leading Next Steps

While beyond the scope of the Technical Efficiency Guide process, the sections below share some ideas that may be a useful starting point for the team responsible for leading next steps, if inefficiencies covered in this module are prioritized. If the country/region needs more detailed information, these leaders can consider using some of the tools and resources listed. If they want to brainstorm areas for potential efficiency gain, they can browse the table with high-level ideas to consider.

Additional tools and resources

- ▶ [This toolkit](#) supports analyzing and improving productivity and was developed by the Capacity Plus project
- ▶ The World Health Organization's [Workforce Indicators of Staffing Need](#) (WISN) determines staffing need, and can be used in analysis of skills mix (WHO 2015b).
- ▶ The [priority optimization analysis](#) (POA) developed by Touch Foundation can be used to prioritize needed positions, and is often used in conjunction with the WISN methodology (Touch 2016).
- ▶ The World Health Organization offers a [discussion paper](#) for conducting a skills mix review (Buchan et al. 2000).
- ▶ [Health Workforce Accounts](#) facilitates the standardization of health workforce information systems for interoperability, and includes a set of health workforce indicators (WHO 2017).



Potential areas for efficiency gain

Cause of inefficiency	Potential interventions	Resources
Low staff motivation and performance	<ul style="list-style-type: none"> ▶ Provide supportive supervision that builds confidence and motivation ▶ Establish a Performance Management System ▶ Train supervisors in performance feedback, fair evaluation, and recognition and rewards ▶ Build career pathways for staff advancement ▶ Establish opportunities for professional recognition ▶ Enact financial and non-financial incentives that are calibrated to motivate high quality provision of care ▶ Introduce performance-based funding ▶ Encourage the oversight and regulation of professional councils ▶ Develop tools and processes to help providers perform according to evidence-based standards ▶ Institute quality assurance/quality improvement processes 	<p>Forcheh and Fako 2007 WHO 2015 Dieleman and Harnmeijer 2006 Bhatnagar et al. 2017 Bhatnagar 2014</p>
Low staff productivity	<ul style="list-style-type: none"> ▶ Improve work environment (equipment, supplies, infrastructure) ▶ Address skills mix and scopes of practice ▶ Ensure safe working conditions ▶ Develop policies on dual practice/moonlighting to ensure that public sector services are not shortchanged ▶ Reform provider payment mechanisms to promote quality, cost control, and reduce absenteeism (capitation, prospective payment, DRGs, global budgets, etc.) ▶ Address organizational, cultural, and managerial values or practices that may impede motivation and productivity 	<p>Scheffler et al. 2012 Franco et al. 2002</p>
Inappropriate skills mix	<ul style="list-style-type: none"> ▶ Engage in long-term planning of desired skills mix and modify production to meet needs ▶ Expand scopes of practice to include task 	<p>All Party Parliamentary Group 2012 WHO 2008</p>



shifting where appropriate

- ▶ Align training with population health needs
- ▶ Ensure scopes of practice clearly define roles and tasks
- ▶ Introduce community health workers and outreach programs
- ▶ Consider decentralizing hiring and deployment practices to assist communities in responding to staffing needs
- ▶ Provide in-service training, mentoring, and supervision to health workforce to build desired skills
- ▶ Make long-term investments in health workforce production and correct skills mix



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