

Chapter 4.

Health worker performance, practice and improvement

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4.1 Defining the chapter

Health worker performance is a complex and contested concept. The World Health Report defines health worker performance as a composite function of health worker availability, competence, productivity and responsiveness (World Health Organization (WHO), 2006). A well-performing health workforce is thus one that “works in ways that are responsive, fair and efficient to achieve the best health outcomes possible, given the available resources and circumstances” (WHO, 2006, p. 67). This inclusive definition factors in both technical and relational aspects of health worker performance and forms a touchstone for this chapter’s examination of different approaches to performance measurement and evaluation. Nonetheless, this chapter clearly distinguishes health worker performance from the related concept of quality, viewing quality of care as the product of concurrent and synergistic actions to ensure effective, efficient, equitable, patient-centred and timely care (Institute of Medicine, 2001). Health worker performance is thus a critical and necessary – but not sufficient or always dominant – component of overall quality of care (Table 4.1).

Although a large body of performance literature focuses on clinicians’ (mainly doctors’) performance in high-income settings (Chan et al., 2017; Chauhan et al., 2017), this chapter focuses on the different epistemologies and methodologies that shape health worker performance research in low- and middle-income countries. In particular, it explores the differences between research that aims to quantify and map trends in health worker performance (labelled here as performance evaluation literature); research that aims to explore and expound on health worker decisions, actions and interactions in a given context (labelled here as performance as practice literature); and research that aims to examine strategies for improving health worker performance (labelled here as performance improvement literature). While recognizing that motivation is both a driver and a consequence of health worker performance, this chapter does not deal directly with motivation as a theme, since it is afforded a deeper exploration in Chapter 5.

Table 4.1 Key definitions for performance, practice and quality of care

Performance	Composite of an individual’s or team’s degree of competency, productivity and responsiveness (WHO, 2006)
Performance as practice	Contextualized decisions, behaviours and relationships that influence human resources for health performance and overall quality of care
Quality of care	Capacity of a health system to deliver safe, effective, patient-centred care in an efficient, timely and equitable manner (Institute of Medicine, 2001)

4.2 Background on performance and practice

The literature on health worker performance is broad, drawing on disciplines and associated methodologies that include clinical sciences, health economics, management sciences, anthropology and policy analysis (Rowe et al., 2005). Such diversity is warranted given the different geographies, systems, cultures and politics within which human resources for health (HRH) operate globally. Table 4.2 provides a non-exclusive summary of some of the major bodies of performance literature and the constructs and indicators used. Bodies of work are grouped broadly according to a “performance evaluation”, “performance as practice” or “performance improvement” focus.

Table 4.2 Performance literature groupings adapted from Dieleman et al. (2006)

Literature grouping	Construct	Examples of indicators/concepts	Key disciplines	Exemplar references
Performance evaluation	Availability	Waiting time, staff ratios, overtime, staff turnover, absenteeism/occupancy rate	Management sciences, health economics	Lindelöw et al. (2003) McPake et al. (2014) Tani et al. (2016)
	Competencies	Knowledge, training	Quality improvement, public health epidemiology	Das and Sohnesen (2007)
	Adherence	Adherence to clinical or practice-related (e.g. communication) rules or standards; proxies include readmission rates, case fatalities, measures of “effort” (e.g. patient satisfaction, non-task performance)	Public health and clinical sciences, health economics	Boquiren et al. (2015) Jayasuriya et al. (2014) Leonard and Masatu (2005) Leonard and Masatu (2010) Namuyinga et al. (2017)
	Productivity	Patient contacts per worker per day, cost-effectiveness, pro-social organizational behaviour	Health economics	Frimpong et al. (2011)



Table 4.2 Performance literature groupings adapted from Dieleman et al. (2006) continued

Literature grouping	Construct	Examples of indicators/concepts	Key disciplines	Exemplar references
Performance as practice	Social and organizational context	Provider identity, social norms, practical norms	Political sciences, social psychology, anthropology	Campbell et al. (2015) Hahonou (2015) Jewkes et al. (1998) Razee et al. (2012)
	Governance	Accountability, posting and transfer, power dynamics, resilience	Governance theory, sociology, management sciences	George et al. (2016) Gilson et al. (2017) Hernández et al. (2015) Purohit et al. (2016) Tavrow et al. (2002) Topp et al. (2015)
	Responsiveness (patient-provider interaction)	Respect, disrespect and abuse, trust, patient-centredness, cultural competency	Political sciences, social psychology, medical anthropology, medical sociology, health systems research	Amroussia et al. (2017) Gilson et al. (2005) Kendall and Barnett (2015)



Table 4.2 Performance literature groupings adapted from Dieleman et al. (2006) continued

Literature grouping	Construct	Examples of indicators/concepts	Key disciplines	Exemplar references
Performance improvement	Empowerment	Collective action, organizational capacities, transformed institutions, open governance, equitable community conditions	Participatory action research	Bradley et al. (2002) Hawe et al. (1998) Lehmann and Gilson (2015) Peacock et al. (2011)
	Quality improvement	Plan-do-study-act cycles, Six Sigma, Lean Thinking, continuous quality improvement	Educational sciences, management sciences	Rowe et al. (2010)
	Performance management	Training and supervision, regulatory space, decision space, ability-motivation-opportunity	Human resource management	Das et al. (2016) Frimpong et al. (2011)
	Incentives and remuneration	Performance-based financing	Health economics, management sciences	Shen et al. (2017) Witter et al. (2011)
	Social accountability	Voice, enforceability	Political sciences, development studies	Lodenstein et al. (2013)
	Social franchising	Service contracts, common brand, quality control	Management sciences	Koehlmoos et al. (2009)

4.2.1 Performance evaluation

Performance evaluation research mixes descriptive research and economic theory to quantify aspects of HRH availability, competency, adherence and productivity (Schleffer, 2016). While acknowledging the potential influence of structural conditions on health worker actions, performance evaluation literature typically focuses on individual-level determinants such as clinical competence, adherence to guidelines or demonstration of pro-social values, and the interventions (behavioural, education or material) that might improve these individual health provider factors. Notable examples of this approach have been carried out in India (Das and Hammer, 2004), Paraguay (Das and Sohnesen, 2007) and the United Republic of Tanzania (Leonard and Masatu, 2005). With a few exceptions, performance evaluation research is conducted within a positivist knowledge paradigm.

4.2.2 Performance as practice

Research that views performance as practice has pushed the boundaries of our understanding of performance by drawing on theories of governance, anthropology, sociology and management sciences to explore the ways in which proximate and broader social and health system contexts influence health workers' practices. Invoking a traditional sociological focus on the intersecting roles of structure and agency, for example, one branch of this literature explores the way in which vertical and horizontal governance arrangements intersect with micro-level power dynamics to influence frontline health workers' decisions and practices in different settings (Isoaari, 2011; Topp et al., 2015). Informed by anthropological traditions, another facet of enquiry examines the intersection between health workers' and patients' social identity and health workers' behaviours (Campbell et al., 2015; Gross et al., 2012). A further contribution of the performance as practice literature has been to expand performance evaluation beyond the traditional focus on nurses and physicians, to include community health workers, district managers and many other non-clinical cadres (Vareilles et al., 2017), and to flag the importance of understanding health workers' performance from patients' perspectives, invoking concepts of "patient satisfaction" (Boquiren et al., 2015), "cultural competence" (Kendall and Barnett, 2015) and "person-centred care" (Mead and Bower, 2000; Scholl et al., 2014), among others. This latter body of work has been instrumental in uncovering widespread experiences of disrespect and abuse among women in low- and middle-income countries and in highlighting the intersection between poverty, gender norms and social stigmas and the way these shape health workers' responses to female clients (Amroussia et al., 2017; Freedman and Kruk, 2014; Kim and Motsei, 2002).

Although highly heterogeneous, research on performance as practice is typically conducted from a relativist or critical realist perspective, enabling researchers to invoke varied epistemologies and methodologies to generate important knowledge that takes account of different levels and types of performance and of patient expectations and experiences regarding those practices. This approach does not preclude more traditional and quantitative approaches to performance evaluation, but it does help to promote a deeper understanding of performance as the product of a range of decisions and actions, networks and relationships that influence the delivery of services.

4.2.3 Performance improvement

A third grouping of performance literature, albeit diffuse, focuses on performance improvement. Some of the most frequently used performance improvement strategies include supportive supervision, mentorship and tools and aids (Vasan et al., 2017). This section highlights five types of performance improvement literature with diverse epistemological and philosophical bases.

At one end of the spectrum are empowerment-based performance improvement approaches, of which participatory action research is a key example. Participatory action research seeks to transform the role of people usually participating as the subjects of research (such as health care providers) and involves them instead as active researchers in an agenda for change. Participatory action research involves developing, implementing and reflecting on actions as part of the research and knowledge-generation process and is informed by, and rooted in, processes of social empowerment defined as "people's ability to act through collective participation, strengthening their organizational capacities, challenging power inequities and achieving outcomes on reciprocal levels" (Loewenson et al., 2014, p. 11).



At the other end of the spectrum lie various types of quality improvement (including Six Sigma, Continuous Quality Improvement and Lean Thinking) that use adaptations of the improvement cycle, involving a series of steps from data collection, problem description and diagnosis to the generation and selection of potential changes for implementation (Walshe, 2009). Most quality improvement approaches acknowledge the importance of engaging and involving frontline staff and the need for supportive leadership and organizational commitment. Compared with participatory action research, however, quality improvement adopts a more instrumental lens linked to organizational management, and consideration of what drives or motivates HRH to behave in certain ways tends to be weak.

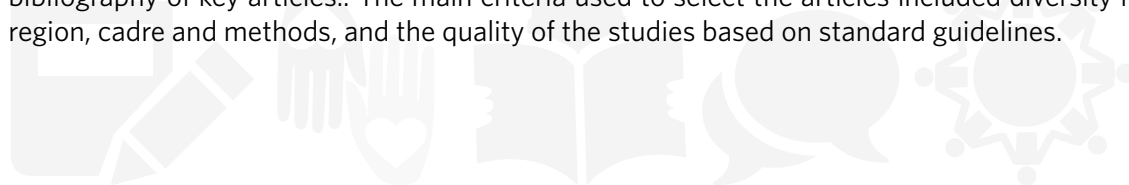
Three other discrete and identifiable bodies of work exist on the quality improvement continuum. One is performance improvement literature that focuses on remuneration and incentives, of which performance-based financing and pay for performance are examples (Basinga et al., 2011; Kalk et al., 2010). The centre piece of performance-based financing interventions is payment based on performance, defined as “outputs verified for certain quality measures” (Renmans et al., 2017). The literature highlights a fierce debate over the potential for performance-based financing to have unintended consequences on the intrinsic motivation of HRH and, increasingly, health systems researchers argue that performance-based financing should be viewed as a package of reforms rather than just a payment mechanism for discrete (service) outputs (Renmans et al., 2017; Witter et al., 2011).

A smaller body of work focuses on social accountability, which draws on theories of governance and social psychology to promote various forms of collective action as a way to realize citizen rights (Fox, 2015). Social accountability literature suggests that HRH performance can be strengthened through a combination of social pressure and threat of public exposure or embarrassment and mechanisms to build trust and enable joint problem-solving (Berlan and Shiffman, 2012; Lodenstein et al., 2013; Molyneux et al., 2012; Schaaf et al., 2017). Although experimentation with a range of social accountability approaches is fast expanding, rigorous evaluation of the impact of social accountability interventions on the health sector or HRH performance is in its infancy.

Finally, a small body of work relates to social franchising. A social franchise is a network of private health-care providers linked through an agreement or contract to provide certain services under a common brand (the franchise). The model posits that performance of previously unregulated or poorly regulated private providers is improved via provision of training in clinical and business management practices, a contractual obligation to follow protocols and meet standards, and various mechanisms of quality oversight. To date, however, evidence of the performance-strengthening effect of social franchising – as opposed to more commonly documented improvements in service coverage and access (Aung et al., 2017; Chakraborty et al., 2016; Koehlmoos et al., 2009; Munroe et al., 2015) – remains weak (Sieverding et al., 2015).

4.3 Illustrative primary research articles

This section showcases seven articles across the three major areas of performance evaluation, performance as practice and performance improvement literature. These articles were selected from a pool collated from a doctoral seminar at the Johns Hopkins School of Public Health, a crowdsourcing exercise supported by Health Systems Global searches of relevant databases and search engines (PubMed, Scopus, Google Scholar) and subsequent searches using the bibliography of key articles. The main criteria used to select the articles included diversity in region, cadre and methods, and the quality of the studies based on standard guidelines.



4.3.1 Performance evaluation

Leonard KL, Masatu MC (2010). *Professionalism and the know-do gap: exploring intrinsic motivation among health workers in Tanzania. Health Econ. 19(12):1461-1477*

Health workers	Public and private sector medical officers, assistant medical officers, clinical officers, clinical assistants and nurses
Geographical area	United Republic of Tanzania
Research methods	Quantitative: protocol checklist completion through direct clinician observation and clinician testing using vignettes
Research inference	Influence

Leonard and Masatu (2010) provide a detailed description of their use of case-study patients (vignettes) to gather data on different aspects of clinician performance in the United Republic of Tanzania. Using data gathered from repeated case-study interactions, they measure the clinical performance of different categories of clinician (for example, those operating in public versus private clinics) and explore how that performance is influenced by skills and knowledge and the practice values and goals of the individual clinicians involved. Their elegant use of regression analysis to ascertain the determinants of the know-do gap (such as the degree to which peer scrutiny influences the application of skills and knowledge), and highlighting of the role of intrinsic motivations in provider performance, underpins their assertion that multilevel performance measurement is essential for developing more sophisticated and effective performance improvement interventions. Other researchers who have used similar approaches to performance evaluation notably include Das and Hammer (2004) and Das and Sohnesen (2007). Huicho et al. (2008) provide an important example of comparing clinical performance across different cadres of health-care workers and across countries.

Jayasuriya R, Jayasinghe UW, Wang Q (2014). *Health worker performance in rural health organizations in low- and middle-income countries: do organizational factors predict non-task performance? Soc Sci Med. 113:1-4*

Health workers	Rural public and private health extension officers, nurses and community health workers
Geographical area	Papua New Guinea
Research methods	Quantitative: Provider survey administered during national training
Research inference	Influence

Jayasuriya et al. (2014) use survey data and multilevel analysis from a large sample of primary health workers in Papua New Guinea to examine the effects of organizational culture and climate on “non-task” behaviours (defined as behaviours not specified as service outputs, such as treating clients with respect and working effectively in a team). Incorporating concepts from organizational management and psychology, this article is unusual in its application of quantitative methodologies to measure non-task behaviours. The article demonstrates a pragmatic approach to data collection, leveraging a national competency training for a new malaria diagnosis and treatment protocol that was provided to all health workers nationally, to conduct a self-administered survey, with results collected in person by provincial-level trainers present at the training. In low- and middle-income country settings with geographically



disparate health services, pragmatic approaches such as these can generate research evidence that informs more equity-oriented reforms. The article additionally provides a strong example of the use of regression modelling to measure and test the relationship between individual factors (such as age, sex and professional background) and health-centre-level factors (for example, governmental versus church-run, or catchment population) on health workers' performance.

4.3.2 Performance as practice

Jewkes R, Abrahams N, Mvo Z (1998). Why do nurses abuse patients? Reflections from South African obstetric services. Soc Sci Med. 47(11):1781-1795

Health workers	Public sectors nurses and midwives
Geographical area	South Africa
Research methods	Qualitative: ethnographic non-participant observation, in-depth interviews, focus group discussions with women, nurses and midwives, along with historical analysis
Research inference	Exploratory

In this classic article, Jewkes et al. (1998) provide an in-depth qualitative examination of the way social factors (including gender and other power dynamics) influence South African nurses' treatment of patients. The authors showcase an approach that is historically and culturally attuned and that cuts across political, sociological and health systems issues, demonstrating the interconnectedness of factors influencing nurse (and, by implication, most HRH) behaviours and choices. The article serves as an important example of the way ethnographic methods can create space for new, unexpected findings. Acknowledging that patient abuse was not an initial theme of their research, the authors demonstrate how minimally structured interviews, focus groups and non-participant observation facilitated an in-depth exploration of the emergent theme of patient abuse. The presentation of findings according to "grounded" themes acts as a useful guide to younger researchers seeking to develop an approach to data synthesis in the absence of a broad, deep literature. This article is a forerunner of what has become a more substantial body of work documenting various aspects of disrespect and abuse by health workers in low- and middle-income countries.

Hahonou EK (2015). Juggling with the norms: informal payment and everyday governance of healthcare facilities in Niger. In: de Herdt T, Olivier de Sardan J-P, editors. Real governance and practical norms in sub-Saharan Africa: the game of the rules. London and New York: Routledge

Health workers	Public sector hospital emergency ward providers and users
Geographical area	Niger
Research methods	Qualitative: ethnography; five months participant observation
Research inference	Exploratory

This exploratory account produces "thick" descriptions of the co-production of practical norms (with perverse and protective outcomes) that guide the decisions and behaviours of health workers in a busy hospital department in Niger. The author uses ethnographic methods, embedding himself in the day-to-day routines of a large teaching hospital to develop deeper insights into the reasoning and rationales for seemingly corrupt or uncaring behaviours by health workers that frequently leave patients destitute. In so doing, Hahonou provides a nuanced explanation for health worker performance, and demonstrates the value of questioning

dominant theories or explanations of common practices. Such “thick” descriptions of the inconsistencies and perceived irrationalities in health worker practices have a long history in health systems and policy research, with notable other examples including Aitken’s (1994) and Justice’s (1990) work in Nepal, and George’s (2009) work on accountability in the Indian public health sector.

Gilson L, Palmer N, Schneider H (2005). Trust and health worker performance: exploring a conceptual framework using South African evidence. Soc Sci Med. 61(7):1418-1429

Health workers	Public and private primary health centre doctors and nurses
Geographical area	South Africa
Research methods	Mixed: Focus group discussions with younger and older women; provider open-ended interviews and self-administered questionnaires
Research inference	Exploratory

This seminal article from Gilson et al. (2005) develops a conceptual framework for exploring the intersecting role of workplace and patient-provider trust in health worker performance and service responsiveness. The article reflects on the multilayered nature of health workers’ performance, which is simultaneously influenced by their trust in employers, supervisors and colleagues, and their expectations of and relationships with patients. The authors demonstrate how these multiple human relationships (collegial, supervisory, patient-provider) are at the centre of understanding health worker and health system behaviours. Further, the use of mixed methods to build and then critique the framework in the South African setting provides an example of how to carry out exploratory research and apply the principles of qualitative validation.

4.3.3 Performance improvement

Bradley JE, et al. (2002). Participatory evaluation of reproductive health care quality in developing countries. Soc Sci Med. 55(2):269-282

Health workers	Multiple public sector facility based health workers
Geographical area	United Republic of Tanzania
Research methods	Qualitative: description of long term participatory process
Research inference	Emancipatory

Bradley et al. (2002) describe an emancipatory, participatory action research project designed to evaluate and strengthen health worker performance and service quality in the reproductive health units of Tanzanian primary health centres. The article describes a range of strategies used in a long-term participatory quality-improvement project. These strategies include defining quality of care, identifying problems in health facilities, developing locally owned solutions, and monitoring and evaluation methods. In the course of describing these strategies, the article stresses the importance of building relationships at the subnational level, which in turn enable iterative adjustments to health workers’ mindsets, and evaluation approaches that support more flexible and arguably more sustainable approaches to service delivery. The authors suggest that the participatory action research approach, although slower, is more effective than more traditionally technocratic, target-oriented methods of performance improvement. The article provides one example of a useful and accessible introduction to the concept and logic of participatory action research and its relevance to HRH management and performance. A number of other excellent examples, including Peacock et al.’s (2011) exploration of how lay health workers can contribute to participatory evaluation, may be found in Loewenson et al. (2014).





Witter S, et al. (2011). *Paying health workers for performance in Battagram district, Pakistan*. *Hum Resour Health*. 9:23

Health workers	Multiple public sector facility based health workers
Geographical area	Pakistan
Research methods	Mixed: health management information system data, financial records and project documents; qualitative interviews and focus group discussions with providers and community members
Research inference	Explanatory

Witter et al. (2011) make use of a pragmatic, wide-ranging, mixed-method study to develop a rich picture of the historical and contextual contingencies surrounding a performance-based financing project in Pakistan. The authors demonstrate how performance-based financing programme theories often make “black box” assumptions about the motivational mechanisms in play; they provide an example of how other researchers might expand the parameters of traditional performance improvement evaluations to explore the multilayered and intersecting factors influencing the success (or otherwise) of similar interventions. This study, among others (e.g. Paul et al., 2014), builds on earlier important work by Ssenogooba et al. (2012), which sought to challenge the assumptions of many emerging performance-based financing evaluations and to explore the reasons for variable success of performance-based financing policy and programmes.

4.4 Research challenges, gaps and future directions

Health policy and systems research (HPSR) draws on a range of disciplinary perspectives and embraces a wide range of understandings about social and political reality (Gilson, 2012). The following reflections on the methodological and definitional challenges in performance measurement and evaluation draw from the critical realist and relativist knowledge paradigms within HPSR.

Overall there is significant blurring between the concepts of “performance” and “quality” in the broader performance literature. This blurring is problematic as it places implicit responsibility for overall quality of care on (typically) frontline health workers; and yet at the individual, service or system level, quality is necessarily dependent on a range of intersecting health system functions (Hanefeld et al., 2017; Topp, 2017). Indeed, much of the literature on health worker performance focuses on the difference between whether health workers “can do” and “will do” certain tasks (for example, performance research focused on measurement of competency and adherence; see Table 4.2), often assuming the gap between the two relates primarily to individual motivation (Das et al., 2016). In fact, as discussed above, basic conditions and other important social, organizational and cultural cues necessary for health workers to be effective may be lacking (Gilson et al., 2017; Hou et al., 2016; Jaskiewicz and Tulenko, 2012).

Performance measurement provides a critical gauge for policy-makers, programmers and managers to plan and respond to. But efforts to improve health outcomes and strengthen health systems in many low- and middle-income countries still rely to a large degree on globally defined standards and indicators of health worker performance, with many studies selecting only one or two dimensions of focus (although some attempts have been made to bring together more dimensions, albeit with limited empirical data (Asabir et al., 2013)). Globally accepted indicators (such as rates of maternal or infant mortality, or numbers of births attended by skilled attendants) can and do provide important information (Mace et al., 2014; Rowe, 2013). But intentionally or unintentionally, such measures decontextualize and oversimplify aspects of health worker practice (Spangler, 2012), are punitive in approach, and

focus on negative indicators such as absenteeism. Focus on such internationally accepted indicators may also overshadow locally acknowledged need for investment in other aspects of health system operations (Storeng and Béhague, 2017). Closer regard for the ethics and cost of performance evaluation methodologies, in particular the use of mystery patients without disclosure to health workers, is also required (Rhodes and Miller, 2012).

To date, based on the search done for this Reader, self-identified health worker performance research, including health economic evaluations, has been dominated by public-sector hospital-based studies focusing on measures of clinical performance among nurses and doctors. Although some low- and middle-income country work investigates performance of health workers in the private sector (Coarasa et al., 2017; Lindelöw et al., 2003) and performance of non-clinical cadres and non-allopathic practitioners (Jaskiewicz and Tulenko, 2012; Vareilles et al., 2017), examples of such research remain less common and methodologically less evolved. Partly as a result of widespread reliance on globally accepted performance indicators, examples of theory-driven performance evaluation remain comparatively rare, with efforts to improve performance typically directed towards “tactical” interventions – that is, interventions that target localized behaviour and decision-making among frontline health workers – rather than “strategic” actions taking place at the policy or institutional governance level (Fox, 2015). Yet, as illustrated by Gilson et al. (2005), knowledge derived from theory-driven research is important not only as a basis for more appropriate understanding of the way performance is constituted in context but also for its contribution and advancement to understanding of performance and performance improvement more broadly.

HSPR views performance as the product of contextualized decisions, behaviours and relationships. Recognizing such, this chapter has sought to highlight the importance of HSPR researchers embracing the concept of performance as practice, and investing far more in exploratory and explanatory work to improve the state of knowledge about the contexts in which health workers live and work. Improved understanding of these contexts should in turn inform the development of performance measures more sensitive to the resource-constrained realities of many low- and middle-income country service settings and to locally applicable improvement strategies (Pawson, 2013; Storeng and Béhague, 2017). The examples of participatory action research and social accountability interventions alluded to above, which often rely on longer timeframes and theory-driven design, provide two examples of such an “embedded” approach to performance evaluation and improvement – an approach that aims to produce locally meaningful indicators in the context of deeper systemic changes to health system relationships or resourcing (Bradley et al., 2002; Schaaf et al., 2017). To deliver on the promise of such methods, however, HSP researchers are challenged to place the voices of health workers, clients and patients at the centre of enquiry (Sheikh et al., 2014).

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