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What drives health workers to break the rules and use public resources for private gain? A review of the literature on sub-Saharan Africa

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Executive Summary

The health sector has long been identified as being one of the most corrupt in high-, middle- and low-income countries. It faces particular challenges given competing incentives of public and private providers, knowledge asymmetry between providers and patients/clients, and the vulnerability of those seeking care. Corruption takes different forms, including informal payments, absenteeism, medicine theft, fraud and bribes for professional advancement.

The impact of corruption is often greatest at the facility level, during patient encounters that typically take place away from the public gaze. In Africa, corruption has been shown to impact most adversely on poor, rural populations and has been associated with an increase in child mortality. Findings from post-Soviet nations show that experiences of corruption substantially reduce satisfaction with health care. More recently, it has been recognised that unless corruption is more effectively tackled within health systems, the goal of universal health coverage is unlikely to be realised in many countries.

Health policy and systems research (HPSR) acknowledges the critical role of governance in health systems strengthening, the achievement of universal health coverage and equitable financing. Yet this field has failed to integrate a focus on corruption effectively, resulting in a critical lack of theory development and generation of empirical evidence to support change.

This working paper contributes to the debate on corruption within health systems in low- and middle-income countries by reviewing theory development and empirical evidence on the ways in which social structures and political economy factors drive corrupt provider practice in sub-Saharan Africa. We explore conditions that enable corrupt activities among health workers – examining evidence on the morality or justifications for corruption – and how these relate to the health system, social structures and the political economy in particular contexts.

We find that relatively little research has focused on the drivers of corruption among frontline health workers in sub-Saharan Africa. Fifteen papers describe in sufficient depth the factors that have enabled or driven corruption among frontline staff in the region, discussing behaviours such as absenteeism, informal payments, illegal dual practice or moonlighting, irregularities around drugs/theft of medicines, bribes and inappropriate referral. Most explore three different areas of practice that facilitate and drive corruption, namely: i) the structure and operation of the health system, its formal rules and implicit/informal rules, values and organisational behaviour; ii) social, familial and community practices, relationships and values; and iii) national political and economic factors that shape health workers' rent-seeking or corrupt activities. The majority of papers focus on the health system and the conditions that have made corruption possible. We found the least evidence on the political economy of corruption in the health sector and a lack of data on the ways in which demographic characteristics such as gender and class shape the necessity or opportunity for some forms of corruption.

We conclude that HPSR should draw on work that seeks to make sense of the realities and complexity of rule-breaking behaviour – related to the ideas around 'everyday governance' – and incorporate a political economy perspective on developmental governance. Such an approach would draw out the ways in which formal and informal systems intertwine in the health sector, and would recognise the unequal power relations, political organisation and discourses that underpin rule-breaking and rule-abiding behaviour among different actors. These are critical as the basis for targeted, high impact, anti-corruption interventions.

1. Introduction

The health sector has long been identified as being among the most corrupt in high-, middle- and low-income countries (Lewis, 2006; Savedoff and Hussmann, 2006; Vian, 2008; Mackey et al., 2018). Competing incentives and knowledge asymmetry between multiple agents, combined with the vulnerability of those seeking care and considerable public expenditure creates opportunities for rent-seeking and the diversion of funds across different types of systems (Savedoff and Hussmann, 2006). Different forms of corruption – including informal payments, absenteeism, medicine theft, fraud and bribes for professional advancement – can be found in many health systems worldwide (OECD, 2017; Mackey et al., 2018; Naher et al., 2018; Onwujekwe et al., 2018). Often, the effects are greatest at the facility level, during patient encounters that take place away from the public gaze and where providers shape what care is available to the population (Lewis, 2006). In Africa, corruption has been shown to have the most adverse impact on poor, rural populations (Witvliet et al., 2013; Kankeu and Ventelou, 2016) and has been associated with an increase in child mortality (Hanf et al., 2011). Findings from post-Soviet nations show that experiences of corruption substantially reduce satisfaction with health care (Habibov, 2016). More recently it has been recognised that unless corruption is tackled more effectively within health systems, the goal of universal health coverage is unlikely to be realised in many countries (Greer and Méndez, 2015).

Although the need to develop effective anti-corruption strategies for health systems is increasingly accepted, it remains low on the policy agenda in many countries (Hutchinson et al., 2018a). Attempts to change practices in both high- and low-income settings have been remarkably patchy, with limited success at scale (Gaitonde et al., 2016; Molina et al., 2016) while initiatives have been short lived (Jakab and Kutzin, 2009). Findings from a Cochrane review on effective anti-corruption interventions provide a wake-up call to researchers and policy-makers alike, concluding that there is 'a paucity of evidence regarding how best to reduce corruption in health systems' (Gaitonde et al., 2016: 2).

This working paper seeks to foster debate on developing effective ways to tackle corruption in health systems in low- and middle-income countries. It discusses recent developments in corruption and anti-corruption research that have emerged from sectors beyond health, and considers the evidence base in public health and whether we have the requisite knowledge of the drivers of corruption among frontline health staff to construct more politically astute and pragmatic approaches within health systems policy and practice. Focusing on sub-Saharan Africa – a region that is experiencing both extensive health challenges and weak health systems, and that has well-documented high levels and diverse corruption (Onwujekwe et al., 2018) – we review what is known about the circumstances under which health workers break the rules and use public health resources for private gain. We then discuss the implications for research that is needed to fill the knowledge gap and inform policies seeking to strengthen health systems.

2. Background

Governance research, policy and practice can be viewed as having gone through three interconnected phases (Hout and Robison, 2008; Sundaram and Chowdhury, 2012). In the first, there was a shared understanding that technical (good governance) interventions (legal, regulatory and policy interventions) were needed to protect market-based development from patronage networks that were considered to stifle economic (and social) development (Hout and Robison, 2008; Lange, 2008). In the second phase – introduced in the *World Development Report 2004* – technocratic approaches remained, but there was a shift in emphasis to accountability mechanisms that supported citizens and civil society organisations as they sought to hold civil servants to account (World Bank, 2004). Novel ways of bypassing what were termed the 'long routes' to democratic accountability – which involved citizens influencing policy-makers and politicians through elections – were constructed, enabling greater pressure on public servants by means of choice of services (Gaventa and McGee, 2013). Concerns about governance as a problem of collective action (where an individual's self-interest occurs in conflict with the group) became more prominent (Teorell, 2007; Marquette and Peiffer, 2015a).

By the late 2000s, however, there was disquiet about the failure of many good governance mechanisms to deliver better development outcomes (Mungiu-Pippidi, 2011, Johnsøn et al., 2012). There were also concerns that the dominant (technocratic) approach to governance was unable to take account of the political drivers of poor governance and development more generally (Hout and Robison, 2008; Khan, 2013). A broader movement to render visible the political nature of social and economic change as a means to improving development outcomes (Leftwich, 2005; Hickey, 2008; Schwertheim, 2017) thus led to a third wave of governance research, focusing mainly on the political economy. This research seeks to account for the distribution of power and resources and its influence on the development of organisations and rules (Hout and Robison, 2008; Fritz et al., 2009; Sundaram and Chowdhury, 2012). Under the rubric of 'cumulative incrementalism' (Levy, 2014), 'developmental governance' (Khan, 2013) or 'problem-driven governance' (Fritz et al., 2009), a common understanding has emerged that the political economy and, in particular, the distribution of resources through formal and informal structures, limits the type and extent of governance reforms that are likely to be effective in low- and middle-income countries. Hence, it is believed that approaches to governance should:

1 be directed at a specific problem

2 focus on 'good enough governance' reforms – those priorities and improvements that will have high impact but which are also feasible to address within the current distribution of power/resources

3 seek improvements in governance and anti-corruption that are specific to time and place rather than applying existing blueprints (Fritz et al., 2009; Khan, 2013; Levy, 2014; Schwertheim, 2017).

Instead of searching for universally applicable bureaucratic or technical fixes to weak accountability or lack of transparency, these approaches seek to understand what motivates

stakeholders, the sources and distribution of rents (Khan et al., 2016), interactions among formal and informal institutions that support coalitions, and new incentive structures to enable anti-corruption interventions to become more effective (Fritz et al., 2009).

2.1. Existing governance and anti-corruption frameworks in health

Governance research started somewhat later in health than in other sectors, with the publication of the World Bank's *World Development Report 2004* being an important milestone. The emerging HPSR research has consistently highlighted the critical role of governance in improving health outcomes (Ciccone et al., 2014), health systems strengthening, expanding health care coverage (Balabanova et al., 2013; Gilson et al., 2017) and equitable financing (Fryatt et al., 2017). While (as in other sectors) effective interventions remain elusive, there have been significant theoretical and methodological developments (Mikkelsen-Lopez et al., 2011; Gilson et al., 2017; Pyone et al., 2017). Pyone and colleagues (2017) have identified 17 governance frameworks used in health systems research showing the growing interest in understanding and addressing governance across all health-system building blocks. There have also been advances in empirical work, as analysts have moved beyond the concept of governance as a normative goal, and have sought to explain how people make and apply rules across the health system (Kwamie et al., 2017; Nyikuri et al., 2017; Gilson and Agyepong, 2018).

As in other sectors, 'new institutional economics' has been an important theory underpinning work on governance (Pyone et al., 2017), providing one of the most influential frameworks in the sector. Abimbola et al. (2017) argue that there have been three main approaches to the conceptualisation of governance in health, with some focusing on the state as a key actor with powers to shape governance (as in institutional economics) and newer approaches – on formal and informal rules:

1 good governance/government-focused (see also Siddiqi et al., 2009)

2 health systems approaches (see also Mikkelsen-Lopez et al., 2011)

3 institutional approaches that are concerned with the formal and informal rules that underpin the activity of frontline staff.

Echoing the dissatisfaction expressed in the political economy critique of first- and second-wave approaches to governance, Abimbola and colleagues (2017) criticise 'good governance' approaches in health for i) failing to take into account the specificities of the sector, ii) providing a normative rather than a descriptive framework, and iii) focusing too much on the government level. Health systems approaches that conceptualise governance as affecting the operation of all health system functions and institutional analysis that focuses on rules are both useful in allowing for analysis at different scales (so the interrelationships between local, national and global forces can be taken into account). Such approaches also draw into focus formal and informal processes that are at play in low-income countries (Abimbola et al., 2017).

While Abimbola et al.'s argument emphasises the importance of understanding formal and informal rules across different scales to make sense of governance within health systems, there is also a need to continue examining the ways in which power and politics shape formal and informal rules, constraining the type of intervention that might be successful. Thus Brinkerhoff and Goldsmith's (2004) earlier work demonstrates how patronage and patrimonialism influence health system governance, while more recent work seeks to place principal agent relations in a political context (Brinkerhoff and Bossert, 2013).

Elsewhere in HPSR, interest in the interconnections between formal and informal rules and ways of working in low- and middle-income settings has emerged, particularly in relation to how they manifest at the frontline of care ('everyday governance'). Again, this approach pushes beyond the normative frameworks of good governance (the description of how things should be). It develops understandings of the realities of everyday practice in low- and middle-income countries by analysing how they are shaped by organisational and social forces, many of which also exist outside the health system (Gilson et al., 2017; Kwamie et al., 2017). However, these approaches may not fully take into account the broader distribution of power and resources within society and how they affect the microcosm that is the health system. Many potential interventions to improve governance continue to advocate forms of intervention that disrupt existing power structures by developing civil society organisations and empowering citizens, or promoting transparency, with less attention to whether this type of action is likely to succeed and whether it is possible within those power structures to achieve better outcomes (Fryatt et al., 2017).

As a sub-set of governance, the discourse and objectives of anti-corruption efforts within health were established by three influential papers (Lewis, 2006; Savedoff and Hussmann, 2006; Vian, 2008). These papers blend technocratic reforms with civil society/social-inclusion mechanisms and seek to tackle corruption through improvements in transparency and accountability. The critiques of the good governance approach (see above) can be applied, therefore, to these formulations of anti-corruption models and frameworks. In some ways, the literature on corruption in health is more advanced than the general development literature on good governance and corruption. It recognised early on the need for sector-specific strategies, that options for action will always be curtailed without leadership at national level (Vian, 2008; Abimbola et al., 2017), and that the context – that is, the dynamic and complex nature of the health systems – always has to be taken into account (Mikkelsen-Lopez et al., 2011). While researchers have advocated best-practice examples and problematic blueprints for intervention (Levy, 2014), some space has been given over to understanding how national context influences corruption, with its importance underscored through case studies and locating debates in their historical context (Vian et al., 2012). Moreover, researchers have been attentive to the need for a targeted rather than broad-brush approach to anti-corruption (Mikkelsen-Lopez et al., 2011).

Despite these advances, reliance on neoclassical economic models of behaviour (primarily principal–agent theory) in much of the literature has left two gaps that are particularly problematic for health. The first is a failure to consider the ways in which the national and local distribution of (organisational) power (i.e. politics) and the distribution of resources influences the type of corruption that emerge in different settings. We can describe this as

the informal system or way of working that sits behind the formal health system and influences practice within the health sector. The second gap relates to the assumptions that health workers and civil servants are *profit-maximising rational actors* who are always interested to take advantage of conditions to increase their income, so corruption occurs in the spaces where there is a lack of governance allowing actors to gain unfair advantage. While principal–agent theory has been criticised for ignoring context and for making assumptions about the motivation of the principals (Marquette and Peiffer, 2015b; Khan et al., 2016; Baez Camargo and Passas, 2017) it also entails assumptions around what drives action (profit maximisation), and so denies relevance to what we might consider the distinct social, economic and political drivers of corruption that prevail in low- and middle-income settings, where rule-breaking is often commonplace. This critique implies that, rather than seeking to maximise profits, health workers are often just seeking to survive where wages are often too low to cover their basic needs, health workers are too few to provide effective services, medical resources are lacking, and resources are often distributed through informal networks.

While accountability and transparency approaches to corruption remain dominant in much of the mainstream public health literature (Mackey et al., 2018), recent research from Baez Camargo and colleagues have sought to find new ways of understanding corruption (Baez Camargo and Sambaiga, 2015; Baez Camargo and Passas, 2017; Baez Camargo and Koechlin, 2018). Drawing on ideas of collective action (see Marquette and Peiffer (2015b) for a description of collective action approaches to corruption and their relationship to principal–agent theory), this body of research highlights the critical role that informal social networks (based on kinship or other forms of social solidarity) play to solve problems in the contexts of severe resource constraints (Baez Camargo and Passas, 2017). At the level of frontline services, in their descriptions corruption emerges less as the act of a profit-maximising individual and more as a collective strategy though which groups exchange favours and distribute resources within both tight- and looser-knit groups. While the authors stop short of describing how such distribution is informed by particular forms of personhood and morality that have long been in evidence in Southern and Eastern Africa (Englund, 1996; Ferguson, 2013), they describe how these networks of exchange can have powerful moral imperatives. Baez Camargo and Sambaiga (2015) examine the multiple relationships: the social contract (the way that state–citizen relations are perceived by citizens), the ways in which the political economy shapes understanding of social solidarity (and the exclusion of citizens from many benefits that those in power have) and the distribution of resources through social networks all shaping the likelihood of illicit. While this approach provides a good basis to begin thinking about particular forms of good enough or developmental governance that tackles specific health systems problems, this remains unexplored in the literature. Recent work has either focused on national-level politics or grassroots networks but has not combined the two. It has also shifted from a focus on the ways in which economic and political organisations and alliances shape corruption to the use of behavioural economics and psychological insights (Stahl et al., 2017).

In this paper, we seek to add to the existing literature by developing a more nuanced account of corruption that takes into account the ways in which formal and informal political and economic structures shape corruption within health systems. We began by conducting a

systematic review of the facilitators, enablers and drivers of corruption among frontline health workers in sub-Saharan Africa. Our geographic focus reflects the need to consider the historical and political differences that drive different types of corruption and the potential for anti-corruption interventions. Although sub-Saharan Africa is a remarkably diverse region, there are similarities that makes such a geographic focus useful. No countries in this region have a developed welfare state, all (except Liberia and Ethiopia) have powerful colonial legacies, and many have institutions and organisations (including legal systems, health systems and processes of government) that continue to reflect this colonial history. Many of the countries have also had to restructure their economies under structural adjustment programmes, and most have experienced an influx of programmes and investments (that often distort as well as support health systems) from major global health actors including bilateral donors, international organisations, philanthro-capitalists and non-governmental organisations. Health services coverage remains patchy in all countries despite receipt of extensive investment and health system strengthening initiatives by national governments and donors. And in many countries the population suffers from high rates of poverty, tuberculosis, HIV and malaria and now faces a growing burden of non-communicable disease. While there are, of course, marked differences in the rates and prevalent forms of corruption across countries (Baez Camargo and Koechlin, 2018), high levels of corruption in sub-Saharan Africa are well documented (Kankeu and Ventelou, 2016; Onwujekwe et al., 2018).

3. Methods and definitions

3.1. Objective

To identify how and why health workers break the rules and use public resources for private gain within health systems in sub-Saharan Africa.

3.2. Definitions

Health systems – The combination of resources, financing, management and delivery systems through which health services are provided to the population

Corruption – Misuse of entrusted power for private gain (Transparency International, 2018)

Informal payments – Payments made by patients or their relatives for services that are intended to be provided formally free of charge or at a lower price

Political settlement – A society's institutional structure and the policies that flow from it, ('a social order') where the distribution of power is in line with the distribution of benefits within that society

Rent-seeking – Earnings in excess of all relevant costs or the effort to acquire opportunities for earning rents

Sub-Saharan Africa – as defined by the United Nations Development Programme (UNDP) – 46 of Africa's 54 countries (excluding Algeria, Djibouti, Egypt, Libya, Morocco, Somalia, Sudan and Tunisia)

3.3. Eligibility criteria

The following inclusion and exclusion criteria were defined for our literature searches:

Inclusion criteria:

- *Population:* health workers and managers of frontline staff working in public sector clinics, hospitals and primary care centres
- *Timing:* studies published between 2000 and 2018
- *Setting:* low- and middle-income countries in sub-Saharan Africa
- *Sources:* published and grey literature reporting empirical findings
- *Study design:* no restrictions
- *Language*: English only

Exclusion criteria

- Papers not containing data from frontline health staff and/or their managers
- Studies not reporting empirical evidence: editorials, commentaries, viewpoints etc.
- Papers outside sub-Saharan Africa.

3.4. Search strategy

Our initial search included all countries in low- and middle-income countries. We searched electronic bibliographic databases (EMBASE, MEDLINE, Social Policy and Practice, Cumulative Index to Nursing and Allied Health Literature, EconLit,) from the year 2000 or database inception to 2018 to identify published articles or primary studies using combinations of keyword and/or subject heading and database search options of the terms listed below. To identify unpublished articles, systematic reviews and grey literature, we searched the following sources: Google, government websites, non-governmental organisation websites, the World Bank, UNDP, the World Health Organization (WHO), Transparency International, the International Monetary Fund (IMF), the UK Department for International Development (DFID), conference proceedings, PROSPERO and the Cochrane Library. We limited the search to published and grey literature available in the English language. Selection of articles and grey literature was based on the eligibility criteria set out above. A protocol was submitted to the PROSPERO international prospective register of systematic reviews.[1]

The initial search identified a large number of papers (over 30,000 reduced to 10,000 papers by removing duplicates and by using search terms that screened out high-income countries). However, even after further screening, most had to be excluded to comply with our inclusion criteria. The majority of papers, even those matching the eligibility criteria and including empirical evidence on drivers of health-worker behaviour and corruption specifically, described these in passing or in insufficient depth. In order to enable meaningful analysis, we conducted internal searches[2] to identify studies that offer relevant information with a sufficient breadth and depth on the factors that influence corrupt practice among providers.

We identified eight papers using these internal search terms. A further three papers were identified, cited in the initial eight papers. Finally, a further four papers were identified by searching health literature from the Anti-Corruption Evidence (ACE) Research Consortium, which has focused on innovative anti-corruption research and intervention, with a focus on informal structures and political settlements, taking the total to 15 papers. The papers identified at each stage are described in Appendix 1.

[1] http://www.crd.york.ac.uk/PROSPERO/

[2] Using a range of search terms drawn from systematic reviews on corruption in health under the School for Oriental and African Studies-led Anti-Corruption Evidence (ACE) Research Consortium Naher et al. (2018) and Onwujekwe et al. (2018).

All publications were screened by two researchers and relevant information was extracted to allow analysis according to three analytical domains, as follows.

3.5. Analytical approach

Drawing on the political economy approaches to corruption and the need for a nuanced understanding of the drivers of corruption among health workers, our analysis sought to disentangle the ways in which formal and informal structures created spaces where:

1 corruption is possible

2 difficult living conditions, and social and political pressures create necessity for corruption

3 corrupt activities could be considered just and morally acceptable (see Box 1 for further explanations of these analytical domains).

Our interest therefore lies in understanding the factors that make corruption appear a necessity and the Kantian 'necessary conditions' (gaps, spaces and structures) that enable the existence of particular forms of corruption in the health system (Kant, 1998). In addition, we are concerned with local discourses, interpretations and justifications of rule-breaking practice. Under conditions of necessity, we coded factors that push health workers into corruption due to economic, social and sometimes physical survival of the health worker, their family, the survival of the clinic or health system and the delivery of care. Under enabling conditions for corruption, we have analysed the interconnected formal and informal structures and frameworks within which resources are distributed. Finally, under local discourse, interpretations and justifications of rule-breaking practice, we have explored the ways in which these actions are explained, defended or condemned by health workers and patients.

Box 1 Analytical domains

Conditions of necessity – elements that mean that it is impossible for health workers to avoid being involved in corrupt action as these are critical to their survival.

Conditions of possibility (enabling conditions) – the interconnected structures that enable, facilitate or create the space for corruption or rule-breaking action.

Local explanations and justifications – the rationale that health workers and patients give for corrupt activities and rule-breaking.

4. Findings

4.1. Description of papers

Overall, we identified 15 papers that describe in sufficient depth those factors that have enabled or driven corruption among frontline health workers in sub-Saharan Africa. Of these, Tanzania appears most often as the setting of the study. The papers discuss the following types of corruption: absenteeism, informal payments, illegal dual practice or moonlighting, irregularities around drugs/theft of medicines, bribes and inappropriate referral. Appendix 2 provides a breakdown of papers on particular forms of corruption: most studies used only qualitative methods, some used mixed methods and only one (Lindkvist, 2013) relied on quantitative methods alone.

The majority of papers explore three different areas of practice that drive or facilitate corruption, namely:

1 structure and operation of the health system and its formal rules, as well as implicit/informal rules, values and organisational behaviour;

2 social, familial and community practices, relationships and values; and

3 national political and economic factors that shape health workers' rent-seeking or corrupt behaviour (see Appendix 2, Table A1).

Most papers focus on the health system, with many classified under the enabling conditions or forces that make corruption a possibility. This is unsurprising, given the dominance of principal–agent theory in anti-corruption work in the health sector. We found the least evidence on the political economy of corruption in the health sector but were also surprised at the lack of data on the ways in which sociodemographic characteristics, such as gender and class, shape the necessity for some forms of corruption (absenteeism, for example) and the ways in which opportunities for corruption are structured by these social forces.

Findings are synthesised and interpreted under the three analytical domains of corruption: conditions of necessity, conditions of possibility (enabling conditions), and local explanations and justifications. Within each domain, we discuss drivers of health workers' corrupt practices related to the health system; social, familial and community relationships and values; and political economy factors.

4.2. Conditions of necessity for corruption

Eleven of the papers explore structures and practices that are considered to make corruption necessary for survival for those working within the health system. This includes social financial, political and physical pressures that make it impossible to survive without breaking rules and rent-seeking. The major emerging themes relate to inadequate pay in the public sector (Ferrinho et al., 2004; Stringhini et al., 2009; Akwataghibe et al., 2013; Pieterse and Lodge, 2015; Tweheyo et al., 2017; Anders and Makene, 2018); very poor working

conditions (Lindelow and Serneels, 2006); obligations to care for family members (Stringhini et al., 2009; Akwataghibe et al., 2013; Tweheyo et al., 2017; Baez Camargo and Koechlin, 2018) and the central role that informal social networks play in distributing resources (Baez Camargo and Koechlin, 2018); the mismatch between entitlements and available resources (Baez Camargo and Koechlin, 2018; Sambaiga et al., 2018); and the creation of private-sector markets under neoliberal health policies (Paina et al., 2014).

4.2.1. Conditions of necessity related to the health system

Although neither provides exact details of health worker pay, both Stringhini et al. (2009) and Anders and Makene (2018) argue that informal payments operate as the means through which health workers are able to live on otherwise inadequate pay and lack of economic incentives. Informal payments and dual practice are described as compensating for poor salaries, consistent delays in payment of wages and travel reimbursements. In Mozambique and Cape Verde, Ferrinho and colleagues (2004) describe how the sale of stolen medicines take on the same role by enabling health workers to survive on their very low salaries.

Alongside more general descriptions of the difficulties of living on low public-sector salaries, Akwataghibe et al.'s (2013) paper provides important details on Nigerian health workers. Only 13% of 165 health workers surveyed considered their salaries satisfactory and 38% of respondents had monthly expenditures in excess of their wage. In Uganda, Tweheyo and colleagues (2017) describe how health workers' inadequate salaries and frequent lack of payment drive absenteeism as health workers have to supplement their income elsewhere. Finally, in Sierra Leone, Pieterse and Lodge (2015) consider how reliance on unpaid volunteers in a setting with high levels of poverty drives informal payments. In the health centres studied, unpaid volunteers often delivered frontline services in return for payments from patients rather than a salary, a practice that is viewed as commonplace.

Writing about Ethiopia, Lindelow and Serneels (2006) broaden the debate away from purely financial or material concerns. They describe how excessive workload, inadequate facilities and lack of materials create very poor working conditions for health workers (doctors, nurses, and health assistants) in rural areas. Within the constraints of the formal system, their only recourse to action is to bribe officials who can transfer them to an urban area or to absent themselves from work. As we see below, the opportunities to transfer depend on the position of the health worker in a social network (knowing which officials to approach) and wealth (whether they can afford to pay the official).

4.2.2. Conditions of necessity related to social and socioeconomic forces

As we described above, Akwataghibe et al. (2013) report how health workers in Nigeria were often dissatisfied with their salaries. All the health workers interviewed stated that their salaries were important for their extended families, with analysis of monthly expenditure highlighting the importance of food for their household, school fees for children and costs of dependents. Caring for extended family members was often expected rather than a matter

of choice, with two interviewees reporting how their high social status as health workers obliged them to look after family members.

'Whether you like it or not, society always expects a great deal from you, and the fact that society now worships wealth means that you are constantly under that pressure. And if you are not getting what you think is a fair deal from your employers, the onus is now on you; otherwise, other people will think badly of you' (doctor, Nasarawa) (Akwataghibe et al., 2013).

In Stringhini et al.'s work on Tanzania, these wider responsibilities were alluded to by one health worker: *'salary itself can never sustain even food for the whole month, not to talk about school fees for our schoolchildren'* (Health Worker, Dispensary of Mwendapole) (Stringhini et al., 2009). Similarly, in Uganda, Tweheyo et al. (2017) describe the clash between expectations that doctors (given their social status) should be able to access high quality education for their children and the financial demands of the recently privatised education system that cannot be met by low paid doctors who work in the public system. This puts considerable pressure on doctors to take on extra work to afford the high fees in elite schools. Interestingly, the authors provide the only data that we found on gendered differences in absenteeism among health workers, with women facing greater demands to take care of sick relatives. Importantly, unlike their male counterparts, this work is unpaid and so provides little benefit for female health workers. Tweheyo et al. also describe how social norms demand that many people attend funerals, which takes health workers away from their posts, sometimes without authorised leave.

In their comparison of Tanzania, Uganda and Rwanda, Baez Camargo and Koechlin (2018) and Stahl and Kassa (2018) describe the central role that obligations to kin and non-kin groups play in shaping corrupt practices in the health sector, creating the means through which scarce resources are redistributed. Echoing a doctor in Akwatahibe and colleague's (2013) study in Nigeria, both papers argue that, in Tanzania and Uganda, social networks are based on and reinforce strong socioeconomic obligations between kin groups. Among non-kin (colleagues, friends and acquaintances), these networks tend to involve more personalised transactions of gifts and counter gifts that provide mutual assistance and reciprocity. Kin underpins moral obligations to share material resources and non-kin relationships can have these moral obligations embedded in them or can be more pragmatic or instrumental. Stahl and Kassa (2018) and Baez Camargo and Koechlin (2018) underscore the power of these social relationships in Rwanda, Uganda and Tanzania. Individuals are obliged to participate in these social networks; those who refuse membership or act against the illicit distribution of resources within these networks are sanctioned by those around them (ibid.). Rejecting a gift or refusing to provide preferential treatment (especially to family) can destroy an individual's social standing (Stahl and Kassa, 2018).

Favours granted through kin- or non-kin-based social networks have a particular logic and leave the client indebted to the sponsor/patron. In turn, such indebtedness skews practice in the health system towards maintaining networks rather than improving the function of the system and delivering high-quality care. Subsequently, staff promotions are often dependent on social relations rather than on performance; patients whom a health worker might wish

to call upon for a favour in the future may be treated first; or patients will provide unsolicited gifts in an attempt to create indebtedness on the part of the provider.

4.2.3. Conditions of necessity related to the political economy

When considering conditions of necessity in relation to the political economy in the health sector, we are concerned with the ways in which the distribution of power, benefits or resources have shaped the types of corruption that have emerged and the health workers involved. We found very few studies on the ways in which powerful groups distribute benefits or rents within the health system, nor ways in which patronage underpins the distribution of health resources and the delivery of care among frontline health workers.

Analyses of the Tanzanian and Ugandan health systems place corrupt behaviours in the context of a fundamental mismatch between citizens' official entitlements (i.e. free primary care at the point of delivery) and the realities of the resource-limited settings (that is, the impossibility of care being made available to all citizens) (Baez Camargo and Koechlin, 2018). In comparison to Rwanda, where much progress has been made towards universal health coverage and a reduction in corrupt practices among frontline providers, in Tanzania and Uganda personal relationships remain a critical way by which people can gain access to money, positions of power and public services. These relationships pervade the public sector to the extent that most patients interviewed knew that they had to participate in some form of informal transaction in order to obtain a service (Baez Camargo and Sambaiga, 2015; Baez Camargo and Koechlin, 2018).

Paina et al. (2014) take a historical approach to explore the different economic and political path dependencies that have shaped dual practice in the Ugandan health system. The constraints created by neoliberal health policies of the 1980s and 1990s (in particular structural adjustment programmes) saw the drawing back of the state, the fostering of poor pay in the public sector and the growth of the private sector. This created the economic conditions of necessity (through poor pay) and the structural enabling conditions (the creation of a private health sector) through which dual practice could emerge as a logical strategy for doctors seeking additional income.

4.3. Conditions of possibility for corruption in the health sector

All 15 papers examine the opportunities and enabling conditions for corruption that are created through the structure and organisation of the health system and its institutions. Such conditions include: resource scarcity (Ferrinho et al., 2004; Mæstad and Mwisongo, 2011; Akwataghibe et al., 2013; Pieterse and Lodge, 2015); the presence of private players and facilities in the health sector (Lindelow and Serneels, 2006; Akwataghibe et al., 2013; Paina et al., 2014; Topp et al., 2014; Tweheyo et al., 2017; Anders and Makene, 2018); skewed economic incentives (Serneels et al., 2016) a lack of disciplinary procedures and the absence of accountability mechanisms (Lindelow and Serneels, 2006, Ferrinho et al., 2004, Akwataghibe et al., 2013, Pieterse and Lodge, 2015, Stringhini et al., 2009, Paina et al., 2014,

Tweheyo et al., 2017, Topp et al., 2014); power imbalances, culture/language and social networks (Lindelow and Serneels, 2006; Lindkvist, 2013; , Topp et al., 2014; Pieterse and Lodge, 2015; Serneels et al., 2016; Tweheyo et al., 2017).

4.3.1. Conditions of possibility related to the health system

Resource scarcity and markets for corrupt practice

While scarcity of resources have been shown to be a driver of corrupt practices among health workers, it is also described in some studies as having created the spaces within which corrupt practices can become lucrative for some individuals. Ferrinho et al. (2004), Mæstad and Mwisongo (2011), Akwataghibe et al. (2013), Pieterse and Lodge (2015) and Anders and Makene (2018) all discuss the ways in which the potential to extract rents (in the form of informal payments) or to make money selling stolen medicine is created by the generalised scarcity of human resources and consumables in the health systems in Tanzania, Sierra Leone, Mozambique, Cape Verde and Nigeria.

In Tanzania, the lack of health workers creates long waiting times, which encourages patients who have access to money to make informal payments for faster services (Mæstad and Mwisongo, 2011). This practice is considered to be so pervasive that combating informal payments will have to be part of a package of wider changes if rent-seeking is to be reduced (ibid.). Similar behaviours are reported in Mozambique and Cape Verde, where long queues to see health workers creates a space in which patients with resources are willing to make informal payments in order to jump the queue (Ferrinho et al., 2004).

Ferrinho et al. (2004), Akwataghibe et al. (2013) and Anders and Makene (2018) make the point that corruption stems from poor access to medicines. In Mozambique and Cape Verde, this is a result of the short or irregular opening hours of health centres, which results in patients accessing medicines through alternative means. According to Ferrinho and colleagues (2004), some health workers will supply patients with medicines stolen from the public sector, thus creating a new market and exacerbating shortages within the public sector. In Nigeria, survey findings suggest that the lack of availability of drugs in health centres creates opportunities for health workers to sell drugs within public health facilities (Akwataghibe et al., 2013). Similarly, Anders and Makene (2018) describe how shortages of medicines within public hospitals and clinics in Tanzania create private markets for medicines. As these are largely unregulated, they can become a space in which medicines stolen from the public sector can be sold, which thus reduces the already limited stocks available in the system.

While many studies focus on one form of corruption only, Lindelow and Serneels (2006) discuss multiple corrupt practices (including bribery, informal payments and absenteeism). They link informal payments to health workers' sub-standard practice, arguing that some health workers purposefully provide a poor quality of care so that those who are able to pay privately for a better quality of care will be prompted to do so. They argue that if all health workers were providing a high standard of care, then the market for informal payments would not exist.

Dual practice

While research on corruption often points to an excessive dependence on the public sector as one of the conditions that enables rent-seeking among health workers in low- and middle-income countries (Vian, 2008), the evidence suggests that the existence of private health facilities and services drives corruption among frontline staff. Lindelow and Serneels (2006), Akwataghibe et al. (2013), Paina et al. (2014), Topp et al. (2014) and Tweheyo et al. (2017) all argue that the private sector creates new spaces for employment, and can have a negative effect in the public sector as a result of increased absenteeism.

In Uganda, Paina et al. (2014) show that those engaged in dual practice will often use time when they are meant to be working in a public clinic or hospital to earn extra income. While dual practice can lead to absenteeism and pilfering in the public sector, the government has repeatedly failed to regulate it. Civil war, draconian economic policies (structural adjustment programmes), donor-led programmes and clinical research initiatives have created both the need and the opportunity for such private practice.

In Nigeria, Zambia and Uganda opportunities for moonlighting or double-shifting are only available to some health workers (Akwataghibe et al., 2013; Topp et al., 2014; Tweheyo et al., 2017). In Zambia, health workers in urban areas can easily arrive late and leave their stations early, allowing them to practice in private clinics on the same day. Although Topp et al. (2014) also describe absenteeism in rural areas, the scope for earning additional income from private practice is much more limited here. Similarly, in Uganda, where both informal and formal private-sector providers are widespread, the potential to launch a drug shop or private clinic or undertake work in a private facility is severely curtailed by rural postings (Tweheyo et al., 2017). In urban areas, informal rules and regulations facilitate dual practice among doctors, which is largely supported by managers (Paina et al., 2014). Tweheyo and colleagues (2017) concur, describing dual practice as a form of negotiated absence and a form of rule-breaking that comes about through the recognition of deficiencies of the system and trying to accommodate the needs of health workers.

In Nigeria, a combination of low staffing levels, poor quality of care in the public sector and weak regulatory regimes creates opportunities for private practice and moonlighting, but in varying ways across the different provinces (Akwataghibe et al., 2013). In Nasarawa province, a scarcity of health workers has led the local government to encourage staff to work privately, which is viewed – for reasons that are unclear – as a means to deliver more care overall rather than the likely reality of fuelling absenteeism in public facilities. Meanwhile, in Ondo province, it has been reported that there was a private market for doctors' services, but a combination of good quality free health care provided by local and state government has restricted the establishment of a private market by nurses or other allied health professionals (Akwataghibe et al., 2013).

Skewed economic incentives

Serneels et al. (2016), writing about health-worker incomes, describe how the payment of per diems – lump sum payments provided to those attending workshops and training –

creates a new space for rent-seeking which drives absenteeism. Officially, per diem payments are provided as a form of compensation for travel, food costs and accommodation associated with trainings and meetings off site. However, in the context of low salaries, they are often understood to be a form of wage rather than compensation, or a source of supplementary income that depends on attendance at particular events regardless of whether the topic is important for that member of staff.

Lack of disciplinary procedures and accountability mechanisms

Eight papers note the absence of disciplinary procedures and accountability mechanisms as enabling corruption in sub-Saharan African health systems.

Formal accountability arrangements in both the public and private sectors are weak in Ethiopia, and the health system is largely unregulated, which leaves it open to abuse. Lindelow and Serneels (2006) report a lack of incentives for officials to hold health service providers and workers to account and no effective system of reporting corruption. Ferrinho et al. (2004) list a range of problems in Mozambique and Cape Verde that create spaces in which health workers can pilfer medicines without being punished. This includes lack of effective control systems and inspections; the absence of systems to collect and retain income resulting from drug sales; poor organisation within pharmacies; insufficient knowledge amongst managers; and lack of penalties and punishment. However, evidence from Nigeria shows how even well-constructed rules and regulations are no guarantee of an effective system: Akwataghibe et al. (2013) report how rules controlling illegal actions (such as the pilfering and sale of medicines) are so rarely enforced that neither policy-makers nor health workers are clear as to the actual parameters of any rules.

Pieterse and Lodge (2015) explore the ways in which a lack of disciplinary procedures shape corruption among providers in Sierra Leone. However, evidence from Tanzania suggests there is not always a straightforward relationship between disciplinary procedures and an absence of corrupt practice (Stringhini et al., 2009). Indeed, informal payments are reported to be commonplace in Tanzania, despite the fact that there is considerable concern among health workers that they will be caught by the authorities. This fear of disciplinary action generates stress and poor morale among staff, and yet corrupt behaviours continue (Stringhini et al., 2009).

Paina et al.'s (2014) description of dual practice in Uganda provides historical evidence that it is the combination of poor salaries and ineffective enforcement of the rule of law that encourages corrupt behaviours. Colonial laws curtailing private practice became stricter after Ugandan independence. The rule of law collapsed and the imposition of military rule and civil war meant that it became impossible for health workers to live on their salaries. At the end of the war, managers did not have the tools to monitor staff absences but also did not have a strong imperative to do so as they knew that doctors needed to work elsewhere to survive economically. Tweheyo et al. (2017) concur that the imposition of accountability measures is impractical in Uganda: managers and district officials feel unable to discipline staff for absenteeism given the shortages of staff and poor payment systems.

Finally, Topp et al. (2014) provide insights into inadequate monitoring and regulation of absenteeism in Zambia. Here, poor quality data has meant that district-level managers do not know staffing levels or absenteeism rates at their facilities, which precludes effective mechanisms to account for the whereabouts of health workers.

4.3.2. Conditions of possibility related to social and socioeconomic forces

Five studies provide information on the enabling conditions for corruption in the health sector that relate to social and socioeconomic factors. In Sierra Leone, the differences in status and power between health workers and patients means that patients would never challenge their behaviour (Pieterse and Lodge, 2015). Similarly, in Ethiopia, there is a tradition of keeping quiet so people do not report corruption, which results in the Ministry of Health failing to assess the scale of the problem (Lindelow and Serneels, 2006). Meanwhile, in Tanzania, Lindkvist (2013) highlights the importance of language and tradition in concepts of corruption, noting that the Swahili culture makes no distinction between gifts and informal payments to buy a service.

Serneels and colleagues (2016) draw together data from multiple low-income countries to show how central social networks are in the allocation of places at trainings/workshops. Per diem payments for workshops constitute an important source of income for health workers and attendance is controlled by senior health workers. In deciding who attends, decisions are made on the basis of personalised relationships, following the logic of patronage rather than one which identifies who is best placed institutionally to benefit from new knowledge. While Serneels and colleagues (2016) describes a more generalised form of corruption, Lindelow and Serneel's (2006) work on Ethiopia usefully shows how an individual's position within informal social networks structures absenteeism. They report that those with powerful social networks are able to refuse to take up rural postings and those who are wealthy bribe others to swap postings with them. The authors also report that opportunities for corrupt practice also dominate training, promotion and the allocation of beds based on social and kin networks rather than patient need. Importantly, Tweheyo et al. (2017) argue that research into the impact of class and gender on absenteeism or corruption more broadly is lacking, however.

4.3.3. Conditions of possibility related to the political economy

In Sierra Leone, Pieterse and Lodge (2015) argue that the lack of social contract between health workers and patients means that individual workers can demand informal payments without being challenged. The authors do not examine the idea of a social contract in detail, but they suggest that insecurity in post-conflict situations means that patients remain unconvinced that the state – acting through health workers – respect citizens' entitlement to care.

Topp and colleagues (2014) provide a useful example of the differences between various cadres of health workers, comparing the opportunities for absenteeism that exist among urban and rural staff. They describe a conflict between three social structures: first is the hierarchy created through health systems management, which makes nurses responsible for

management; second, in a bio-medical hierarchy doctors are more senior than nurses, which undermines the potential that nurse managers have to manage a health facility; and finally, there are political structures at play, and again doctors are seen to be more powerful within these. When nurses are appointed as managers they lack seniority within the medical hierarchy and have poorer connections to local politicians than their clinician colleagues. This means that nurses ultimately lack the power and authority to discipline particular individuals when they are absent from public health facilities.

4.4. Local explanations and justifications for corrupt practice

4.4.1. Discourses related to the health system

Five papers discuss the ways in which health workers and patients understand morality or justify corruption (Ferrinho et al., 2004; Lindelow and Serneels, 2006; Stringhini et al., 2009; Mæstad and Mwisongo, 2011; Paina et al., 2014). We found no studies that relate the morality of corruption to the political economy. Instead, most studies justify corruption by the poor rates of pay which are often considered unfair and fail to reflect the hard or highly skilled nature of the work in question. In Uganda, for example, health workers reported that seeking additional payments beyond their formal employment is justified as they are being 'cheated' by the government through low pay (Tweheyo et al., 2017). Mæstad and Mwisongo (2011) report how informal payments are influenced by the extent to which health workers' efforts are fairly rewarded by the payment structure. In addition to the struggles of living on low wages, Stringhini et al. (2009) also identify a gap between the perceived value of certain work (in terms of how demanding it is rather than status) and the pay provided, citing midwives as an example of high-demand and yet lowly paid positions.

Under such conditions where pay is not considered to compensate sufficiently for the work done, informal rules emerge that enable health workers to claim supplementary income. Mæstad and Mwisongo (2011) suggest that health workers feel they have a legitimate claim to receive some informal income and that, when this is not shared fairly among staff, frustration and jealousy reduce motivation amongst workers. In Ethiopia, low pay – coupled with the fact that corruption is endemic in other sectors and therefore considered the 'norm' in health too – means that health workers feel morally justified in taking small bribes in areas such as hospital admissions: '*there is some humanity and assisting this [request for money] is okay….'* (Lindelow and Serneels, 2006). In contrast, Ferrinho et al. (2004) describe how workers in Mozambican and Cape Verdean health systems find themselves caught between wanting to do a decent job and the brutal facts of life that make them forgo such an aspiration.

4.4.2. Discourses related to cultural and socioeconomic and political economy factors

We found three studies that consider the ways in which discourse on corruption is shaped by social and socioeconomic relationships, but nothing on the political economy. In Mozambique and Cape Verde, the theft of medicines was justified if health workers were

stealing to give them to their neighbours and not for personal gain (Ferrinho et al., 2004). The authors argue that for successful and equitable policies to be enacted, it is necessary to separate those who are dishonest as a personal coping mechanism from those who are involved in organised crime and institutional misconduct.

5. Discussion and conclusion

This working paper assesses available evidence on the drivers of corrupt practices in the health systems of sub-Saharan Africa to support new targeted approaches to anti-corruption in the health sector. We have explored the evidence on the conditions of necessity and possibility for corrupt activities (the enabling factors) among frontline health workers and have sought to understand the morality and justifications for certain practices.

The paper shows that most data on drivers of corruption concern the health system context but there is a paucity of evidence on the socioeconomic and political dimensions of these drivers, and in particular on the importance of power differentials. There are suggestions that frontline staff in health systems are less affected by political patronage and alliances between elite and non-elite groups (Kelsall, 2018), which often relate to high-stake national processes. However, there are indications in the literature that this is not the case and that meso (organisational) and micro (individual) levels of care are equally affected. More research is needed to address this gap in the literature and to reveal the ways in which political networks support and enable corruption if more nuanced, targeted approaches to anti-corruption are to be enacted within health systems successfully.

While we see an emerging interest in the way in which informal rules shape health systems, the available literature is currently divided according to those that focus on formal health system rules and constraints and those that are more interested in informal systems (social networks, systems of patronage and the distribution of rights and resources within them). In one set of papers, we find descriptions of health workers taking advantage of gaps in accountability or being pushed into taking advantage of these gaps due to scarce resources. While useful in demonstrating a space for corruption, these papers provide relatively little description of the informal structures that enable some actors to access scant resources and deny access to others. Another set of papers give considerable attention to social networks. Stahl and Kassa (2018: 7), for example, argue ‘a crucial observation is that the provision of health services is regulated not by formal entitlements but on the basis of informal social network relationships and social relational dynamics’. While they attend to the ways in which accessible services and the squeezing of discretionary space for health workers impacts on petty corruption, they provide little description of how the type of health system – the balance of public or private providers, forms of funding, the impact of health insurance, decentralisation and re-centralisation, vertical programmes and the involvement of global health actors – might influence particular forms of corruption. As health systems research on corruption goes forward, there is need for these research agendas to be combined so that policy-makers can see how formal and informal systems intertwine and shape one another in different contexts. Such an approach will allow analysts to understand how opportunities for corruption are created for some actors and will offer crucial insights into the spaces in which rule enforcement is likely to be more effective.

Importantly, ddespite apparent moves from ‘good governance’ blueprints towards approaches informed by development governance that advocate for sector-specific, targeted interventions aimed at the most detrimental forms of corruption, we find no

evidence of the application of these new approaches within HPSR. Overall, the review has identified few studies that provide detail of the distinct political, social and economic contexts in which corruption occurs among frontline health workers in different settings in sub-Saharan Africa. Furthermore, none of the studies consider the impact of gender, age, sexuality or ethnicity on patterns of corruption either in relation to the patient or provider. These are key issues to examine in the future in constructing feasible anti-corruption strategies.

A health systems approach to corruption could usefully address the nature and power of formal and informal rules and the formal and informal distribution of resources simultaneously. Such an approach would draw together ideas of developmental governance from the broader field of international development and everyday governance (Gilson et al., 2017). This would account for the dynamic, complex practices of decision-making in relation to formal and informal rules among frontline staff and provide intellectual space in which the cultural, historical and socio-political drivers of corruption could be analysed.

Adopting approaches that focus on informal systems and rules to address complex yet weak health systems due to recent or ongoing conflict, underfunding, and lack of human resources must be undertaken with considerable care, however. Systems of patronage create inequalities but also solve problems – the Ebola response is a case in point, where patronage and informal systems structured the distribution of resources and played a critical role in determining who had access to care (Wilkinson and Leach, 2015). While often highly regressive (Kankeu and Ventelou, 2016), such systems may offer the only means of ensuring that health services function at all in crisis or rapid transformation contexts (Balabanova and McKee, 2002; Gaal and McKee, 2004).

Reform efforts should also be undertaken in the knowledge that anti-corruption discourse can be used to attack and humiliate health workers as part of a wider political process to detract attention from corruption among elite actors, a group not likely to be targeted by political economy approaches.[3] A further consideration is that advocating pockets of good practice (a key part of new approaches to anti-corruption) rather than having a system-wide approach is likely to be resisted by many HPSR researchers and health systems activists and practitioners, who are rightly suspicious of the impact of targeted programmes on the development of resilient, responsive and equitable health systems (Mills, 2005).

The health sector is consistently identified as the most corrupt in many countries (Transparency International, 2013). This matters. Corruption undermines trust in the system, as well as the policies to promote effective, equitable and responsive health care (Berger, 2014); it leads to preventable deaths (Hanf et al., 2011); and likely represents a major barrier to achieving the Sustainable Development Goals (Mackey et al., 2018). For too long, corruption has been avoided in health systems and policy discourses (Hutchinson et al., 2018b). By applying a health-systems lens, we have begun to examine the reasons why

[3] See, for example, the case in Wakiso District in Uganda, when President Museveni fired health workers who had been reported as absent from their health facility by members of the local community, and the resulting investigation into misconduct (Kiggundu, 2016).

corrupt behaviours emerge and persist in certain settings, including the structural aspects of the health system that provide opportunities for health workers to engage in informal practices and impel them to do so. We have considered drivers of corruption that are both generalisable and context-specific, which could inform further research to develop pragmatic measures to combat it.

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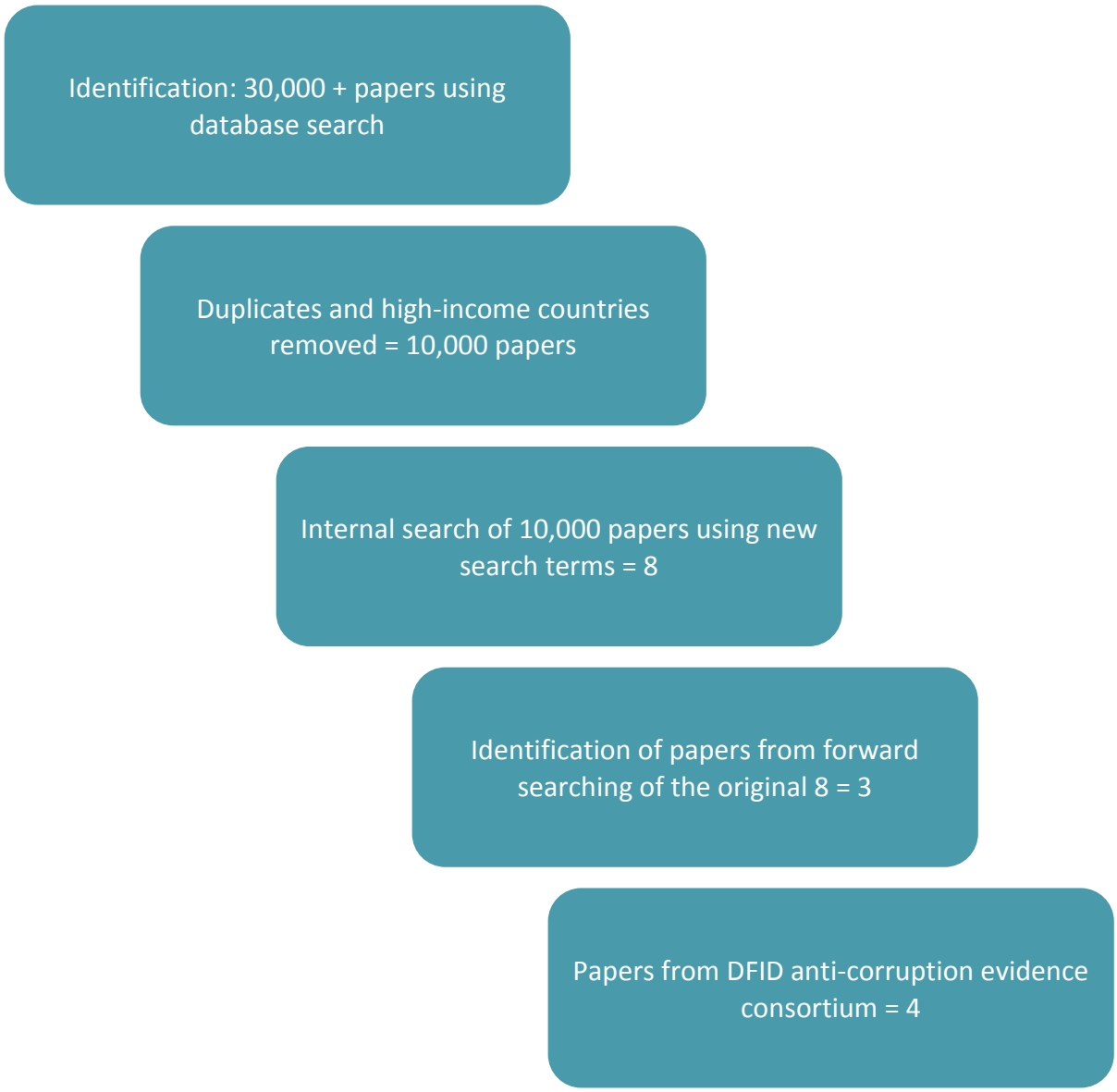
Appendix 1

Literature search



Appendix 2

Table A1 Types of corruption addressed in the literature

Type of corruption	Author(s)
Absenteeism	Lindelow and Serneels (2006) Paina et al. (2014) show that dual practice can lead to absenteeism Stringhini et al. (2009) mostly focus on informal payments but also touch on absenteeism Serneels et al. (2016) Topp et al. (2014) Tweheyo et al. (2017)
Informal payments (including unofficial charges)	Akwataghibe et al. (2013)[4] consider both gift-giving and fees from patients as part of dual practice, a behaviour that is also mentioned by health workers as part of illegal practices in facilities but this is not explored in detail Pieterse and Lodge (2015) Mæstad and Mwisongo (2011) Ferrinho et al. (2004) Lindkvist (2013) Lindelow and Serneels (2006) report the downgrading of services when patients do not make extra payments Stringhini et al. (2009)
Dual practice	Lindelow and Serneels (2006) report informal dual practice by nurses from their houses Paina et al. (2014) discuss dual working and the possible implications for absenteeism and diverting time from the public sector Akwataghibe et al. (2013) refer to this as moonlighting and include times when the health worker should be at their official place of work and times when they should not. Private practice outside working hours is legal for doctors in both states that they report on Stringhini et al. (2009) mention dual practice but do not explore it in detail
Rule-breaking related to drugs/theft	Lindelow and Serneels (2006) Paina et al. (2014) explore how dual practice can lead to pilfering of medicines Ferrinho et al. (2004) discuss pilfering of drugs Akwataghibe et al. (2013) describe predatory coping mechanisms such as pilfering medicines and selling drugs in health facilities (they also explore selling drugs outside health facilities but this is not necessarily corruption)
Bribes	Lindelow and Serneels (2006) Baez Camargo and Faustine (2015)
Inappropriate referral to private-sector facilities or pharmacies for care	Lindelow and Serneels (2006) consider referral to particular private pharmacies Akwataghibe et al. (2013) do not investigate this behaviour in detail but it is mentioned by health workers in surveys
Recruitment	Baez Camargo and Koechlin (2018)
General/non-specific forms of corruption	Stahl and Kassa (2018) Anders and Makene (2016)

[4] Akwataghibe et al. (2013) report on a range of coping strategies that health workers are involved in, which are divided into predatory and non-predatory. Practices that we associate with corruption tend to fall into the predatory category.

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