Potential corruption risks in health financing arrangements

Report of a rapid review of the literature
Potential corruption risks in health financing arrangements
Report of a rapid review of the literature
## Contents

- Acknowledgements ................................................................. iv
- Key messages ........................................................................... 1
- Executive summary ................................................................. 2
- Introduction ............................................................................... 3
- Background on health financing functions .............................. 4
- Methodology and limitations ................................................. 6
- Review findings ......................................................................... 8
  - Overarching findings ............................................................. 8
  - Revenue raising ...................................................................... 8
  - Pooling .................................................................................. 13
  - Purchasing .............................................................................. 17
  - Benefit design ........................................................................ 21
- Discussion and conclusions .................................................. 25
- Main lessons and way forward ............................................. 27
- References ................................................................................ 29
In the 2018–2019 biennium, the World Health Organization (WHO) is advancing a workstream on strengthening anti-corruption, transparency and accountability in health systems. The workstream is a partnership between the Gender, Equity and Human Rights team and the Health Systems Governance and Financing department of WHO headquarters, Geneva, Switzerland, in coordination with other partners with expertise and interest in promoting transparency and accountability mechanisms in health systems. Theadora Swift Koller (Technical Officer, Equity; Gender, Equity and Human Rights) and David Clarke (Team Leader, Universal Health Coverage and Health Systems Law; Health Systems Governance and Financing) of WHO headquarters jointly lead the workstream.

This rapid literature review contributes to the anti-corruption, transparency and accountability workstream. One objective of the workstream is to support the enhanced focus on anti-corruption, transparency and accountability in WHO normative guidance on health systems strengthening. Three areas were identified for furthering this focus in 2018–2019: health financing; health systems governance; and human resources for health.

With funding from UK aid, this document was commissioned to Jillian Clare Kohler, PhD, Professor at the Leslie Dan Faculty of Pharmacy, the Dalla Lana School of Public Health and the Munk School of Global Affairs, University of Toronto, Toronto, Canada. The lead author was Jillian Clare Kohler and the co-author was Benoît Gomis. Marcia McLean led the research assistance work with support from Anna Wong and Emily Schepers. The rapid literature review was elaborated through inputs from the Health Financing team at WHO headquarters. Matthew Jowett (Senior Health Financing Specialist) was the counterpart and provided essential technical orientations. The publication was produced through WHO APW Contract 202056995 with the Gender, Equity and Human Rights team of WHO headquarters.

The document was informed by discussions at the Technical meeting on advancing a WHO approach to support Member States to strengthen transparency and accountability in health systems, held on 28–29 November 2017, and the WHO workshop on anti-corruption, transparency and accountability in the health sector: implications for health system assessments and national health planning, held on 22–23 March 2018. A draft version of the review provided the background for policy discussion during a multistakeholder consultation on a proposed global network on anti-corruption, transparency and accountability in health systems (GNACTA), held on 26–28 February 2019 in Geneva, Switzerland, convened by WHO, the Global Fund and the United Nations Development Programme (UNDP).

Special thanks are extended to Maureen Lewis, Bill Savedoff and Sophie Witter for their valued inputs on a draft version of the paper.
Key messages

- Corruption in health financing arrangements is a potential risk to the achievement of universal health coverage and other health policy goals.

- Studies show that corruption can enter each of the four main health financing functions: revenue raising; pooling (viewed within the wider context of public sector management); purchasing; and benefit design.

- Literature is not uniform in terms of what is considered as “corruption” in health financing arrangements.

- More research is needed on policy interventions to reduce corruption in health financing. There is no one-size-fits-all response to the range of issues found by the rapid review, and limited data exist on the effectiveness of policy interventions.

- Studies highlight potential measures to reduce the risk of corruption in health financing, including: ensuring adequate funding to health systems; enhancing transparency and accountability; raising awareness; improving monitoring and oversight; integrating anti-corruption, transparency and accountability into health financing diagnostics and policy; and building effective accountability mechanisms.
Introduction and purpose

Corruption in health financing poses a significant risk to the achievement of universal health coverage and the health-related targets of the Sustainable Development Goals. Corruption in health systems not only wastes limited public resources and/or development funds allocated to the health sector, but also limits population access to goods and services, undermines citizens’ trust in governments and causes health services to deteriorate. Poor and marginalized populations typically suffer the most from the consequences of corruption in health systems. Accordingly, anti-corruption, transparency and accountability measures are central components of health systems strengthening for universal health coverage. Such measures are also critical for upholding the right to health.

The purpose of this rapid literature review is to identify potential corruption risks in relation to health financing. It also seeks to illuminate anti-corruption, transparency and accountability measures that may be helpful in reducing the risk of corruption in health financing.

Methods

A rapid literature review was conducted to provide an evidence-base on areas at risk of corruption in the core health financing functions of revenue raising, pooling (within the broader context of public sector management), benefit design and purchasing.

Search terms were limited to the English language and informed by WHO publications on health financing and universal health coverage. Experts in health financing and corruption provided inputs on the literature, structure and content of the review. An initial pool of 185 articles was screened for relevance, of which 112 articles were summarized and included in the literature pool. Additional articles were added following suggestions from peer reviewers, resulting in a total of 125 articles and documents in the final paper.

Findings

The studies highlight how health financing arrangements may be at risk of corruption. In the area of revenue raising, embezzled funds and charging of informal payments for health services are identified risks. In the area of pooling, the studies emphasize weak budget management and poor record keeping as issues that may allow corruption, such as the embezzlement of pooled funds. In the area of purchasing, the procurement process stands out as being particularly vulnerable to corruption; for example, fraud may be found in provider billing mechanisms. Lastly, in the area of benefit design, conflicts of interest, lack of transparency in the selection of medicines for national/institutional formularies, and overly complex benefit systems can make health systems more vulnerable to corruption.

Conclusions

To reduce the risk of corruption in health financing arrangements, the literature recommends anti-corruption, transparency and accountability measures including: ensuring adequate funding to health systems; enhancing transparency and accountability; raising awareness; improving monitoring and oversight; integrating anti-corruption, transparency and accountability into health financing diagnostics and policy; and finally, building effective accountability mechanisms. Such measures will reduce the likelihood of corruption in health financing arrangements and help to strengthen health systems towards universal health coverage.
Anti-corruption, transparency and accountability measures are a central component of health systems strengthening for universal health coverage. Such measures are also essential for upholding the right to health and reducing health inequities.

If unchecked, corruption in health systems represents a significant drain on national health resources and development assistance for health. Gee & Button (2015) estimate the global average loss rate from health care fraud and abuse to be 6.19% of total health expenditure, or US$ 455 billion, per year. Corruption in health systems can also result in other negative consequences such as limiting a population’s access to goods and services, undermining citizens’ trust in governments and causing health services to deteriorate, to name but a few examples.

The main objectives of this rapid literature review are to provide evidence on corruption risks in health financing arrangements and to identify strategies and tactics that can help to reduce corruption. This paper provides evidence on potential vulnerabilities that can lead to corruption in the four core health financing functions: revenue raising; pooling; purchasing; and benefit design, based on the identified literature.

The paper is organized as follows: first, the background describes the four main functions of health financing (revenue raising, pooling, purchasing and benefit design). The second section presents the methodology used for the literature review. The findings are presented next, organized according to the main health financing functions and within the broader context of public sector management. The paper concludes with a discussion of the findings and considers potential measures to address corruption in health financing.


Background on health financing functions

WHO’s 2010 world health report provides a definition of health financing for universal health coverage:

*Financing systems need to be specifically designed to: provide all people with access to needed health services [including prevention, promotion, treatment and rehabilitation] of sufficient quality to be effective; [and to] ensure that the use of these services does not expose the user to financial hardship* [WHO, 2010, p. 6].

The universal health coverage goals can be achieved through fulfilling intermediate objectives, namely: equity in resource distribution; efficiency; and transparency and accountability [see Fig. 1] (Kutzin et al. 2017), which are themselves related to the four main functions of health financing arrangements, as defined and described below.\(^3\)

---

Revenue raising is “the way money is raised to pay health systems costs” [WHO, 2010, p. 4]. It may involve improving tax administration, introducing new health taxes and/or using revenue from health taxes more effectively, as well as raising external funding from donors and development banks. Public funds need to be available, along with the stable and predictable flow of the funds to health facilities, to ensure the effective delivery of health services to those who need them. Reliable cash flow is also important for good service delivery performance.

Pooling is “the accumulation and management of financial resources to ensure that the financial risk of having to pay for health care is borne by all members of the pool and not by the individuals who fall ill” [WHO, 2010, p. 4]. Pooling aims to provide equity in resource allocation, allowing funds to be spent according to the (covered) health services needed by the population, thus bolstering financial protection.

Purchasing is “the arrangements in place, and mechanisms used, to allocate pooled funds to health service providers. Providers use these funds to deliver defined benefits to the population”. Strategic purchasing is also relevant, and is defined as “the active, evidence-based engagement in defining the service-mix and volume and selecting the provider-mix in order to maximize societal objectives”. It involves “linking the transfer of funds to providers, at least in part, to information on aspects of their performance or the health needs of the population they serve”.

Benefit design refers to “decisions concern[ing] which health services to include, as well as related rules such as a requirement to use a referral system, making co-payments, or being subject to waiting lists”. The purchaser or insurer will make decisions about what services and products to include (and exclude) in a benefits package.

---

Methodology and limitations

Rapid literature reviews provide evidence-based answers to policy questions. More specifically, according to Khangura et al. (2012), rapid reviews are a “form of knowledge synthesis in which components of the systematic review process are simplified or omitted to produce information in a timely manner”.5

The diagram below shows the methodology applied to identify relevant literature for this rapid review. Search terms were informed by WHO publications on universal health coverage, as well as WHO’s e-learning course on health financing policy for universal health coverage (http://www.who.int/health_financing/training/e-learning-course-on-health-financing-policy-for-uhc/en/). Experts in health financing and corruption provided inputs on the literature, structure and content of the rapid review. The limitations of this review process include giving preference to research that is easily retrievable and, therefore, some bias is necessarily embedded in the methodology.6 The search was also limited to documents available in the English language.


6 Stated differently, a rapid review does not seek to provide an overview of the universe of literature, which is the approach more typically adopted for a systematic review.
Methodology and limitations

**Literature search**

The following databases were searched: Ovid MEDLINE, PubMed, EMBASE, Scopus, Web of Science, Economic Literature Index, PAIS International, Google and Google Scholar. Two main search strategies were utilized, with a combination of keywords:

- "health financing" AND "corrupt*"
- "health" and ("purchasing" OR "revenue raising" OR "revenue generation" OR "pooling" OR "benefit design") AND "corrupt*".

More specific search terms were used on EMBASE, PubMed and Ovid MEDLINE to see if additional articles would be found. This strategy used the terms:

- health insurance OR revenue pooling OR DRG* OR diagnostic related group* OR fee-for-service OR ffs OR fee for service OR capitation OR performance-based financing OR pay for performance OR value-based purchasing OR P4P OR line-item budgeting OR risk-adjusted formula OR risk-adjusted OR premium* OR informal payment* AND (corrupt* OR bribe* OR leakage OR embezzlement*).

Searches were conducted in September/October 2018.

**Document identification by subject matter experts**

Experts in health financing corruption were asked to recommend key documents.

**Targeted searches**

World Health Organization, World Bank, U4 Anti-Corruption Resource Centre, USAID websites

Searches were restricted to articles published in English. No restrictions were placed on timeframe (aside from database-specific limitations), settings, population, or any specific definition of corruption. All articles types were considered in the white and grey literature, including commentaries, original qualitative and quantitative research papers, literature reviews, academic reports, documents from international organizations, and book chapters. Articles were included if they related to corruption in health financing and/or corruption in any of the four main functions of health financing: revenue raising, pooling, purchasing or benefit package design.

**Screening**

Titles were screened and duplicates were removed, leaving 185 articles for more detailed review.

**Included**

Documents determined to be out of scope, from review of abstract or full text, were removed, leaving 139 articles to be summarized.

112 articles were selected for inclusion. Following peer review, further articles were added to the pool to give a total of 125 articles and documents.
Overarching findings

The articles reviewed show, some in more detail than others, specific corruption risks in health financing arrangements. Examples from the literature mainly focused on African and Eastern European countries; however, it is recognized that many issues are not limited to these regions, but are global in scope. Although examples are clustered in specific regions, the lessons learned are largely generalizable.

In the area of revenue raising, embezzled funds and charging of informal payments for health services are clearly identified risks. In the area of pooling (in the context of public sector management), the literature emphasizes weak budget management and poor record keeping as two examples that may allow for corruption, such as the embezzlement of pooled funds. In the area of purchasing, the procurement process stands out as being particularly vulnerable to corruption; for example, fraud may be found in provider billing mechanisms. Lastly, in the area of benefit design, conflicts of interest, lack of transparency in the selection of medicines for national/institutional formularies and overly complex benefit systems can present corruption risks.

As cross-cutting themes, some studies show that countries with political leaders willing to tackle corruption, well-established institutions, well-paid, qualified and trained personnel, formal and timely pooling processes (including accurate record keeping), built-in flexibility for delivery of services in emergency situations, and effective transparency, oversight, evaluation and accountability mechanisms, are more likely to effectively mitigate vulnerabilities to corruption. Dorotinsky & Pradhan (2007) and Uzochukwu et al. (2018) emphasize how political will and institutional capacity underpin any reforms to address corruption. In addition to financial resources to increase the number of staff and their wages, supportive mentoring, training and education are identified ways to strengthen institutional responses (Nocera, 2010; Njog & Ngantcha, 2013; Uzochukwu et al., 2018).

Institutional corruption was also shown to be an overarching issue. Light, Lexchin & Darrow (2013) describes institutional corruption as “… a normative concept ... that embodies the systemic dependencies and informal practices that distort an institution’s societal mission” (p. 2). Lessig (2013) argues that institutional corruption is “manifest when there is a systemic and strategic influence which is legal, or even currently ethical, that undermines the institution’s effectiveness by diverting it from its purpose or weakening its ability to achieve its purpose, including to the extent relevant to its purpose, weakening either the public’s trust in that institution or the institution’s inherent trustworthiness” (p. 2).

Revenue raising

This section of the review targeted literature that focused on low- and middle-income countries, with particular emphasis on economies in transition. The vast majority of articles on corruption in revenue raising were found to concern informal payments, which are therefore the focus of the section. First, articles relevant to revenue raising and corruption in general are discussed, followed by aspects of informal payments and the recommended policy interventions.

General corruption risks in revenue raising

Juwita (2018) underscores that corruption may limit the ability of countries to implement universal health coverage, and notes that revenue raising is particularly susceptible to corruption given the significant value of funds. Corruption in tax administration was identified as a central issue in the area of revenue raising, and is briefly discussed here – although corruption in the tax system is beyond the purview of health ministries. Examples of corruption in tax administration include: deliberate failure to collect taxes from an individual or firm; diverting tax revenue to an individual or firm, including through the falsification of receipts or abuse of refund accounts.
in the case of hospitals [Vian et al., 2010]; and individuals or firms colluding with tax collectors to lower the collected sums, seek tax exemptions or tax breaks, and/or undervalue goods for tariffs [Rose-Ackerman, 1999]. These issues can jeopardize basic primary care delivery and reduce quality of care and equity in access, thus hampering overall progress towards universal health coverage [Kohler & Ovtcharenko, 2013; Michaud, Kates & Oum, 2015; United Nations, 2015].

In Kenya, Okungu et al. (2018) found that perceptions of corruption influence informal workers’ preferences for types of revenue raising proposed for health service coverage. Study participants expressed concerns about embezzlement and 47% preferred a non-contributory financing mechanism. Funds controlled by the government through the collection of taxes were, in contrast, thought to be more prone to corruption. Most participants expressed a preference for out-of-pocket payments for medical expenses as a safety valve against the risk of embezzlement of funds by public officials.

Informal payments

Informal payments are defined in the literature in similar ways. Lewis (2007) defines informal payments as “payments to individual and institutional providers, in kind or in cash, that are made outside official payment channels or are purchases meant to be covered by the health care system” (p. 985). Gaal et al. (2006) define informal payments as “direct contribution, which is made in addition to any contribution determined by the terms of entitlement, in cash or in-kind, by patients or others acting on their behalf, to health care providers for the services that the patients are entitled to” (p. 276). Gaal et al. emphasize that this approach implies it is not relevant whether a type of informal payment is legal, and write: “What shifts a direct payment from the category of informal payments to the category of other direct payments, or vice versa, is any change in the legally defined entitlements for health service” (p. 276). Balabanova & McKee (2002) and Stepurko et al. (2010) highlight the importance of timing. Payments made before or during treatment may be considered as coerced, while those made after treatment can be classified as voluntary. However, the latter may still be non-optional, particularly if a patient is in a repeat relationship with a provider.

Key factors

Studies highlight a number of key factors that may be conducive to informal payments, including:

- low salaries and poor working conditions of medical staff, including little opportunity for career advancement (Balabanova & McKee, 2002; Bloom, Han & Li, 2001; Chiu et al., 2007; Hotchkiss et al., 2005; Mokhtari & Ashtari, 2012; Shahriari et al., 2001; Stringhini et al., 2009);
- imbalances in health systems between mandated health care and available resources (Shahriari et al., 2001);
- lack of an incentive system for health providers to stop the practice of informal payments (Balabanova & McKee, 2002; Bloom, Han & Li, 2001; Shahriari et al., 2001);
- shortages of medical supplies (Shahriari et al., 2001);
- lack of transparency in health facility operations (Shahriari et al., 2001);
- asymmetric information between physicians and patients allowing providers to take advantage of asymmetries to seek informal payments (Lewis 2000), including in the case of specialized care (Buch Mejsner & Karlsson, 2017; Mokhtari & Ashtari, 2012);
- perception that informal payments may positively impact the quality of care received from health providers (Balabanova & McKee, 2002; Hotchkiss et al., 2005; Liaropoulos et al., 2008; Praspaliauskiene, 2016);
Potential corruption risks in health financing arrangements: report of a rapid review of the literature

• weak governance and corruption (Lewis, 2000, describes corruption using Klitgaard’s formula of “monopoly plus discretion minus accountability”); 7

• market failure (Lewis, 2000);

• cultural factors (Shahriari et al., 2001; Chiu et al., 2007; Praspaliauskiene, 2016; Balabanova & McKee, 2002). For example, a study of unofficial payments in the health sectors of Baltic States found that nearly 50% of patients surveyed did not consider unofficial payments to health workers as corruption. Interestingly, in some cases, although cash payments were perceived as corruption, gift giving was not (Cockcroft et al., 2008).

For example, a study of unofficial payments in the health sectors of Baltic States found that nearly 50% of patients surveyed did not consider unofficial payments to health workers as corruption. Interestingly, in some cases, although cash payments were perceived as corruption, gift giving was not (Cockcroft et al., 2008).

More specifically, the literature discusses what may lead patients to make informal payments for health services and products, and indicates the motivations of health care providers. With regards to patients, the most commonly cited reason is “fee for access”. In such cases, if a patient does not pay a fee, she/he will not receive a service or product (Kotok, Aryeetey & Van der Geest, 2018; Zasimova, 2016). Many studies note that this is particularly true for access to specialist care, such as surgery (Buch Mejsner & Karlsson, 2017).

Patients may offer informal payments in order to receive faster and/or better quality services (Lewis, 2007; Moldovan & Van de Walle, 2013; Praspaliauskiene, 2016; Thompson & Witter, 2000; Vian et al., 2015; Witter et al., 2011; Zasimova, 2016). A study in Vietnam found that patients made informal payments largely out of concern about the quality of care they would receive if they did not pay: “Official fees are regulated and low, so patients know that they need to offer top-up payments to get a good quality service. Even those with health insurance make direct payments to staff” (Witter et al., 2011, p.6). In other words, informal payments have become “normalized” or arguably embedded in the culture.

A cultural explanation of informal payments views them as a form of gratitude payment (Bloom, Han & Li, 2001; Cohen, 2012; Liaropoulos et al., 2008; Vian et al., 2015; Zasimova, 2016). As such, informal payments may not be corruption per se, but instead a culturally acceptable practice often related to the poor salaries received by health professionals (Baj et al., 2013; Cohen, 2012; Praspaliauskiene, 2016; Thompson & Witter, 2000). However, it is important to note that even where staff receive higher salaries, informal payments may still exist.

Nearly all the studies note that a central motivation for health care providers in accepting or encouraging informal payments is to supplement revenue in the context of underresourced facilities and/or low personal income. After the collapse of the Former Soviet Union, many countries in weak economic situations were unable to provide universal health coverage so that other revenue sources, such as informal payments from patients, became essential (Sari, Langenbrunner & Lewis, 2000). Thompson & Witter (2000) further highlight that informal payments likely represent a significant portion of total health care spending in countries undergoing economic transition.

Overall, studies show that informal payments exacerbate inequity (Cohen, 2012; Hotchkiss et al., 2005; Shahriari et al., 2001; Szende & Culyer, 2006; Tatar et al., 2007). In Bangladesh, poor rural women bear a “tremendous cost” for caesarean section and other surgeries, as well as for medicines, laboratory investigations, blood transfusions, food, travel and other expenses, in part because of widespread corruption in the form of demands for informal payments (Afsana, 2004). Hotchkiss et al. (2005) suggest that providers may be more likely to demand payments from the poor given they are less likely to give gifts. Hunter & Murray (2017) examined the efficacy of different demand-side financing interventions, including cash transfers and vouchers, for maternity care services.

7 “… one will tend to find corruption when an organization or person has monopoly power over a good or service, has the discretion to decide who will receive it and how much that person will get, and is not accountable”. Klitgaard R (1998). International cooperation against corruption. Finance & Development, 35.
The analysis found that community-based workers who are reimbursed for facilitating demand-side financing programmes may be asked for informal payments by facility staff and/or may be used as go-betweens to request money from families. Hunter & Murray conclude that informal payments, as well as out-of-pocket payments, may prevent women from accessing maternal care.

Examples of informal payment practices

A survey conducted by Mæstad & Mwisongo (2011) in the United Republic of Tanzania reveals that providers may: offer to reduce waiting times in exchange for informal payments; charge for services that are meant to be free; falsely claim there is a shortage of drugs and supplies; operate a private practice or pharmacy within a public health clinic; and reduce baseline quality so as to encourage payment for better quality services and products. The study also highlights that health workers at all levels are identified as being involved in “rent-seeking” behaviour.9

A study in the Democratic Republic of the Congo found that many nurses were reluctant to charge informal fees when patients were already struggling to pay user fees for health services and/or were well-informed about a facility’s official user-fee structure (Maini, Hotchkiss & Borghi, 2017). In Hungary, Szende & Culyer (2006) found that strategies used by obstetric care providers to demand informal payments include the referral of treatments as well as justifying such payments as “extra” services. A study in India found that physicians in the private health care sector commonly ask for payments in exchange for referrals (Gadre, 2015).

Asante, Zwi & Ho (2006) analysed the implications of the unpredictable release of quarterly funds to decentralized health systems in Ghana. In this uncertain environment, district health managers often relied on informal mechanisms to ensure continuity of services, including buying supplies on credit, borrowing cash internally, purchasing materials in advance, or conserving funds for future use. While such practices are crucial in enabling the continued functioning of health services, they also are vulnerable to corruption due to: a lack of paper trails; favouritism shown to suppliers willing to work on credit; a dependent relationship with suppliers; the potential for over-invoicing; and, pre-purchasing leading to wasteful spending.

Impact of informal payments

Rose (2006) highlights that the imposition of a “corruption tax” on free services clearly has an overall negative impact on health gains. In the United Republic of Tanzania, Stringhini et al. (2009) found that informal payments contribute to an environment that in fact demotivates and demoralizes health workers themselves. In terms of how informal payments impact the population, particularly the poor, Ensor & Savelyeva (1998) suggest that informal payments may facilitate a quasi-redistribution of resources from the rich to the poor, with physicians “price discriminating” so that the rich are charged more than the poor – in other words, playing the role of “Robin Hood” (Szende & Culyer, 2006). However, a number of subsequent studies emphasize how informal payments are in fact mostly regressive, with the poor paying disproportionately more for health services than the rich (Baschieri & Falkingham, 2006; Cohen, 2012; Kankeu & Ventelou, 2016; Lewis, 2000; Shahriari et al., 2001; Sundell, 2014; Szende & Culyer, 2006). Notably, informal payments may cause poor people to delay using the health system, or to not use the health system at all (Kankeu & Ventelou, 2016; Miller & Vian, 2010; Thompson & Witter, 2000).

8 The examples provided are not exhaustive, but were selected from the reviewed literature and are useful in terms of illustrating the findings.

9 Rent-seeking is defined as “a concept in economics that states that an individual or an entity seeks to increase their own wealth without creating any benefits or wealth to the society. Rent-seeking activities aim to obtain financial gains and benefits through the manipulation of the distribution of economic resources”. Corporate Finance Institute (CFI) (https://corporatelfinanceinstitute.com/resources/knowledge/economics/rent-seeking/, accessed 30 July 2019).
The literature illuminates how informal payments impact different population groups in different ways. In a survey on the quality of health care in Moldova, Mokhtari & Ashtari (2012) found that patients with long-term health conditions made informal payments less often than average, while pregnant women made informal payments more often than most. The study also noted that patients that are better informed about their entitlements under health insurance schemes made informal payments less often, but were more likely to leave informal payments as gifts.

Policy interventions

Policy recommendations advanced in the literature to address corruption in revenue raising include the following interventions.

- Public leaders must state that informal payments between public sector employees and citizens are unacceptable and do not correlate to quality care [Baji et al., 2013; Habibi et al., 2017; Lewis, 2000; Vian et al., 2015].

- Implement household expenditure surveys that document out-of-pocket payments, including informal payments, to reveal problems and create demands for solutions [Vian, 2008].

- Regularize informal payments [Barber, Bonnet & Bekedam, 2004; Baschieri & Falkingham, 2006; Ensr, 2004; Killingsworth et al., 1999; Lewis, 2007; Thompson & Witter, 2000].

- Increase funding/resources to health systems [Ensr, 2004; Shahriari et al., 2001; Thompson & Witter, 2000].

- Enhance transparency [Stepurko et al., 2017; Vian & Burak, 2006; Vian et al., 2015].

- Establish an effective means for patients to voice complaints [Shahriari et al., 2001].

- Enforce accountability among management and providers, and encourage communities to hold providers accountable [Lewis, 2002; Lewis, 2007].

- Strengthen patient education on the right to access health services [Ensor, 2004; Hotchkiss et al., 2005; Killingsworth et al., 1999; Shahriari et al., 2001].

- Allow for private health service alternatives into the market [Lewis, 2000; Lewis, 2002; Thompson and Witter, 2000].

- Implement revised and improved individual payments [Lewis, 2007; Thompson and Witter, 2000; Zasimova, 2016] including performance-based payment for providers [Hotchkiss et al., 2005; Thompson and Witter, 2000; Vian et al., 2015].

- Impose meaningful legal penalties on providers that breach the rights of insured patients [Habibi et al., 2017; Hotchkiss et al., 2005; Thompson and Witter, 2000; Vian et al., 2015].

Gaitonde et al. (2016) reviewed promising reforms to the health system in Kyrgyzstan, which were initiated in 1997 and occurred in several stages. Aiming to decrease the prevalence of informal payments, the reforms notably introduced a more transparent co-payment system as well as changes in the payment structure for health care providers. The percentage of patients who paid for consultations went down from 55% in 1994 to 20% in 2007.
Pooling

This section of the review seeks to clarify corruption risks in pooling revenues. First, the main risks (as identified in the literature) are discussed, including: leakage of funds; ad hoc responses in uncertain environments, where disbursement of funds can be delayed or smaller than expected; vulnerabilities along the main phases of the budget management process; and implications of various structural forms of governance (centralized versus decentralized systems, or public versus private entities). Next, the merits of performance-based financing and PETS as tools to measure and address the risks are discussed, followed by structural issues in implementation, namely formal processes, data management, transparency and accountability.

Leakage of funds

In many countries, investments in health services have not led to a significant improvement in health outcomes, thereby raising questions about how the money is being distributed. A number of public expenditure tracking surveys (PETS) have found substantial leakage of health care funds. Some leaks occur when inadequately allocated funds need to be diverted to cover legitimate, urgent needs. Although these diversions do not constitute corruption as such, Marouf (2010) notes that leakage is “often a good indicator of corruption”.

Country examples of leakage of funds include:

- in Ghana, 80% of non-wage health expenditures and about 20% of salary expenditures were leaked (Ye & Canagarajah, 2002);
- in Uganda, 70% of drugs and supplies were leaked (Reunikka & Svensson, 2003);
- in Kenya, the Ministry of Finance estimated that 38% of funds received at health centres in 2004 were leaked (Gauthier, 2010);
- in Zambia, one fifth of health facilities did not receive their full funding allocation (Picazo & Zhao, 2009);
- in Chad, the government spent on average US$ 1.17 per person, but each person effectively received US$ 0.02 due to major leaks at all levels of government (Gauthier & Wane, 2008);
- in Cameroon, 18.8% of funds intended for decentralized health services did not reach the intended target, while health facilities received an even smaller portion of their official budget (Njog & Ngantcha, 2013).

Much of the identified literature on leakage of funds focused on African countries. However, Savedoff (2008a) studied examples from other regions, including Latin America (Peru) and Asia (Cambodia). Savedoff concludes that PETS can have variation in terms of how well leakages are measured; nevertheless, PETS are often useful in terms of solid expenditure analysis and provide useful data on budget and finance processes. It is important to acknowledge that some leaks occur because funds are inadequate overall, or are diverted to cover other priority areas in the health system. However, leakages are problematic, even when not due to private gain.
Potential corruption risks in health financing arrangements: report of a rapid review of the literature

**Budget management**

In an analysis of corruption in public financial management, Dorotinsky & Pradhan (2007) highlight vulnerabilities to corruption in each of the four phases of the budget cycle. First, budget formulation may involve grand corruption: the form of corruption perpetrated at the highest levels of government, which involves substantial sums of money or political corruption. Campos & Bhargava (2007) refer to grand corruption as favours exchanged for financial and non-financial support towards strengthening or maintaining the political power of particular individuals or groups. As noted by Martinez-Vazques et al. (2004), government officials may have the power to favour certain individuals and/or groups. Inaccurate or vague revenue planning or expenditure estimates hamper a government’s ability to audit public spending. Examples of corrupt practices include tax benefits for preferred groups, allocation of resources based on political affiliation, or diversion of funds for private gain. Delay, Devas & Hubbard (1998) note that corruption is a major problem in revenue administration. Second, the budget execution phase is particularly vulnerable to corruption given that funds change hands. Examples include receipt skimming, favouritism in the payment of invoices, ordering goods that were not on the approved budget, and kickbacks (Isaksen, 2005). Such issues notably occur when transactions are cash-based, and audit trails are thus lacking. Third, budget accounting and reporting can involve risks of corruption, particularly when budgets are inaccurate, delayed and opaque, or when accounting procedures are weak or lack capacity, and systems are fragmented. Fourth, external audit and oversight can be performed by legislative committees, audit agencies, civil society and the media. Corruption can occur at this stage if political influences result in an underreporting of irregularities or subpar investigations (Dorotinsky & Pradhan, 2007).

**Forms of governance**

Structural characteristics of governance can have an impact on levels of corruption in pooling. Gomez (2017) compares the development of bureaucratic institutions to monitor financial protection in personal health expenditures in China and Indonesia, countries with divergent political processes. In Indonesia, federal institutions and laws were created to monitor hospital performance, including preventing corrupt practices such as charging extra fees and prescribing unnecessary medications. The transparency and accountability mechanisms introduced in this centralized system resulted in lower out-of-pocket and catastrophic expenses, predominantly among the poor. In contrast, Gomez (2017) suggests that China’s decentralized process for health care delivery and regulation has offered entry points for corrupt practices to bridge funding gaps, such as the sale of medicines for profit, prescription of unnecessary medications and tests, and acceptance of bribes for special treatment. The lack of a centralized, federal oversight structure resulted in a lack of financial protection, with 35% of participants in the rural cooperative medical scheme facing catastrophic expenses. Liu & Chen (2018) also highlight that China’s social health insurance funds are managed by over 7000 local agencies. In this context of a decentralized process without sufficient oversight, the basic health insurance programme (the country’s largest social health insurance) had accumulated a surplus of US$60 billion by 2009. Liu & Chen (2018) note that “without independent supervision, these huge surpluses open up opportunities for fund fraud and misuse. Wan-Xiang Qu, the vice director of the Bureau of Anti-corruption in China, commented that a huge amount of these surpluses might be misappropriated” (p. 276). However, it is not necessarily the case that surpluses carry the risk of corruption. Indeed, any budget item that is potentially exploitable needs to be addressed by policy-makers.
Kivumbi, Nangendo & Ndyabahika (2004) note that centralized bureaucratic processes – notwithstanding their potential to mitigate corruption – can also prove counterproductive in delivering health services. The study showed that, in Uganda, strict guidelines, risk of imprisonment, accumulation of bureaucratic steps and lack of built-in flexibility to respond to outbreaks prevented the provision of malaria control in a timely manner. In short, anti-corruption, transparency and accountability measures may have costs that need to be balanced against the scale and nature of the given corruption.

In addition to the degree of centralization of political processes, the role of private actors has been researched. In a study of the Italian health system, Lagravinese & Paradiso (2014) estimate that corruption has an impact on all components of health expenditure, but is statistically significant only for pharmaceutical expenditure and private hospital expenditure. Lagravinese & Paradiso’s research suggests a relationship between corruption and the regional governance of the Italian health system. This confirms findings by Gupta, Davoodi & Tiongson (2000) that privatizing health services does not reduce corruption in the health sector when public systems of regulation and control of private care and treatment are weak or lacking.

Policy interventions

Performance-based financing

One method identified in the literature as a potential way to measure and mitigate corruption in pooling is performance-based financing, also referred to as results-based financing or pay-for-performance. Performance-based financing is a system in which disbursements are conditional, based on the results of previous disbursements and using performance indicators. Rigorous impact evaluation of a performance-based financing scheme in Rwanda shows that it can have a strong positive impact (Basinga et al., 2011).

Uzochukwu et al. (2018) caution that our understanding of the impacts of performance-based financing remains very limited and, therefore, similar schemes may not necessarily have the same effects in different countries. Nocera (2010) found that performance-based hospital funding, although believed to enhance performance, can result in fraudulent practices to attain funding. Nocera’s case-study analysis in the Australian states of Victoria and New South Wales revealed fraudulent reporting of data, including “ghost wards” and “phantom admissions”.

PETS

Numerous studies highlight that leakage of funds may be shown by PETS, or other similar methods. PETS examine the flow of funds from central government to central providers, while quantitative service delivery surveys focus on the efficiency of service delivery and the dissipation of resources (Gauthier, 2010). Marouf (2010) points out that PETS can be an important tool to monitor budget execution, and other case-studies (see examples in previous section on Leakage of funds) illustrate the usefulness of PETS in identifying vulnerabilities to corruption and areas for policy interventions. Nonetheless, as Marouf (2010) notes and objects to, there has been some pushback from the World Bank, which warns that the PETS method presents cost and time constraints, making it difficult to apply universally. Gauthier (2010) cautions that methods to account for funding flow (notably through PETS) in one country can significantly differ from analyses in other countries, given the complexities and discrepancies between public administration structures. Lindelöw, Kushnarova & Kaiser (2006) further warn that, even once an estimate of leakage has been established, difficulties exist in determining the role of corruption as opposed to legitimate diversion of resources or difficulties in executing a budget due to excessive bureaucracy. PETS are further hampered by the fact that governments often neither possess nor share data. Ultimately, how well PETS may work depends on a number of structural factors, some of which are addressed in the following subsections.
Structural factors impacting implementation

**Formal processes**

Uzochukwu et al. (2018) found that government officials and politicians in Nigeria have a tendency to pursue their own personal interests in an environment characterized by pervasive corruption. Establishing formal processes can help to reduce the prevalence of corruption and leakage in pooling. Formal processes include: allocation of resources on schedule; official mechanisms for obtaining supplies, including a supplier-approval process (Asante, Zwi & Ho, 2006); and an independent, rigorous oversight system to limit the discretion of politicians/public officials over allocation of funds and to restrict overall political interference in the funding process (Gauthier, 2010; Uzochukwu et al., 2018).

**Data management**

The literature highlights the role of data management in addressing corruption risks in pooling. Research by Lindelöw, Kushnarova & Kaiser (2006) shows the importance of sound financial records, which are often found to be lacking due to either unqualified staff or an intentional attempt to mask corrupt practices. In Mozambique, for example, accounts could be provided for only 40% of districts for which provincial health authorities were responsible (Lindelöw & Ward, 2003). In Cameroon, Njog & Ngantcha (2013) found that inadequate financial records at the peripheral level made it difficult to match intended budget targets with actual spending. The authors suggest incentivizing compliance in good record keeping through improving health workers wages. Uzochukwu et al. (2018) also cite improved data management, which can be facilitated by the use of electronic and bank payments instead of cash, as a key strategy to address corruption risks in this area.

**Transparency**

In a transparent environment, corrupt activities are less likely to occur (Lewis & Pettersson, 2009). Njog & Ngantcha (2013) propose to publicize disbursements to districts in Cameroon. A qualitative study in Nigeria notes that survey respondents were in favour of publicizing budget releases and evaluation results carried out as part of performance-based financing schemes, including through different media sources (Uzochukwu et al., 2018). Gauthier (2010) finds that wage expenditures are less open to leakage than other public expenditures precisely because of the transparency involved. Health workers know how much money they should be paid, so any missing funds are more likely to be detected; because wages are paid directly to staff bank accounts, there are no intermediary levels to deviate them. According to Vian (2008), public dissemination of budget information can help prevent diversion of funds. Hospital report cards, which measure important statistics on patient care and access, can reveal problems and create demand for solutions.

**Accountability**

Almost all of the studies emphasized the importance of enhancing accountability mechanisms. Uzochukwu et al. (2018) usefully describe three categories of accountability.

- Financial accountability, which focuses on tracking and reporting on allocation, disbursement and utilization of financial resources through auditing tools (which need to be frequent and independent: Dorotinsky & Pradhan, 2007; Nocera, 2010), budgeting and accounting; financial accountability seeks to control the misuse and abuse of public resources and/or authority.

- Performance accountability, which supports improved service delivery and management through feedback and learning, and focuses primarily on services, outputs and results.

- Political-democratic accountability, which relates to the institutions, procedures and mechanisms that aim to ensure that governments deliver on electoral promises.
Uzochukwu et al. (2018) make a distinction between internal accountability mechanisms, including the institutional oversights, checks and balances internal to the public sector, and external accountability mechanisms used by non-state actors to hold public sector power-holders accountable. The authors note that “non-state actors, particularly communities, must be empowered and engaged as instruments for ensuring external accountability at lower levels of implementation”. Lewis & Pettersson (2009) stress the importance of citizen participation to encourage accountability. In a case-study of Romania, where 41 high-ranking health officials faced corruption charges between 2015 and 2017, Ungureanu, Gheorghe & Voinea (2017) point to large popular protests against the government’s attempts to soften anti-corruption allegations as a sign of external accountability.

More generally, Ware et al. (2007) explain how bribes or kickbacks are common forms of corruption in public procurement. A “reward” may be given to a government official for a public contract. Red flags include: a supplier being awarded multiple bids; officials accepting inappropriate gifts such as expensive meals; officials displaying excessive wealth in relation to their salaries; information from the community about who takes bribes; and the existence of personal relationships between suppliers and officials. The authors also explain how the bidding process may be rigged: a public tender may be manipulated to ensure that a particular supplier is awarded the contract, or insider information may be shared so that a preferred supplier wins. Bidding processes may also be rigged through the pre-selection of tenders based on kickbacks, cartels and so on. The authors highlight that there are a variety of risks that can occur throughout the procurement cycle, including: political corruption resulting in particular projects being supported by a politician; pre-qualification clearly favouring a particular supplier; or unclear evaluation criteria leaving ample room for discretion. After a bid is awarded, substandard goods or no deliveries of goods will also constitute clear health risks.

Savedoff (2008b) provides country-level examples in an examination of hospital procurement in Argentina and Bolivia. The study found that spending on public hospitals could be wasted due to kickbacks and the receipt of substandard and expired products. In Argentina, price information was collected for medical supplies and then disseminated to purchasing managers, allowing for each hospital to compare prices. Price variation dropped substantially one month before the price information was circulated; five months later, however, price variation rose again. A major factor behind this variation was the lack of sanctions placed on managers, who inflated medical supply prices. Mann (2013) illuminates cases of purchasing fraud identified by the Association of Certified Fraud Examiners, including kickback schemes whereby something of value is given in exchange for influence over a business decision.

Purchasing

This section discusses three main types of corruption risk identified in the literature, namely in procurement, pharmaceuticals purchasing and provider payments. Each of these risks are broken down and summarized into existing challenges and policy interventions. The section concludes with general policy interventions on purchasing suggested by existing literature.

Corruption risks in procurement

Corruption in public procurement can have a negative impact on the quality of health care services and infrastructure, and lead to inflated costs for governments, resulting in less money being available for service provision. Savedoff & Grépin (2012) present a number of corrupt activities in procurement processes including: bribes for inspectors; improper bidding procedures for purchasing; diversion of the public drug supply to private practice; kickbacks for referrals; and pharmacies or drug shops selling illegal items. For example, in Ethiopia a black market exists for generics and drugs that are unavailable in the country; illicit products are mostly imported from Kenya.
**Policy interventions**

Interventions to reduce corruption in procurement include: ensuring clarity about the roles of both purchasers and providers (Fryatt, Bennett & Soucat, 2017); effective oversight/monitoring; implementation of e-procurement procedures; inspections; audits; enforcement and punishment of corrupt practices; whistleblower programmes; external monitoring and freedom of information; competitive tendering procedures; ensuring personnel are trained in financial management and procurement; and regulation of public and private roles (Savedoff & Grépin, 2012; Ware et al., 2007).

Vian (2006) notes that procurement systems should be accountable and transparent, be based on rules, promote fairness, encourage competition, and lead to the efficient use of effective and judicious government resources. Vian notes a supply chain management system was funded by the President’s Emergency Plan for AIDS Relief (PEPFAR) with the goal of providing countries with procurement assistance, including predicting supply requirements, publishing drug cost data and developing distribution chains that adhere to best practices. As the study was published a few months after PEPFAR was set up, Vian was not able to address the results of the project. Savedoff (2008b) points to transparency in pricing and sanctions as potential solutions to corruption in purchasing. The author notes the effectiveness of citizen oversight in reducing procurement corruption in Bolivia, observing that when an active committee with citizen representation supervised hospital purchases, the hospitals paid less for purchases.

Till et al. (2017) examined the potential positive impact of blockchain technology on global health equity, including through improving procurement processes. Blockchain technology allows records of every transaction to be recorded and unaltered, increasing transparency and the ease with which a health system could be monitored to prevent corruption and minimize fraud. Contracts based on blockchain technology could link funding to the purchase of goods and ensure that goods go to the intended recipient. In this way, data could be also analysed more expediently allowing fraudulent activity to be identified. The authors caution that the use of the technology must be open-sourced to preclude private companies from interfering with the data.

Hussmann (2011) suggests that systems for delivering donor aid should be examined to ensure they do not provide opportunities for corruption. For instance, the release of funds at the end of the year may be associated with officials circumventing the usual procurement protocols. Although this phenomenon (which also occurs with public funds) could be related to inefficiency more than corruption, it certainly calls for further study. Furthermore, the issue of corruption in donor funding may not necessarily be a country problem per se, but rather a donor issue.

**Corruption risks in pharmaceuticals purchasing**

The pharmaceutical procurement process stands out as being particularly vulnerable to corruption (for example, Kohler & Ovtcharenko, 2013; Ware et al., 2007). There are numerous examples of corruption within the pharmaceutical procurement process, whether operating at the national, state/provincial or local levels. These include: “different” bidders having the same contact information; forged documents; deliberately missing documents; clustering of bids; colluding companies; pricing irregularities; and bribes and kickbacks to government officials. Direct purchasing from a supplier is also vulnerable to corruption as it is highly fragmented and can be challenging to audit if there is no clear information path.

Lewis & Pettersson (2009) note the logistic process for medicines procurement is complicated by difficulties in quality assessment, while procurement and regulatory processes themselves are further complicated by the need for coordination. The authors give examples of corrupt practices, including: bid rigging; bypassing regulatory controls; delivery of smaller quantities than paid for; and leakages in the distribution chain. Lewis & Musgrove (2008) note that corrupt activities include: theft of supplies; absenteeism; and private use of public facilities/equipment.
Vian (2008) warns that bribes to circumvent government regulation of drugs and medicines clearly have adverse effects on health, citing the dilution of vaccines in Uganda and the growing problem of falsified medicines globally.

Unregulated medicines of subtherapeutic value can contribute to the development of drug-resistant organisms and increase the threat of pandemic disease and antimicrobial resistance (Nwokike, Clark & Nguyen, 2018; Transparency International, 2006). In addition to the presence of counterfeit drugs on the market, corruption can lead to shortages of available drugs in government facilities due to theft and diversion to private pharmacies. This in turn leads to reduced utilization of public facilities, further damaging the well-being of populations.

In a study of over 100 regions in Europe, Ronnerstrand & Lapuente (2017) demonstrate how corruption seemed to account for higher use of antibiotics. Bribery by pharmaceutical companies and the influence of pharmaceutical companies on provider prescribing practices were likely responsible for the high variation in antibiotics consumption across Europe. Numerous studies demonstrate the influence of the pharmaceutical industry globally, and particularly in the United States of America. Companies such as Purdue Pharm have faced fines amounting to billions of dollars to settle charges of inappropriate promotion and failure to report safety issues of products (Lexchin & Kohler, 2011). The pharmaceutical industry often aims to directly influence the prescribing practices of doctors through bribery, by providing lavish conferences, seminars in holiday locations and other perks (European Commission, 2017).

Lewis (2007) highlights how public sector purchases of medicines can be wasted if corruption enters the pharmaceutical system. Lewis cites the work of Cohen, Mrazek & Hawkins (2007) which illuminated weaknesses in procurement processes in the pharmaceutical system in Costa Rica, with noted deficits in quality monitoring, inventory management and information systems (Cohen, Mrazek & Hawkins, 2007). Using the example of Costa Rica, the authors emphasize the critical importance of transparency in the procurement process to help governments to ensure competitive prices and delivery of medicines to the population in a timely manner. Lewis also notes that, in Ethiopia, theft of public sector medicines for resale on the more lucrative private market is common practice. In Uganda, an average of 73% of drugs across 10 public facilities were stolen, resulting in high-demand drugs (such as antimalarials) being less available to patients. Lewis also emphasizes that theft of public funds commonly takes place during the tendering and payment process for medicines.

Vian (2006 & 2008) explains how international efforts to rapidly expand access to medicines (as in the case of HIV/AIDS treatment) can generate pressure for governments to spend funds quickly, thus creating opportunities for corruption. Weak supply systems can be made even weaker when faced with a sudden increase in volume, also creating opportunities for drug diversion from the public sector.

A study in Pakistan highlights how pharmaceutical companies bypass licensing and accreditation processes, and may bribe or influence regulators. There is notably widespread overpayment for supplies in public hospitals and huge variation in cost across institutions. Medicines and supplies are stolen from hospitals and diverted to the private system for personal gain (Transparency Fund, NWFP Health Reform Unit & Heartfile, 2007).

Policy interventions

Vian (2006) describes how publishing medicines price information can provide a measurement standard, allowing oversight committees to monitor for inflated drug prices. The author notes that increased security of distribution systems can help reduce drug diversion due to theft. Vian also recommends monitoring for possible diversion from the public to the private market: batch numbers could be designated for use in each particular market, or each set of benefits could be labelled with the intended market.
In a 2008 study, Vian points out that publishing price lists for services can help patients understand the difference between official and unofficial services. Lewis & Pettersson (2009) also advance transparent pricing practices as a potential solution, and promote the idea of social pharmacies (i.e. non-for-profit or government run) or nongovernmental organizations dispensing medicines as an alternative to corporations primarily driven by commercial interests.

**Corruption risks in provider payments**

Payments to health care providers can provide opportunities for fraud. Bauder, Khoshgoftaar & Seliya (2016) highlight the occurrence of “upcoding”, a practice whereby providers bill for more expensive services than those actually performed. Dietz et al. (2013) highlight that current data systems are more capable of uncovering fraud than systems in the past, such as billing for services not performed or services that are performed but unnecessary, and the occurrence of kickbacks. As noted in the section on pooling, results-based or performance-based financing (where health providers are partly funded on the basis of their performance to meet targets or take specific actions) and audit mechanisms can also be helpful tools to aid compliance to contractual obligations.

However, important complexities remain. Witter et al. (2012) note that performance-based funding consists of a number of different approaches and its impact depends on various factors, including the design of an intervention, the incentive structures, targets and their measurement, the amount of additional funding, and other factors such as organizational context. Sparrow (2000) emphasizes that automatic methods to identify corruption, such as those found in data systems, may not necessarily be effective: an intelligence-gathering unit that is proactive towards the identification of corruption is required. Although technology has greatly evolved since 2000, Sparrow’s emphasis on the importance of human inspection in fraud detection remains relevant today.

Johnson & Nagarur (2016) discuss examples of duplicate billing (billing twice for the same procedure), unbundling (billing for separate services, although an inclusive code is available) and billing for procedures that are not medically necessary. McGee et al. (2018) discuss one of the largest Medicare frauds ever detected, in 2016, when 301 individuals were involved in fraudulent billing amounting to US$ 900 million. The authors note corruption risks including kickbacks from pharmaceutical companies to patients and physicians, prescribing for a family member who is below coverage maximum, or altering diagnoses to fit coverage criteria. McGee et al. also highlight that organized crime organizations can enter the system and seek to steal patient information for profit.

Lubao (2008) examined how providers in Florida submitted claims of US$ 2.5 billion for HIV/AIDS-related care, far exceeding the US$ 1 billion in legitimate claims required for all of the United States. Lastly, Kesselheim & Brennan (2005) discuss health care fraud by insurance companies. Physicians in the United States brought a class-action lawsuit against insurers, upheld by a federal court of appeal in 2004, alleging corrupt activities including: rejection of valid claims; delaying claim adjudication; incentivizing claim reviewers to deny payments; and using market power to pressure physicians to accept billing practices.

**Policy interventions**

Dietz et al. (2013) and Sparrow (2000) suggest the proactive identification of outliers and a reporting system for billing activities to help to detect fraud. Identifying outliers and analysing data in billing activities will find a certain class of corruption (for example, a claim for a pregnant man), but not other kinds (for example, “roboclaims” designed to look entirely consistent with the system rules). Joudaki et al. (2015) recognize that standard auditing procedures are expensive and time-consuming which, in turn, affects the ability of low- and middle-income countries to detect fraud. The authors propose a data mining procedure to identify suspect groups and allow targeted investigations.
Specifically, indicators employed in the data mining process (for example, the number of patients that visited more than once a month, and the average cost of prescribed medications) were useful in identifying physicians suspected of abusing the billing system. McGee et al. (2018) advocate more generally for computer programmes that are able to detect deviations from normal billing practices.

In a study on financial pressure and upcoding behaviour in French hospitals, Georgescu & Hartmann (2013) recommend identifying the source of pressure – the hospital’s administration or the professional peer group – to understand physicians’ likelihood of engaging in data manipulation and the specific kinds of upcoding involved. It was noted that organizational recognition of existing administrative and peer pressures may help to prevent such behaviour. If upcoding seems to be associated with financial pressure on health care decision-making, better understanding of the implications of financial targets would help to improve the situation. Lastly, Taitsmann (2011) advocates for better education of physicians in order to prevent fraud, waste and abuse.

**General policy interventions on purchasing**

The literature reviewed also identifies overall policy interventions to address corruption risks in purchasing. Lewis & Musgrove (2008) note that the financing stage presents challenges for governance, as the high number of people involved and high number of possible choices among inputs, people, diseases and services greatly increases opportunities for corruption, incompetence and fraud. Whereas poorly controlled funding and pooling may lead to theft of funds, the purchase of services or the payment of suppliers/providers allows for theft of supplies, especially drugs, as well as loss of time and use of public equipment and facilities for private gain. To counter the risk of corruption, Lewis & Musgrove suggest that accountability be designed at the individual level, noting that oversight is meaningless without a system of reward and punishment.

Other studies point out that processes and procedures to reduce the risk of fraud in purchasing include: annual fraud risk assessment; employee codes of conduct/codes of ethics, with consequences outlined for violations; codes of conduct for all vendors; a gift policy; a purchasing policy with segregation of duties; processes to report any possible breaches; and internal audits (Mann, 2013). Bauder, Khoshgoftaar & Seliya (2017) recommend the need for fraud analysis and detection research to minimize financial losses due to upcoding. The current availability of large data sources opens up possibilities for the integration of data and detection. Lewis & Pettersson (2009) point out the importance of ensuring that the payroll process is up-to-date with accurate lists of employees and budgets. The combination of policies and procedures that will work best is clearly context-specific. Interventions that have proved effective in one country may not necessarily be directly replicable in another if important contextual nuances are not taken into account.

### Benefit design

This section of the paper aims to review academic research on the main vulnerabilities to corruption in benefit package design. It highlights the role of interference by pharmaceutical companies in the decisions made by purchasers or insurers in what products and services to include (and exclude) in a benefits package. After presenting the main issues discussed in the literature, and the key structural factors behind them, recommendations to improve the current status quo are suggested.

### Corruption risks in benefit design

A case-study of Ghana’s national health insurance scheme shows that overly complex benefit systems may introduce vulnerabilities to fraud and corruption. In an environment marked by ambiguous and confusing information, users may be charged for services that are in fact covered by health insurance.
For example, in Ghana, HIV/AIDS treatments are not covered by the insurance scheme, but AIDS-related infection treatments are; orthopaedic treatments are not covered, unless resulting from a road traffic accident; and it is unclear which hospital services are covered for newborns (Barimah & Mensah, 2013). Key informants interviewed by Barimah & Mensah (2013) identified fraud as a basic problem, notably agents collecting and embezzling premiums, pharmacists making fraudulent claims for payment of products covered by the scheme, or members of the public attempting to procure free health services they are not qualified to receive.

Mostert et al. (2015) studied corruption in health care systems in Africa and the effect on cancer care, finding that patients unable to pay their medical bills may be detained by the hospital. Medical bills then rise with each day of detention, and families become increasingly unable to pay as a result. Patients may be abandoned, or a spiral begins whereby families sell vital assets to pay medical bills and bribes resulting in further impoverishment, lower likelihood of being able to pay bills and worse health outcomes.

Overall, the bulk of the literature on corruption risks in benefit design focuses on the pharmaceutical industry and its relations with politicians, government officials and academics. Jorgensen (2013) introduces the dependence corruption framework, which “posits that a political system over-reliant on the pharmaceutical industry will cater to the needs of the industry while disregarding the public’s needs and values” (p. 565). Jorgensen points out: “When a less-than-legitimate influence becomes more important than others, it can cause an institution to deviate from its intended purpose” (p. 565).

The United States of America is used as an example in a number of studies, which is understandable given the history, size and political influence of the pharmaceutical industry in the country, as well as the potential global ramifications of its activities and the policy responses. Jorgensen (2013) shows how pharmaceutical companies in the United States have managed to shape both pharmaceutical policies and the information used to evaluate them, as well as subsidize political allies and influence congressional voting. Brown (2013) analyses how clinical trials and the overall regulatory approval process are vulnerable to corruption. For instance, the regulatory approval process allowing a drug to enter the market is based on the results of two trials, selected at the discretion of the applicant. Therefore, many trials may have to be completed in order to produce two trials with the desired results. Academics may be paid large consulting fees to write up clinical trials or disseminate information on the purported advantages medicines may provide (i.e. off-label uses). Ebrahim, Sohani & Montoya (2014) found that only a small number of studies have re-analysed randomized clinical trials, that even fewer were conducted by authors entirely independent of the pharmaceutical industry, and that over one third of published re-analyses led to changes in findings and conclusions.

Light, Lexchin & Darrow (2013) focus on the negative consequences for patients of pharmaceutical companies’ established practices, namely: hiding, ignoring and massaging evidence; distorting medical literature; and misrepresenting products to physicians. In the United States, three levels of institutional corruption are at play when pharmaceutical companies carry out large-scale lobbying and campaign contribution efforts to: (1) undermine and compromise the mission of the Food and Drug Administration (FDA); (2) lead to underfunding of the FDA’s enforcement capacities and ability to protect the public from adverse drug reactions; and (3) commercialize the role of physicians and undermine their independence (Light, Lexchin & Darrow, 2013).

Although much of the literature focuses on the United States, corruption in benefit design has also been found to exist in other countries. In Hungary, for example, Szebik (2003) demonstrates that the funding of clinical trials by multinational companies can result in situations where physicians make choices that are not in patients’ best interest, but instead designed to maximize financial compensation, with important consequences for the inclusion and exclusion of certain products in benefit packages.
Structural factors

The literature identifies a number of structural factors behind the challenges to benefit design. Szébik (2003) discusses how low public funding for research, high costs of clinical trials and pressure on research physicians to publish may lie behind corruption issues in Hungary. Brown (2013) goes further by highlighting three main areas that discourage the fair evaluation of evidence in clinical trials and other academic research.

- **Career concerns** – for example: a pharmaceutical company employee worried about losing her/his job; an academic concerned about future prospects of obtaining research funding from the pharmaceutical industry; or, an academic journal hesitant about publishing research criticizing a pharmaceutical company, given the revenue they generate through advertising.

- **Reputation concerns** – pharmaceutical companies have distorted proxies for academics’ reputations through their ability to increase an academic’s productivity, the number of citations by others in the field and the status of the journals where she/he publishes, all key criteria for career advancement in academia.

- **Legal liability** – fines for wrongdoing are simply too limited to warrant any change in behaviour. Shi et al. (2018) also note that reforms to the Chinese health system in the 1990s included anti-corruption measures, such as fines and criminal penalties, which were not sufficient to deter corrupt activity.

Overall, the large financial pressures associated with FDA approvals in the United States of America, and similar processes in other countries, mean there are strong personal incentives to skew data in order to maximize chances of drug approval (Brown, 2013).

Policy interventions

The literature suggests a number of recommendations to tackle vulnerabilities to corruption in benefit design and, in particular, to address the influence of the pharmaceutical industry.

Jørgensen (2013) argues that more independent research is needed to uncover the undue political influence of the pharmaceutical industry in influencing how governments determine what is included in benefit design, notably by investigating lobbying practices and resulting links between political donations by pharmaceutical companies and public policy. In terms of clinical trials and relevant academic research, Brown (2013) notes that other advocates of reform have argued in favour of banning pharmaceutical industry funding of research; for example, Light, Lexchin & Darrow (2013) recommend to “separat[e] the funding of clinical trials from their conduct, analysis, and publication” (p. 590). Brown (2013) proposes three steps to improve the quality of relevant information in clinical trials and other scientific research which inform decision-making.

- **Incentivizing individuals** aware of a pharmaceutical company hiding information about safety and efficacy of a drug to report that company. Certain tools to prevent accounting fraud could help in this regard, including the Dodd-Frank Act whistleblower programme; in addition, more public education is needed to inform people in a position to report research fraud – including academics – of financial incentives to do so.

- **Changing the journal acceptance process**, including making a decision on publication before clinical trials are carried out, and holding researchers accountable for any deviations from an agreed-upon protocol.

- **Subsidizing insurance against failed clinical trials** undertaken with the purpose of obtaining FDA approval, as failed trials are expensive. If governments were to accept the financial risk, on condition of transparency and data quality on the pharmaceutical companies’ part, then companies may be less likely to skew their findings.
At a regulatory level, Light, Lexchin & Darrow (2010) support nomination of FDA leadership (independent of the pharmaceutical industry), full funding for all FDA activities including enforcement, and creation of a national drug safety board. At the practitioner level, Shi et al. (2018) suggest improving financial incentives for hospitals, physicians and insurers in order to counter the risks of corruption in China. Ultimately, Jorgensen (2013) warns that “[u]nless citizens mobilize to confront the political power of pharmaceutical firms, objectionable industry practices and public policy will not change” (p. 561).

Regarding hospital detention, a further cited vulnerability in benefit design, Mostert at al. (2015) highlight the fact that such detentions violate the Universal Declaration of Human Rights, which has been signed by African governments. There is a need for further investigation of how to eliminate the practice of hospital detention and to advise stakeholders on appropriate actions.
Discussion and conclusions

Relevance of findings for health financing diagnostics and policy

Although the rapid literature review was not exhaustive, it clarifies – with a good body of evidence – that health financing goals can be undercut by corruption. Mostert et al. (2015) note that corruption can result in undertreatment, overtreatment (see also Jain, Nundy & Abbasi, 2014), patients being deprived of generic drugs (given the lower financial incentives such drugs present for pharmaceutical companies, physicians and pharmacists), and patients being pushed towards alternative, lower quality treatments.

The rapid review clearly shows that corruption in health financing wastes already limited public resources allocated to the health system. It also decreases access to services, undermines equity and fairness, and jeopardizes progress towards universal health coverage – harming poor and vulnerable populations the most. Thus, the value of integrating anti-corruption, transparency and accountability measures into health financing diagnostics and policy discussions is clear. WHO’s 2019 publication Integrating a focus on anti-corruption, transparency and accountability in health systems assessments provides an excellent foundation to help to advance work in this area. ¹⁰

Relevance of findings for further research

Gaitonde et al. (2016) point out that there is “a paucity of evidence regarding how best to reduce corruption” (p. 27) in the health sector overall. With regards to corruption in health financing, the literature suggests a number of general policy interventions to address the issue (in addition to the specific interventions pertaining to each core function, as explored in previous sections).

These overarching policy interventions – enhancing transparency and accountability, raising awareness, monitoring and oversight, and integrating anti-corruption, transparency and accountability into health financing diagnostics and policy – should be studied further to examine their effectiveness in different health systems and contexts. Crucially, based on the recommendation of Gaitonde et al. (2016), there is a need to advance research to “monitor and evaluate the impacts of all interventions to reduce corruption, including their potential adverse effects” (p. 2). The issue of accountability is particularly in need of research as, to date, there has been little empirical work on accountability and it has been weighed down by too many definitions. There is a need to investigate how governments can implement accountability measures, and what works best, and why.

In short, there is ample space for further research to build up the evidence base for anti-corruption, transparency and accountability measures. There is a need to evaluate their effectiveness in reducing corruption and in helping to promote universal health coverage and other health goals, and to assess whether such strategies and tactics prove to be sustainable in the long-term.

Relevance of findings for capacity-building in the health system

The findings of the rapid literature review suggest that, in order to make progress towards universal health coverage and other health goals, there is a need to ensure the integration of anti-corruption, transparency and accountability into health financing policy discussions as well as diagnostics. To facilitate this, it is necessary to bridge the divide that may exist between health financing and corruption experts. This requires the development of training modules to explain corruption risks in health financing arrangements, how to identify them and what to do in order to reduce corruption. Capacity-building could take place through the integration or “mainstreaming” of anti-corruption, transparency and accountability into existing health financing knowledge products. This would help to advance knowledge so that practitioners are mindful of corruption risks, understand the lessons learned and can take appropriate action to address the risks.
Main lessons and way forward

Increased investments in health care may not necessarily translate into improvements in health outcomes (Lindelöw et al., 2006; McIsaac et al., 2018; Njog & Ngantcha, 2013; Nocera, 2010). As has been shown, the extent to which public spending on health impacts health outcomes is indeed undermined by corruption and mismanagement throughout the process (Gauthier & Wane, 2008). While corruption in health financing takes many different forms, the reviewed literature agrees on the importance of the following measures.

**Sufficient good governance mechanisms.** If sufficient and widely implemented good governance mechanisms are in place – in addition to good working conditions, appropriate income for health professionals, and promotions based on merit – corruption may be reduced (Jain, Nundy & Abbasi, 2014). This may partly be due to the fact that good governance encourages good behaviour and sufficiently well paid human resources.

**Transparency, as part of good governance.** Vian (2008) notes that enhancing transparency in health financing provides citizens with much needed information on which they can act or demand answers, thus increasing their ability to participate in governance. The author adds that freedom of information acts, which have been adopted in many countries to help citizens to access information (see also Hussmann, 2011), are important, as is investigative journalism which can expose corruption. A number of areas within the health system may particularly benefit from greater transparency, including: budgets; performance; decision-making processes (Mostert et al., 2015); payments (Segato et al., 2013); drug benefit packages; pharmaceutical procurement; and pharmaceutical distribution and supply (Kohler & Ovtcharenko, 2013; Prabhakaran et al., 2017).

**Accountability, as part of good governance.** As case-studies illustrate, there have to be consequences for corrupt practices (Lewis & Pettersson, 2009; Nocera, 2010) such as investigation, disciplinary procedures and criminal prosecution (Hussmann, 2011). Accountability mechanisms can be either internal (including institutional oversights, checks and balances) or external (non-state actors holding public sector power-holders to account) (Uzochukwu et al., 2018). For maximum impact, several studies stress the need for citizen mobilization at all levels (Lewis & Pettersson, 2009) to ensure accountability of public officials (Gatti, Gray-Molina & Klugman, 2002; Rispel, de Jager & Fonn, 2015; Uzochukwu et al., 2018).

**Awareness raising.** Raising awareness of corruption risks in health financing, and their consequences, is important in enforcing accountability. Hussmann (2011) highlights the need for awareness raising on corruption to change attitudes and normalized behaviour, notably through training programmes, education on patient rights and programmes through professional associations. A number of studies highlight the central role of public education in raising awareness about corruption risks (Ensor, 2004; Hotchkiss et al., 2005; Killingsworth et al., 1999; Njog & Ngantcha, 2013; Nocera, 2010; Shahriari et al., 2001; Uzochukwu et al., 2018). In addition, strong whistleblower programmes can help to shed light on corrupt practices and lead to public demand for reforms (Brown, 2013; Mostert et al., 2015; Jain, Nundy & Abbasi, 2014; Juwita, 2018; Ware et al., 2007). However, increasing transparency may not be effective in reducing corruption in and of itself, as Gaitonde et al. (2016) caution; hence the need for further interventions, including those discussed below.
Monitoring and oversight. Monitoring and oversight mechanisms are essential for enhancing accountability. The reviewed literature points to the importance of strong monitoring frameworks and oversight mechanisms to identify and potentially deter corrupt practices in health financing (Lewis, 2007; Savedoff & Grépin, 2012; Vian, 2006; Ware et al., 2007). Mostert et al. (2015) specify installing monitoring systems to ensure integrity in health budgets, address health workforce issues (absenteeism and dual practice), secure medicines supplies and eliminate informal payments, while Hussmann (2011) suggests expanding monitoring to include the assets and lifestyles of senior health officials. Monitoring and oversight can be carried out by community oversight boards (Vian, 2008), independent agencies or anti-fraud teams (Juwita, 2018). Vian & Collins (2006) note monitoring of financial performance is necessary to curb corruption and inefficiency, requiring service statistics and financial information to be integrated. The authors use the example of South Africa, where a reporting system was introduced to allow for comparison of statistics, indicators and budgets across facilities. Flow of funds, information systems, and budget and data management are also important areas to track (Lewis & Pettersson, 2009). Although performance-based financing can incentivize better services, it may prove counterproductive if the process is not effectively monitored and wrongdoers are not held accountable. For example, in some hospitals in Australia, performance data was manipulated in order to meet criteria for further funding (Nocera, 2010).

To increase efficiency, Gaitonde et al. (2016) found that coordinated interventions undertaken by the Department of Health and Human Services, the Department of Justice and other agencies in the United States helped to recover billions of dollars and resulted in hundreds of new cases and convictions each year. The package of interventions included: increasing computer analytic capacity to review payment trends and identify improper billing; stricter health care fraud and abuse control laws; prepayment claim checking; manual reviews; educating providers; and, provider enrolment screening.

Integration of anti-corruption, transparency and accountability in health financing diagnostics and policy. Anti-corruption, transparency and accountability should be built into health financing diagnostics and policy, and not viewed as standalone measures. Prior to designing strategies, there also needs to be a thorough understanding of the country-specific nature of corruption, local values and international standards – including anti-corruption and human rights obligations (Juwita, 2018). Governments, providers and civil society should jointly identify corrupt practices, and strategies to mitigate these practices should be designed and combined with awareness raising (Hussmann, 2011). Such comprehensive strategies are likely to be most effective when there is strong political commitment to tackle the issue of corruption in health financing (Fryatt, Bennett & Soucat, 2017). Governance reforms outside of the health sector are equally important; for example, ensuring strong governance in the financial sector, strengthening the civil service, decentralizing of processes, and increasing local accountability.
References


