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Corruption and healthcare in Morocco

Corruption risks in medicine value chains and private healthcare

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Since 2021, Morocco has been undergoing institutional and regulatory reforms aimed at achieving universal access to healthcare and enhancing the efficiency of its medicine value chain. However, corruption risks persist across multiple stages of the medicine value chain, manifesting in the proliferation of substandard and falsified medical products (SFMPs), favouritism in the procurement of medicines and the misuse of free samples due to inadequate oversight, among others. Additionally, despite the expansion of the private healthcare sector, it remains underregulated, resulting in significant corruption risks, such as abuse of reimbursement policies through billing for unnecessary procedures or hospital stays, and exclusivity agreements between clinics and carriers. Several strategies can mitigate these corruption risks across the value chain of medical products and in the private sector, including enhancing clinical trial data transparency, improving good manufacturing practice (GMP) inspections, employing digital technologies to monitor distribution channels, and introducing e-procurement and open data systems for medicine procurement. In the private healthcare sector, mitigation strategies include ensuring price and service delivery transparency, establishing a strong regulatory framework, and leveraging AI tools to detect potential fraud and corruption in service delivery.

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Query

Please provide an overview of corruption risks in Morocco's medicine value chain and in the private healthcare sector, as well as mitigation strategies to tackle corruption in the medicine value chain.

Main points

- Institutional changes in Morocco, since 2021, were aimed at achieving universal health coverage and enhancing the efficiency and transparency of the medicine value chain.
- The Moroccan Agency for Medicines and Health Products (AMMPS) was established as part of these reforms, tasked with coordinating national pharmaceutical policy, regulating the pharmaceutical sector, and ensuring the availability, safety, quality and access to medicines and healthcare products.
- Corruption risks persist across multiple stages of Morocco's medicine value chain. These risks include theft and collusion, which enable illicit networks to smuggle SFMPs, and favouritism in public procurement, among other challenges.
- The private healthcare sector's involvement in the delivery of healthcare services has also been expanded, but remains unregulated and vulnerable to corruption, typically manifesting in abuse of reimbursement policies, such as billing for unnecessary procedures or hospital stays.
- Mitigation strategies for tackling corruption risks in the medicine value chain include enhancing clinical trial data transparency, strengthening good manufacturing practice (GMP) inspections, employing digital technologies to monitor medicine distribution, introducing e-procurement and open data platforms for the procurement of medicines, and establishing well-funded, independent regulatory agencies.
- Mitigation strategies for tackling corruption risks in the private healthcare sector include strengthening regulatory oversight, ensuring price and service delivery transparency, leveraging data to enhance transparency, accountability, as well as to detect corruption vulnerabilities, and strengthening whistleblowing mechanisms.

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Introduction

The healthcare sector in Morocco

The Moroccan health system consists of a dense public sector spanning 12 decentralised health regions and a growing private sector concentrated in major cities, particularly along the Casablanca-Rabat axis. In 2021, the public sector operated 2,985 primary healthcare centres, providing preventive, curative, and supportive care. Secondary and tertiary public care were delivered through a network of 165 local, regional and inter-regional hospitals, supported by 157 additional facilities, totalling 26,771 beds and 13,682 medical practitioners. The private sector had over 12,534 beds and 14,199 medical practitioners, with most physicians self-employed, though some public sector doctors also practiced privately illegally[1] (Zbiri et al. 2024; pp.2-3).

Healthcare spending is unbalanced, with the private sector accounting for 60% of healthcare spending in 2022, despite covering far less of the total population (ITA 2024). This pattern is also reflected in per capita healthcare spending data from 2019, which totalled US$189,34. Government contributions made up US$77.68 (41.03%), while private spending – both out-of-pocket (US$91.40, 48.27%), prepaid private spending (US$17.43, 9.21%), and development assistance for health (US$2.83, 1.49%) – accounted for the remaining 58.97% (Pharma Boardroom, 2023a, p.9).

The private healthcare market comprises over 400 private clinics, predominantly located in the Casablanca-Settat and Rabat-Salé-Kénitra regions, employing over 14,000 physicians (ITA 2024). The latest report on the state of human resources, infrastructure, and equipment in the public and private healthcare sectors shows that Morocco had 453 private clinics in 2024, although these facilities were heavily concentrated in just five regions,[2] highlighting an urban-rural divide in healthcare accessibility (Zerrour 2025). Healthcare services outside large cities remain limited, with healthcare centres in rural areas primarily offering preventive care.

[1] However, in 2020, the National Medical Association officially authorised its members in the public sector to practice in the private sector, which is contrary to the law (Hadioui 2020). Moreover, in 2025, reports were made that doctors have protested due to issues including the inability of healthcare professionals to practice in the private sector (Naim 2025).

[2] Casablanca-Settat, Rabat-Salé-Kenitra, Tangier-Tetouan-Al Hoceima, Fez-Meknes and Marrakesh-Safi (Hespress 2022).

Furthermore, there is an ongoing shortage of healthcare professionals, and continuing disparities between urban and rural areas (BTI 2024).

The Moroccan healthcare sector faces numerous challenges that affect its ability to deliver high-quality healthcare to all citizens. These include unequal access to healthcare services, staff shortages, frequently exorbitant medicine prices, and governance deficiencies (Harfaoui et al. 2024; Mahdaoui and Kissani 2023; Oudoud 2024a; Semlali et al. 2018).

In 2002, only 17% of Moroccans had health insurance coverage (Hickey 2024). To address this issue, the Assurance Maladie Obligatoire (AMO) was launched in 2005 to provide healthcare coverage for formal public and private sector employees. Simultaneously, the Régime d'Assistance Médicale (RAMED) was launched to extend coverage to individuals in the informal sector (Hickey 2024). Under the AMO programme, beneficiaries could receive reimbursements covering up to 70% of the national reference price for services at private clinics and 90% at public clinics and hospitals (Hickey 2024). RAMED specifically targeted those outside formal employment, focusing primarily on the poor, individuals with disabilities and the elderly (Hickey 2024).

Recent institutional and governance changes have aimed to address some of the sector's key weaknesses by, for example, making efforts to further extend the healthcare coverage. In a royal speech in 2020, King Mohammed VI declared the need to extend social coverage to all Moroccans, which was one of the four pillars of the broader social coverage reform (Kingdom of Morocco Ministry of Foreign Affairs African Cooperation and Moroccan Expatriates 2020; Telquel 2024; ILO 2024). In his speech, King Mohammed VI emphasised the need to strengthen good governance and accountability mechanisms, and to ensure merit-based recruitment in the public sector, particularly within agencies responsible for overseeing the allocation of state contributions (Kingdom of Morocco Ministry of Foreign Affairs African Cooperation and Moroccan Expatriates 2020). In 2021, a series of decrees extended eligibility for mandatory health insurance to self-employed workers and their dependants (Telquel 2024).

The RAMED programme ended in 2022, and all its beneficiaries transitioned to the new AMO-TADAMON programme, with the goal of achieving universal coverage under a unified system (Hickey 2024; World Bank 2024). Eleven million former RAMED beneficiaries were transferred to this new system, allowing them to receive the same healthcare benefits as those employed in the formal sector (Le Matin 2022). While previously being restricted to public healthcare facilities, these beneficiaries are now eligible to access services from private healthcare providers as well (Hickey 2024; World Bank 2024). This system intends to alleviate pressure on public health facilities and ensure equitable access to healthcare resources (Hickey 2024).

However, a recent audit of the AMO-TADAMON programme revealed several shortcomings, including individuals benefiting from the scheme despite not belonging to vulnerable groups, eligible individuals not benefiting from the scheme due to the complexity of registration procedures, and heads of households failing to register eligible dependants (Oudoud 2025).

The proportion of Moroccan citizens covered by healthcare grew from 15% in 2005 to 79.8% in 2022; however, since this expansion was not accompanied by a parallel improvement in healthcare human and financial resources – particularly in rural areas – its impact has been limited (Hickey 2024).

Despite recent efforts to reform the healthcare sector, substantial challenges persist. This Helpdesk Answer specifically examines corruption risks within two key areas of Morocco's healthcare system: the medicine value chain and the private healthcare sector.

Medicine value chain and the pharmaceutical industry in Morocco

Morocco's pharmaceutical industry[3] ranks second in Africa and fifth in the MENA region in terms of production (Vedie 2024: 10; El Masaiti 2024; Pedraza 2024). It had a 50% increase in revenue in 2023 compared to 2022, which was a record for the country's pharmaceutical sector (Vedie 2024). The industry's average annual investments are around 700 billion dirhams, with revenues between 14 and 15 billion dirhams in 2022 (Vedie 2024: 9). Morocco's pharmaceutical industry, as the second largest producer on the continent, covers approximately 80% of the country's medicine and therapeutic needs, and the sector encompasses over 50 manufacturers and a network of more than 11,000 private pharmacies (El Masaiti 2024; Vedie 2024).

Major companies in the sector include subsidiaries of large multinationals as well as domestic firms such as Cooper Pharma, Sothema, Laprophan and Sanofi (Vedie 2024). The oldest of these industrial pharmaceutical establishments (EPI – Établissements pharmaceutiques industriels) is Cooper Pharma, founded in 1933 in Casablanca, which grew from a small subsidiary of a French laboratory to a 100% Moroccan multinational pharmaceutical company (Vedie 2024: 4; Cooper Pharma no date).

[3] The pharmaceutical industry is an economic sector consisting of companies engaged in researching, developing, manufacturing, marketing and distributing drugs intended for use in diagnostics, cure, mitigation, treatment or disease prevention (see: ITA no date).

The medicine value chain in Morocco encompasses several key stages:

- research and development (R&D)
- manufacture
- registration
- promotion
- procurement
- distribution.

Recent reforms, especially since 2021, such as establishing a new regulatory body which oversees national policies, the monitoring of drugs prices and other measures, have enhanced the regulatory framework governing several stages of Morocco's medicine value chain.

After years of delays, a decree implementing the biomedical research law was adopted in 2021, opening the space for the development of clinical research (Channaje 2021). The law establishes procedures for obtaining and withdrawing consent from individuals who participate in biomedical research, stipulates the formation of regional committees tasked with protection of individuals participating in biomedical research, and determines procedures for authorising, suspending, and withdrawing authorisations for biomedical research, thereby increasing transparency in this process (Channaje 2021). Additionally, public procurement reforms introduced in 2023 have enhanced transparency through the digitisation of public procurement processes, and the Ministry of Health and Social Protection has established a dedicated directorate to improve medicine supply management (Badrane 2023; Saoury 2024).

As part of health sector reforms, which notably accelerated between 2021 and 2023, a new regulatory body was established under Law 10.22, replacing the former regulator, the directorate of medicines and pharmacy (ITA 2024; AMMPS no date). The primary regulatory authority for the pharmaceutical sector in Morocco under this law is the Moroccan Agency for Medicines and Health Products (AMMPS), operating under the Ministry of Health and Social Protection, which supervises different stages of the medicine value chain, including manufacturing, distribution, importation and marketing. Furthermore, AMMPS is responsible for coordinating national pharmaceutical policy, regulating the pharmaceutical sector, ensuring the availability, safety, quality and access to medicines and healthcare products (Harfaoui et al. 2024). By overseeing the continuous monitoring of drug prices and implementing precautionary measures, vigilance, and risk analysis, the agency promotes transparency in the pharmaceutical sector (Head of government, 2025).

The agency's strategic priorities include modernising registration procedures, controlling and monitoring medicines, price monitoring, and encouraging the production of generic and biotechnological medicines to strengthen local manufacturing capabilities (AMMPS no date; Kingdom of Morocco Head of Government 2025). AMMPS also plays a key role in pharmacovigilance and combating SFMPs, collaborating closely with competent authorities and international partners, as well as in the development of clinical research and innovation by promoting collaboration between laboratories, universities, and manufacturers (AMMPS no date). AMMPS is led by a board of directors, which is chaired by the head of government or government authority delegated by the head of government (AMMPS no date). However, the body is still in its nascent phase as its first board of directors' meeting was held in January 2025 (Telquel 2025).

Corruption drivers in the health sector

The healthcare sector, in general, is vulnerable to corruption due to various factors, including:

- vast resources allocated to the sector
- complexity and fragmentation of healthcare systems (e.g. sub-systems for public sector employees, formal sector employees, etc.; a combination of public and private healthcare sector providers, with the latter typically less regulated) creating opportunities for regulatory capture
- a large number of stakeholders involved, including medical suppliers, healthcare workers, policy makers and consumers, each facing a complex mix of incentives, making it harder to detect conflicts of interest and undue influence
- the globalised nature of supply chains for medicines and medical devices, which opens opportunities for regulatory capture and undue market pressure
- asymmetry of information, limiting the ability to fully monitor activities and hold responsible actors accountable
- frequent interactions between citizens and healthcare workers (Hussmann 2020: 4-6; Ardigó and Chêne 2017)

These structural factors increase vulnerability to corruption, providing powerful interest groups opportunities to influence regulators through undue influence, bribery and kickback schemes (Hussmann 2020: 6). Corruption can occur at any stage of the health service delivery chain, including policy formulation, management

of resources, procurement of medicines and medical devices, and service delivery (Ardigó and Chêne 2017). Particularly vulnerable areas are the provision of services by medical personnel, human resources management, medicines selection and use, procurement of medicines and medical equipment, distribution of medicines, regulatory systems, budgets and pricing (Ardigó and Chêne 2017: 3).

In Morocco, survey evidence suggests high perceptions of corruption in the healthcare sector. Namely, the Trust Index Report published by the Moroccan Institute for Policy Analysis (MIPA) suggests that the healthcare sector is perceived as the most corrupt, with 87% of respondents saying that bribery is prevalent in the public healthcare sector, and 55% saying that bribery is prevalent in the private healthcare sector (MIPA 2022).

According to the latest Global Corruption Barometer, the bribery rate for medical services in Morocco was 32%, the highest in the MENA region (Zouanat 2019; Kukutschka and Vrushi 2019).

Corruption risks in Morocco's medicine value chain and private healthcare system

Each of the stages of the medicine value chain in Morocco is vulnerable to corruption risks to varying degrees, particularly in manufacturing, procurement, and distribution (Asmlal 2019; Cour des Comptes 2023, 2024; Taleb 2021; Ibriz 2024; Le Desk 2024; Benadad 2025; Boukhars 2019; El Kanabi 2023). Corruption typically manifests through favouritism in public procurement, as well as embezzlement and collusion which contribute to the proliferation of SFMPs (Asmlal 2019; Cour des Comptes 2023, 2024; Taleb 2021; Ibriz 2024; Le Desk 2024; Benadad 2025; Boukhars 2019; El Kanabi 2023).

This section discusses corruption risks in Morocco's medicine value chain, focusing on research and development (R&D), manufacture, registration, promotion, procurement and distribution. Each of these stages is examined through three questions: i) what the general corruption risks are associated with this stage, according to the literature; ii) what is the regulatory framework governing this stage in Morocco; and iii) what evidence of corruption exists for this stage in Morocco.[4] The section concludes by discussing corruption risks in Morocco's private healthcare sector.

Research and development

The research and development (R&D) stage is the first activity in the medicines value chain, which typically includes the following phases:

- the early research phase
- the preclinical testing phase
- three phases of clinical trials
- patent application (Kohler 2016: 8)

[4] The information on corruption risks in Morocco's medicine value chain is based on available case studies from media coverage and regulatory bodies' reports. As such, this information does not necessarily indicate that there are more corruption risks in one stage over the other, but points to existing evidence of corruption risks in each stage.

While clinical trials are a key driver of medical innovation, the lack of transparency can heighten the risk of undue influence, data manipulation and distortion of evidence (Bruckner 2017).

Considering the significant expenditures necessary for R&D, insufficient government oversight creates the risk that companies might prioritise profit over public health needs. Namely, pharmaceutical companies are incentivised to pursue low-risk research that promises high profits and rapid entry of products to the market, rather than investing in the development of medicines that offer significant therapeutic advances (Rodwin 2013: 582). In the absence of adequate policies regulating the R&D stage of the value chain, pharmaceutical companies may exert strong control over the R&D process, increasing corruption vulnerabilities, manifesting in kickbacks to speed up approvals for clinical trials, or manipulation of clinical trial data to obtain regulatory approval (Kohler 2016: 8). Consequently, the combination of profit-maximising incentives of pharmaceutical companies and corruption risks due to poor regulatory oversight may lead to regulatory capture, [5] as well as putting unsafe and inefficient medicines into the market (Kohler 2016: 8).

Therefore, pharmaceutical companies must demonstrate the efficacy and safety of medicines to regulatory agencies through randomised control trials (RCTs) before entering the market. Without proper oversight of clinical trial data, companies may be tempted to manipulate data, potentially leading to a bias towards positive findings in the literature. Indeed, research indicates that industry funded RCTs are more likely to produce positive findings compared to those funded by other sponsors (Kohler 2016: 8). Another risk includes ghost-writing, where established researchers falsely attribute their authorship to clinical trial publications produced by the industry (Kohler 2016: 9). Other forms of corruption at this stage include the abuse of research funding through the misallocation of funds, improper trial study design and/or conduct aimed at producing misleading findings that support the approval and manufacturing of medicines (Petkov 2016).

In 2015, Morocco adopted Law 28-13 on the protection of persons participating in biomedical research. This law mandates the establishment of regional ethics committees (CPP), aligned with administrative regions in Morocco, whose approval is required prior to conducting any clinical research. Approval is typically required from the committee located in the region of the principal investigator's institution. In the case of rejection, applicants can appeal to the governmental regulator to assign a CPP from a different region to review the protocol. The law also outlines measures against conflict of interest, specifying that members of the committee who are involved in a

[5] Carpenter and Moss (2013: 13) define regulatory capture as: 'the result or process by which regulation, in law or application, is consistently or repeatedly directed away from the public interest towards the interests of the regulated industry, by the intent and action of the industry itself'.

protocol submitted for approval cannot participate in the assessment (Adarmouch 2017). Furthermore, it establishes monetary and prison sanctions for breaches of its provisions (Adarmouch 2017).

Although there are no documented cases of corruption related to the R&D stage in Morocco, it is important to discuss potential vulnerabilities of this law, particularly as evidence from other stages of the medicines value chain suggests weak accountability mechanisms and limited transparency, which could similarly apply to the R&D stage. As argued by Adarmouch (2017), this law does not adequately detail the operation of local institutional review boards or clearly define national oversight, potentially opening space for collusion and kickbacks to approve studies, among other corruption risks. Moreover, there were delays in implementing this law. It was not until April 2021 that decree no. 2.20.326, implementing the provisions of Law 28-13, was adopted (Channaje 2021).

Manufacturing

Good manufacturing practices (GMPs) guide the manufacturing of safe and quality medicines (Kohler 2016: 12). GMP guidelines establish minimum standards medicines must meet before entering the market and are required for the international procurement of medicines (Kohler 2016: 12). These standards are important as they help to lower the risks of poor-quality medicines entering the market, and include quality management, appropriate packaging and labelling, making sure there is appropriate concentration of active pharmaceutical ingredients, batch testing, laboratory controls and certificates of analysis (WHO 2015; Kohler 2016: 12; Kohler and Ovtcharenko 2013). Manufacturers, regulators and inspectors are responsible for following and enforcing GMP guidelines to prevent unsafe and falsified medicines from entering the market (Kohler 2016: 12).

Typical corruption risks at this stage include bribery by manufacturers to obtain GMP certification or to create entry barriers to competitors. Corruption may result in SFMPs entering the market, which has a range of negative consequences, including on peoples' health and trust in institutions (Kohler 2016: 13). Further, national commitment to local manufacturing may create additional incentives for collusion between firms and regulators, as shown by the example of Sinovac BioTech, which was guilty in the past of bribing Chinese regulatory officials to obtain fast-track approvals for vaccines (Steingrüber and Gadanya 2022).

In Morocco, the manufacturing process for medicines is regulated by Law 17-04 (2006), known as the medicines and pharmacy code. This law mandates that all produced or imported medicines undergo testing to demonstrate their effectiveness, safety, therapeutic interest, and establish bioequivalence in the case of generic

medicines. The law specifies that each batch of produced medicines needs to be subject to conformity analysis by the manufacturer before being marketed to ensure that it meets necessary quality standards (Law 17-04 2006: Article 20). Manufacturers and importers are required to provide evidence to AMMPS demonstrating that medicines meet quality standards prior to marketing, by providing, among other requirements, evidence of manufacturing methods and control processes guaranteeing the quality of the medicine at the industrial manufacturing stage (Law 17-04 2006: Article 8). In addition, pharmacy inspectors are authorised to conduct site visits to ensure compliance with GMP rules before issuing marketing authorisation, and the law stipulates monetary sanctions in case of noncompliance (Law 17-04 2006: Articles 9, 156).

Manufacturers must obtain licences from the Ministry of Health and adhere to GMP guidelines (AUDA-NEPAD no date). The National Laboratory for the Control of Medicines (LNCM) is responsible for reviewing product documentation and conducting laboratory tests to confirm medicine quality (AUDA-NEPAD no date). Pharmaceutical manufacturing plants in Morocco have to follow GMP guidelines in every production stage, from staff training to quality control testing. The country has around 56 pharmaceutical industrial establishments, alongside 66 wholesale distributors. Among the 56 manufacturers, there are local producers and multinational companies operating in Morocco (Pharma Boardroom 2023b).

To obtain marketing authorisation, manufacturers must have industrial production facilities located within the country, either directly or indirectly (EU 2024). Foreign manufacturers must either operate local production facilities or partner with a local company authorised to produce and distribute. This is officially justified by the need to guarantee the quality of medicines and ensure a sufficient availability of locally produced medicines (EU 2024).

Despite these regulations, there have been instances of mismanagement at this stage of the medicines value chain in Morocco. In November 2019, the director of the directorate of medicines and pharmacy (DMP) was dismissed, officially due to insubordination (Neuf 2020). However, his dismissal followed reports of mismanagement within the DMP. Specifically, some medicines were out of stock, some were difficult to find in pharmacies and expired medicines were destroyed, resulting in financial damage of tens of millions of dirhams (Asmlal 2019), suggesting a lack of oversight of manufacturing and a poor inventory of medicines. Reports by the court of accounts regularly highlighted issues with the undersupply of required medicines in hospitals (Yousfi 2019; Cour des Comptes 2023, 2024). For instance, the 2018 report noted that significant quantities of pharmaceutical products expired in some health centres, with associated losses estimated at around 3.5 million dirhams (Yousfi 2019).

There are also allegations of awarding tailor-made public contracts to companies without factories in Morocco. This is contrary to the law, which requires that manufacturers have local production units (Asmlal 2019). This had negative consequences on the national production of medicines in Morocco, resulting in its ability to cover market needs declining from 80% to 55% over a short period of time (Asmlal 2019). While direct evidence of corruption is limited, these procurement irregularities, combined with the persistent issues flagged by oversight bodies, highlight governance risks that could enable corrupt practices, such as favouritism in public procurement and embezzlement of public resources.

Registration

National or regional regulatory agencies are responsible for the registration of medicines, according to established standards for licensing, marketing, and use of medicines (Hussmann 2010; Kohler 2016). Expert committees are essential in this process to thoroughly review all submitted documentation (Kohler 2016).

By its nature, the registration process is time-consuming and costly for pharmaceutical companies, which creates incentives for both companies and regulators to expedite the process by bypassing required procedures, especially if there is inadequate oversight (Kohler 2016). Registration processes may become vulnerable to corruption, particularly if regulatory agencies are underfunded, there is a lack of competent personnel, or when there is significant discretion by government officials over licensing (Vian 2008). For instance, government officials' discretionary powers over the marketing registration of medicines increase risks of abuse of power (Vian 2008; 84). If regulatory agencies are underfunded and there are insufficient accountability mechanisms, opportunities emerge for firms to capture regulatory processes by bribing officials, either to expedite registration or obtain licences without meeting necessary requirements (UNDP 2011: 27; Kohler 2016).

In Morocco, before any medicine can be marketed, it must undergo a registration and authorisation process in accordance with Law 17-04 (2006). This law outlines the conditions for submitting an application for registration, technical and administrative requirements, evaluation procedures carried out by the competent authority, validity periods and renewals, and the criteria for suspending authorisations. Recent institutional changes have given a central role in this process to the newly established AMMPS (AMMPS no date). In 2016, a new decree was adopted to make the process more efficient by providing applicants with a response on the completeness of their dossiers within 60 days and issuing marketing authorisation of reference medicines or biosimilar in ten months, and generic medicines in nine months (Pharma Boardroom 2023b; Clarivate 2018).While these changes may improve the efficiency of the registration process, they also risk undermining due diligence, particularly in

light of persistent shortcomings in oversight and accountability mechanisms in Morocco's healthcare sector. For instance, a 2021 parliamentary report on medicine procurement during the Covid-19 pandemic criticised the double standards in processing registration applications (Taleb 2021).

Promotion

The advertising of medicines constitutes a substantial portion of expenditures for pharmaceutical companies, and this marketing primarily involves interactions between the pharmaceutical industry and healthcare professionals (Kohler 2016: 17). Strong regulations and oversight mechanisms are necessary at this stage of the medicines value chain as well to prevent unethical marketing, considering the profit-maximising incentives of the pharmaceutical industry, which is under pressure to recoup R&D costs (Kohler 2016: 17; Mulinari and Ozieranski 2023). Typical corrupt practices at this stage include companies bribing medical professionals to prescribe their medicines, individuals including a medicine on a national list which is reimbursed by public healthcare fund in exchange for indirect bribes, or doctors selling free samples to patients or pharmacies (Kohler 2016: 17-18). Too close a relationship between the industry and doctors can make it harder to detect any corrupt behaviour (Kohler 2016: 17).

In Morocco, the promotion of medicines is regulated in the fourth section of Law 17-04 (2006), which specifies the procedures of medicine promotion and the distribution of free samples, among other provisions. According to this law, any advertising to the public is subject to obtaining an advertising visa (Law 17-04 2006: Article 42) and conforming to the marketing authorisation file (Law 17-04 2006: Article 39). This law explicitly prohibits the distribution of medical samples containing psychotropic or narcotic substances (Law 17-04 2006: Article 47). The same article also mandates that free samples can only be distributed to healthcare professionals authorised to prescribe or dispense medications or use them in their practice (Law 17-04 2006: Article 47). The law further specifies that medical samples distributed must be limited to two boxes, clearly labelled as free samples and marked as prohibited for sale (Law 17-04 2006: Article 47).

However, despite these regulations, there are corruption risks related to pharmaceutical advertising in Morocco, particularly concerning the allocation of free samples. For instance, in August 2024, in a letter to the Minister of Health and Social Protection, the Confederation of Pharmacists' Unions of Morocco called for institutional action against the illegal distribution of free samples to doctors, citing public health risks, especially with psychotropic and narcotic substances (El Alami 2024). In the letter, they accused several pharmaceutical laboratories of engaging in the trafficking of psychotropic drug samples in violation of Moroccan Law 17-04

(2006), which explicitly forbids the distribution of samples containing psychotropic substances or those regulated under narcotics legislation (El Alami 2024). In the letter, they noted that these medicines must be dispensed only through pharmacies, that they require a medical prescription, and that pharmacies are obliged to record all dispensed medicines in a special log, a requirement which is not being met in the current distribution practice (El Alami 2024). These violations not only undermine pharmaceutical regulations but also create opportunities for illicit financial benefits, reinforcing corruption risks within the sector.

Procurement

The literature on public procurement suggests that corruption risks exist at every stage of the procurement process (e.g. Fazekas and Tóth 2016). Public procurement of pharmaceutical products accounts for a substantial portion of national healthcare spending. The procurement of medicines is even more vulnerable to corruption than other sectors, considering the large volumes of medicines and typically lucrative contracts involved (Kohler 2016). Consequently, corruption in medicine procurement processes increases medical costs, leads to medicine shortages and allows SFMPs to infiltrate health systems, imposing significant burdens on national healthcare systems and patients (Chêne 2009; Kohler 2016; Veljanov and Fazekas 2023).

While different classifications of corruption in public procurement exist, the simplest distinction is between isolated and institutionalised/systemic corruption (Fazekas and Tóth 2016; Kohler and Dimancesco 2019). In cases of systemic corruption, contracts are systematically awarded to companies based on political connections. Corruption can occur at all stages of the medicine procurement process: in the pre-bidding stage, where bidding documentation can be tailored to specific companies and information about contract announcements may be distributed unequally to bidders; in the bidding stage, where bribery might be used to secure contracts, or bidders could be unjustifiably excluded; and in the post-bidding stage, where corruption can involve false invoicing and contract amendments, resulting in inflated costs or failure to deliver contracted goods (Kohler 2016: 23; Kohler and Dimancesco 2019).

In Morocco, the public procurement institutional landscape has recently undergone significant changes with decree no. 2-22-431 (2023). This decree was designed to modernise and strengthen public procurement rules, replacing the previous 2013 decree no. 2-12-349 (World Bank 2023: 145). It introduces rated criteria, allows for the selection of the most advantageous bid, incorporates competitive dialogue and establishes an observatory for public procurement as well as a complaints committee (World Bank 2023: 29). The Ministry of Health and Social Protection also underwent restructuring relevant to procurement by establishing the Directorate for the Supply of Medicines and Health Product in 2023, which is charge of overseeing procurement

and ensuring the supply of essential medicines and high-quality health products to healthcare facilities (Badrane 2023; Saoury 2024). Additionally, there is a designated portal for publishing all public procurement contracts.

Corruption in medicine and general healthcare procurement is still a significant issue in Morocco. A parliamentary report in 2021 discovered evidence of favouritism and violations of public procurement regulations within the Ministry of Health and Social Protection related to contracts awarded during the COVID-19 pandemic (Taleb 2021). The report found that the ministry violated the law by awarding contracts for medical supplies to companies that lacked licences, making agreements through direct negotiations with 45 such companies (Taleb 2021). The report also pointed out instances of issuing urgent authorisations or even granting them to companies after the contract was signed (Taleb 2021).

Following the publication of the report, the director of the drugs and pharmacy department of the Ministry of Health and Social Protection, Jamal Taoufik, was dismissed. The parliamentary report further noted that Taoufik's department procured medicines from companies that had no production units in Morocco, in violation of the law (Spurgeon 2019). The same official had previously been dismissed in 2001 when he was accused of nepotistic practices in the award of contracts. It was found that his wife held stakes in several medicine production and distribution companies that benefited from contracts awarded by the Directorate of Medicines and Pharmacy (DMP) (Asmlal 2019).

In 2024, the Casablanca court of appeal convicted 29 people, including pharmacists, regional health directors, a former Ministry of Health employee and pharmaceutical companies' managers for alleged corruption in the awarding public contracts for medical equipment in exchange of commissions or benefits in kind (Ibriz 2024; Le Desk 2024).The investigation revealed that these actors engaged in embezzlement, bribery, abuse of power, supplying used medical equipment, and leaking confidential information to private contractors, resulting in significant losses (MAP 2022).

Distribution

The distribution stage of the medicines value chain involves moving medicines from manufacturers or importers to pharmacies, hospitals, and ultimately to consumers. This process includes several steps: port clearing, receiving and inspecting, storage, inventory management, requisition of supplies, dispatch, pickup and transportation, and disposal of medicines (WHO 2009: 97). Each step carries inherent corruption risks, which underscores the importance of adhering to established standards, such as good storage practices and good distribution practices (WHO 2009: 97). Typical corruption risks occurring in medicine distribution include theft for black-market

sales, which are heightened by the lack of proper oversight. This contributes to the infiltration and proliferation of SFMPs into the health system, as, for example, stolen medicines can be replaced with substandard and falsified ones (Kohler 2016: 26).

In Morocco, Law 17-04 (2006) sets out rules governing medicine distribution, specifying that wholesale medicine sales can only be conducted by industrial pharmaceutical establishments (defined as those with a manufacturing site, involved in manufacturing, import and export) and that wholesale medicine distribution can only be performed by wholesale distributor pharmaceutical establishments (entities involved in purchasing, storing and wholesale distribution of medicines to pharmacies and clinics) (Law 17-04 2006: Articles 27, 28, 74). The law further strictly bans selling medicines to the public outside pharmacies (Law 17-04 2006: Article 112). Additionally, decree no. 2.18.878 outlines the responsibilities of pharmaceutical inspectors to inspect pharmacies, medicine inventories in clinics and pharmaceutical institutions, as well as storage warehouses, while circular no. 485 explicitly bans the sale of medicines online (Benjelloun 2024).

Despite these regulatory measures, the grey market for medicines remains a significant challenge in Morocco (see Box 1). In 2024, the Minister of Health and Social Protection highlighted the dangers of SFMPs and reminded the public of the existing regulations regarding medicine distribution (Benjelloun 2024).

Box 1. Medicine grey market in Morocco

In 2018, the Ministry of Health and Social Protection decided to raise public awareness of the dangers of SFMPs. They were prompted by the booming grey market of unauthorised medicines, which were the leading cause of poisoning in Morocco, with 4,697 cases in 2016 (Mazellier 2017; Kasraoui 2018; Boukhars 2019).

However, the trade of SFMPs has persisted. For example, in February 2025, several individuals were arrested for suspected involvement in illicit online sales of contraband pharmaceuticals (Benadad 2025). The case came to light through social media advertisements offering contraband medicines, leading authorities to seize approximately 5,000 illegally sourced medical capsules and pills (Benadad 2025).

In the same month, pharmaceutical company Sothema announced that falsified versions of one of its medicines appeared in the local market in Morocco, with batch numbers that had never been manufactured or distributed by the company or its official partner. Sothema identified this as fraud and issued warnings about the associated health risks of using these falsified products (Hespress 2025).

Earlier in 2023, the Confederation of Moroccan Pharmacists' Unions sent a letter to the general directorate of customs highlighting the growing issue of smuggling networks bringing contrabanded SFMPs into Morocco, along with a sharp increase in their online sales. The confederation further noted that large quantities of these medicines had expired and been improperly stored (El Kanabi 2023). Contraband medicines primarily come to Morocco from Spain and Algeria, where smugglers purchase them at lower prices and subsequently sell them in souks in Morocco's border areas (Boukhars 2019; El Kanabi 2023).

There are indications of increased efforts by authorities to dismantle these networks. For instance, in October 2024, reports indicated that the Customs and Indirect Tax Administration (ADII) intensified road checks to tackle medicine smuggling (Asmlal 2024). These smuggling networks now operate across the entire supply chain, from transport and storage to sale (Asmlal 2024).

However, internal smuggling has also been identified as a significant issue in Morocco. Evidence suggests that smugglers obtain their supplies – primarily fever medication and painkillers that are stolen before they are billed to the laboratories– directly from national laboratories and then resell them in rural areas (Mazellier 2017).

Several structural factors incentivise the proliferation of SFMPs, including the high price of medicines in Morocco, frequent medicine shortages, and a lack of awareness about the dangers associated with using SFMPs (Oudoud 2024a, 2024b).

Publicly reported cases of smuggling of falsified medicines have not so far implicated public officials in Morocco, and therefore, the above cases point to fraud rather than corruption.[6]

Medicines from Morocco also end up on illicit markets in several African countries. A recent report by the Economic Community of West African States (ECOWAS) revealed that secret factories in Morocco produce falsified medicines, which are then smuggled into other African countries (Ayari 2023). The report found that the main source of illicit trade in falsified medicines in West Africa is clandestine factories in Morocco (Ayari 2023). It further noted that traffickers exploit several vulnerabilities, including inadequate medicine production capacities in the region and insufficient regulatory oversight (Ayari 2023). According to the report, falsified medicines are sold at prices 30% to 50% lower than the original medicines (Ayari 2023).

[6] While corruption is defined as the abuse of entrusted power for private gain, fraud concerns any intentional act or omission designed to deceive others resulting in a loss for a victim and/or a gain for the perpetrator (see: International Federation of Red Cross and Red Crescent Societies 2012: 2).

Additionally, risks associated with inadequate oversight and regulation of medicine sample distribution were recently highlighted by the Confederation of Moroccan Pharmacists' Unions. They called for stricter compliance with existing laws and proposed a six-month deadline for the distribution of drug samples following their initial marketing, citing concerns about unsafe storage and transportation conditions that pose threats to public health (El Alami 2024).

Corruption risks in the private healthcare sector

The private healthcare sector in Morocco continues to expand, growing from only 100 clinics in 1990 to over 400 in 2024 (Aublanc 2024). It now surpasses the public healthcare sector in the number of clinics, providing over a third of hospital bed capacity in the country, with approximately 15,000 beds (Aublanc 2024). While public hospital beds decreased by 1% between 2017 and 2022, private clinics saw a 50% increase during the same period (Aublanc 2024). With regards to medical consumption, private clinics constitute the largest item of expenditure in third-party payments for compulsory health insurance (Conseil de la Concurrence 2022: 50). According to some experts, the rapid expansion of private clinics, without parallel development in the public sector, poses a risk of deregulating Morocco's healthcare market (Aublanc 2024). As it currently stands, improvements in the Moroccan healthcare sector largely depend on private providers. As Aublanc (2024) notes, the state's ongoing disengagement from the sector creates numerous perverse effects, including potentially corrupt practices such as exclusivity agreements between private clinics and healthcare professionals.

The expansion of private sector healthcare was significantly influenced by: firstly, the adoption of Law 131-13 in 2015, which strengthened the legal framework governing private clinics, which opened their capital to investors outside the medical profession (i.e. investment funds) and strengthened the governance of private clinics; and, secondly, by the state's commitment to the introduction of compulsory health insurance which allows patients to access either public or private facilities (Conseil de la Concurrence 2022: 30; Aublanc 2024). The investment funds led private Moroccan healthcare groups to adopt a development model of the mass retail sector (Aublanc 2024). The Akdital group, owner of the first network of private clinics in Morocco, was also the first to outsource the construction and land management of its clinics to a subsidiary or a third party in exchange for rent, thereby freeing itself from the burden of real estate investments and enabling the group to grow much faster (Aublanc 2024).

The healthcare market in Morocco is regulated by the Ministry of Health and Social Protection, the National Health Insurance Agency, the National Council of Physicians (responsible for medical ethics) and the competition council (as the competition regulator) (Conseil de la Concurrence 2022). However, the competition council's report noted that there is a lack of supervision of private clinics by the Ministry of Health and Social Protection as not all supervisory responsibilities are carried out, either due to a lack of regulatory support or a lack of interest (Conseil de la Concurrence 2022: 74). Consequently, despite their significant role, private clinics

are not subject to regular public oversight. Furthermore, there is no specific entity within the Ministry of Health and Social Protection responsible for monitoring, promoting and collecting data on private clinics, and most healthcare operators highlight shortcomings in the ministry's oversight (Conseil de la Concurrence 2022: 74; Medias 24 2022). Previous inspections by the Ministry revealed low levels of compliance with technical standards, with 90% of inspected facilities failing to adhere to rules for displaying prices (Conseil de la Concurrence 2022: 75).

The 2022 report commissioned by the Competition Council of Morocco identified several practices potentially creating barriers to competition. First, private healthcare provision lacks adequate regulation as a private healthcare facility can be established anywhere in the country, provided it complies with the technical requirements for private clinic creation (Conseil de la Concurrence 2022). This results in huge regional disparities. For example, data published by the Ministry of Health and Social Protection in 2024[7] shows that Casablanca-Settat region has by far the highest number of private doctors (6,186) and clinics (142 out of 453) (Zerrour 2025). Second, billing disputes are common, with clinics occasionally imposing unnecessary overnight stays in intensive care units. For instance, a clinic in Settat billed for days of intensive care while the patient was actually receiving oxygen therapy at home (Telquel English 2024). Billing for unnecessary services is reportedly a prevalent form of corruption in the private healthcare sector in Morocco.

Third, there are instances of exclusivity agreements between clinics and carriers (ambulances, taxi drivers) as well as private and public doctors and public health personnel (Conseil de la Concurrence 2022: 72). In 2019, the Moroccan National Association of Private Clinics sent a letter to private clinics in Casablanca urging them to stop bribing ambulance drivers to bring patients to their clinics (Eliason 2019).

The practice of using public health doctors to work in private clinics is not properly regulated and stems from a structural shortage of medical personnel. This practice was introduced in the 1990s for university hospital professors who were allowed to work part-time (two half-days per week) in a clinic of their choice to compensate for their insufficient salary, and it was supposed to last for five years, but it continues to date (Conseil de la Concurrence 2022: 72). The practice is controversial as it lacks transparency and occasionally breaches medical ethics (Conseil de la Concurrence 2022: 72). Another practice observed in some large private clinics involves doctors unnecessarily consulting colleagues for specialist opinions, resulting in excessive billing, contrary to private clinics' interests (Conseil de la Concurrence 2022: 71).

[7] This data provides an overview of healthcare capacities in the public and private healthcare sectors (human resources, infrastructure and equipment) (Zerrour 2025).

Finally, patients complain about the under-the-table payments solicited by doctors (Conseil de la Concurrence 2022: 72).

The persistence of informal payments should be seen in the context of the National Reference Tariff (Tarification Nationale de Référence, TNR), the basis for AMO reimbursement. Although the law requires its revision every three years, the TNR has remained unchanged since 2006, and the Competition Council notes that it is applied less and less as a result (Conseil de la Concurrence 2022: 74). A revised tariff agreed in January 2020 never entered into force, and the 2006 rates were maintained under Article 21 of Law 65-00 (Saoury 2023). The former Minister of Health, Khalid Ait Taleb, linked the outdated tariff directly to informal payments, stating that avoiding guarantee cheques – "le noir" – requires revaluing the TNR (FNH 2023). The insurance funds, however, attribute these practices to over-billing by private providers rather than to the tariff itself (Médias24 2020).

Moreover, the private healthcare sector lacks transparency. For instance, there is no comprehensive healthcare reference framework ensuring access to all key information about private clinics, such as their technical facilities (Majdi and Saoury 2024).

The CNOPS 360 software, developed by the National Fund for Social Security Organisations (CNOPS), manages social security systems for public sector employees and helps detect illegal and corrupt practices. It has identified issues such as double billing for procedures, billing for fictitious services and performing costly medical procedures unnecessarily (Majdi and Saoury 2024). One example is the unnecessary use of active stents (medical devices for treating arterial narrowing or blockages) in private clinics, reimbursed at rates twice those in France (Majdi and Saoury 2024). Based on platform findings, CNOPS has so far filed 34 complaints involving 160 insured individuals and seven healthcare providers (Majdi and Saoury 2024).

Mass cataract surgeries in Morocco: Profit before health

In November 2023, a scandal broke out regarding mass cataract surgeries in Morocco, which resulted in serious health consequences for patients, including irreversible vision loss for some (Kharroubi 2025; Chabâa 2024). The procedure, costing around 8,500 dirhams (around €800), is covered by insurance. Although patients are theoretically required to pay a portion of the fee due to co-payment obligations for treatments at private clinics, these fees were not collected to attract a higher number of patients.

These clinics aimed to maximise profits by attracting as many people as possible, frequently disregarding hygiene rules, conducting numerous procedures in short periods and failing to provide medical records or post-operative follow-ups (Kharroubi

2025). Reportedly, associations recruited patients via social media platforms, grouping interested individuals and transporting them by bus to clinics (Kharroubi 2025).

The co-payment was initially implemented to discourage the overuse of private healthcare services; however, the practice of waiving these payments attracted many patients, enabling clinics to profit substantially from the compulsory health insurance fund. While clinics typically charged 8,500 dirhams for the procedure, they could claim reimbursement of up to 4,550 (around €430) from the fund for employees in the private sector and 5,550 (around €520) from the fund for public sector employees, a significant amount considering the low quality of procedures (low-end consumables, random sterilisation, a lack of follow-up) (Kharroubi 2025). The associations referring patients reportedly received commission (Kharroubi 2025).

Following these revelations, the medical council summoned several practitioners, and one clinic had its operating licence revoked (Kharroubi 2025). Members of medical unions have expressed concerns that such practices by private clinics drain public funds for profit, undermining the national healthcare system (Chabâa 2024; Kharroubi 2025). Clinics benefit from reimbursements without following quality standards, while patients in precarious financial positions have to pay for transportation costs or accommodation without a guarantee of a safe surgical procedure (Kharroubi 2025).

Strategies to mitigate corruption in the medicine value chain and private healthcare system

This literature review has identified indications of several corruption risks in Morocco's value chain of medical products. These include regulatory capture, collusion during the procurement process, irregularities in processing medicines' registration applications, corrupt practices in the distribution of free samples, favouritism in public procurement, and theft and collusion facilitating the smuggling of medicines and the proliferation of grey markets for drugs, Additionally, a lack of transparency in the private health care sector has also contributed to the manifestation of different forms of corruption, such as double billing for procedures, billing for fictitious services, performing costly medical procedures unnecessarily, bribes, and irregular dual practice. However, it should be noted that while this review has found evidence of such cases of corruption, there has been no systematic review to quantify the severity of each risk in Morocco in comparison to others.

As such, the following section draws on the best practices to mitigate corruption risks from a variety of different jurisdictions that could be useful to consider in Morocco. Nonetheless, as these mitigation measures have been applied in different regions and jurisdictions, then contextual factors should be considered before implementation.

Mitigating corruption risks in the value chain of medical products

Clinical trial data transparency

To counter corruption risks in clinical trials, many jurisdictions now require the registration of trials and the publication of both positive and negative results to minimise, for example, the risks of positive findings bias (Kohler 2016). As of 31 January 2025, all clinical trials conducted in the EU are governed by the clinical trials regulation, which requires clinical trial sponsors to submit their clinical trial applications through the clinical trials information system (CTIS) (EMA 2025). This system aims to enhance the efficiency and transparency of the process by:

- enabling sponsors to apply online for clinical trial authorisation in up to 30 European countries with a single application
- allowing national regulators to collaborate in processing clinical trial applications in multiple countries, to request further information, authorise or refuse trials, and oversee authorised trials
- facilitating the expansion of trials to other European Economic Area countries
- increasing transparency and access to information to any interested party (e.g. healthcare professionals, patients, general public) through a searchable website (EMA 2022; Macdonald 2025).

Another strategy to enhance clinical trial transparency involves requiring medical research units and academic institutions – which often conduct the initial R&D – to document any financial contributions received from pharmaceutical companies and ensuring proper enforcement mechanisms are in place to sanction breaches of established codes of conduct (Kohler 2016: 10).

Good manufacturing practice (GMP) inspections and applicable sanctions

To ensure compliance with GMP standards, random and regular inspections combined with an effective enforcement and sanctions system can be helpful (Kohler 2016). For instance, employing multiple inspectors with rotating schedules at manufacturing sites can prevent inspectors from forming overly close relationships with the audited entities (Kohler 2016: 13).

Canada's drug regulatory agency, Health Canada, recently reorganised its GMP inspection process, placing responsibility within the regulatory operations and enforcement branch (ROEB), whose inspectors exclusively perform drug GMP inspections, rather than being generalist inspectors (Redica Systems 2021). For a facility to obtain a drug establishment licence, which is a precondition for authorisation to engage in the manufacturing, packaging, labelling, testing, importing, distribution or wholesale of drugs, it must pass a GMP inspection (Chapman 2025). ROEB inspections result in an inspection report card and a summary of the findings, including the establishment's name, reference number, type and date of inspection, rating (compliant or non-compliant) and a summary of observations (Chapman 2025). These report cards are publicly accessible in the Drug and Health Products Inspections Database, enhancing open government and regulatory transparency as they offer up-to-date information on regulatory compliance (Chapman 2025). Additionally, Health Canada maintains an inspection tracker highlighting emerging issues with drug manufacturing establishments, offering a snapshot of potential health and safety issues identified

through inspectors, companies, adverse reaction reports or from their regulatory partners (Government of Canada no date).

Independent regulatory agencies

Establishing independent and well-funded regulatory agencies, capable of evaluating documents and requirements for medicine registration, is essential to minimise corruption risks (Hussmann 2010; Kohler 2016). It is also crucial to have a competent expert committee with the necessary knowledge to review registration applications (Kohler 2016: 15).

In April 2020, Ghana became the second country in Africa to achieve maturity level 3, after being assessed by WHO based on its global benchmarking tool,[8] indicating that it managed to achieve a stable, well-functioning and integrated regulatory system for medical products (WHO 2020). Its food and drugs authority (FDA) is authorised to conduct registration and marketing authorisation, market surveillance and control, regulatory GMP inspections, vigilance, licencing of establishments, clinical trial oversight and laboratory testing (Owusu-Asante et al. 2023).

For example, the agency recognised the need for the training and continuing education of expert assessors, and often provides training in cooperation with other agencies to ensure that experts assessing market authorisation documentation have the international technical expertise to process applications efficiently (Owusu-Asante et al. 2023). The FDA maintains a pool of internal assessors to assess dossiers and provide assessment reports, clinical opinions and technical advice to the authority. All applications are then reviewed by the drug registration committee, which reviews assessment reports, GMP audit reports and sample testing, deciding on the granting of marketing authorisation (Owusu-Asante et al. 2023: 381).

The WHO noted that Ghana's strengthened regulatory system proved beneficial during the COVID-19 pandemic as it enabled the rapid development of product specifications and guidance as well as the establishment of fast-track marketing authorisation pathways, ensuring the timely availability of essential supplies during periods of scarcity (WHO 2020).

[8] This is an evaluation tool for assessing a national regulatory system of medical products based on over 260 indicators covering core regulatory functions (e.g. testing of products, authorisation) (Ghana Pharmaceutical Journal 2023). The jurisdictions are then classified based on maturity level on a scale from 1 (existence of some elements of regulatory system) to 4 (operating at an advanced level of performance and continuous improvement) (WHO 2021a).

Transparency of the relationship between industry and healthcare providers

To enhance transparency in the medicine value chain, codes of conduct can be established calling for the mandatory disclosure of conflicts of interest arising from financial relationships between healthcare providers and pharmaceutical companies, or laws can be enacted to mandate these disclosures (Kohler 2016).

For example, the Italian Sunshine Act of 2022 aims to promote transparency of data about financial and in-kind transactions between the healthcare industry and healthcare professionals by establishing a public electronic register called the transparent health system (not yet operational) (Clifford Chance 2024). Its primary goal is to curb corruption by imposing three types of public disclosure obligations on companies:

- transfers of money, goods, services or other values towards healthcare professionals and healthcare organisations above a certain threshold
- agreements entered into with healthcare professionals and healthcare organisations resulting in direct or indirect benefits, including: i) participation in seminars, events, committees, commissions, consultative bodies and scientific committees; or ii) the establishment of consulting, teaching or research relationships
- identification of healthcare professionals and healthcare organisations who hold shares, quotas or bonds in companies or who have received consideration from companies in relation to licences for the economic use of industrial or intellectual property rights (Hogan Lovells 2022)

This act, and similar legislation in other countries, was introduced following the adoption of the US Physicians Payments Sunshine Act in 2010, which requires transparency in transfers of value between pharmaceutical companies and healthcare professionals (Mental Health Europe 2017). For instance, in 2014, Greece passed a law mandating that every pharmaceutical organisation disclose within the first six months of each year, all benefits provided to healthcare professionals and healthcare organisations on both their own websites and the website of the national organisation for medicines (Mental Health Europe 2017).

Procurement transparency

Procurement transparency is a crucial policy for ensuring better access to medicines (Vogler et al. 2022: 138). Making public procurement data available for public scrutiny in machine-readable formats on dedicated e-procurement platforms, as well

as providing public access to companies' beneficial ownership data, can help improve the transparency and accountability of these processes (Kohler 2016; Resimić 2024). This data assists oversight institutions, civil society and citizens to detect favouritism in public contracting, especially when this data is made interoperable with political finance data (Resimić 2024). Open public procurement data allows stakeholders to collect information about terms and conditions, contract awards, the number of bidders, type of procedure, estimated and final price and other contract information. Such data can be used to construct corruption risk indices, easily map procurement landscapes and identify high-risk areas that merit the attention of oversight bodies (Fazekas and Tóth 2016; Kohler 2016; Veljanov and Fazekas 2023).

Morocco's recent institutional reforms also included digitisation of public procurement processes. The country now operates a dedicated e-procurement platform where previously physical bidding processes have transitioned to be entirely online (Dhouibi et al. 2023).

Rwanda was the first African country to implement an e-procurement system, which helped enhance transparency, reduced corruption in public procurement processes and improved record keeping, among other benefits (World Bank 2018; Girgvliani 2023). The country has a designated platform which provides access to easily downloadable machine-readable data and provides data visualisations summarising key procurement statistics (e.g. largest procurers and suppliers by value of contracts). Similarly, Georgia implemented comprehensive reforms of its public procurement landscape, introducing an electronic procurement system and enhancing transparency (Girgvliani 2023; Nozadze 2015).

A European Commission (EC) study on best practices in public procurement of medicines (PPM) identified several good practices (Vogler et al. 2022). One of them involves communication by the procurers with users (e.g. hospital pharmacists) to ensure a better understanding and acceptance of centrally procured medicines. It gives Norway as an example where the procurement body organises annual seminars to discuss procured medicines that should be prioritised (Vogler et al. 2022: 131).

The Open Contracting Partnership (OCP) developed guidelines for improving medicine procurement (including its transparency) in low and middle-income countries, which includes the following suggestions:

- regularly review and optimise the list of medicines to be procured
- provide correct needs quantification to minimise risks of supply chain disruptions
- secure timely and reliable financing
- eliminate regulatory barriers to entry for suppliers

- regularly review the best national procurement approach to secure competitive, timely and efficient procurement
- set precise but unrestrictive technical specifications for procurements
- use transparent, digitised procurement processes
- disclose unit prices for medicines
- reform supply chains
- encourage civil society monitoring and analysis (OCP 2023).

Tracking medicine distribution

To prevent theft and corruption risks in medicine distribution, one mitigation strategy involves securing medicines through standard operating procedures for medicine shipments, satellite tracking of delivery trucks and screening of employees before and after work (Kohler 2016: 27).

For example, a study employing remote tracking audits in Malawi concluded that such audits are less prone to manipulation and displacement than traditional audits, more effective at measuring downstream diversion and more cost-effective (Jablonski et al. 2023). The study found that 35% of tracked medicines were diverted upstream or downstream in the supply chain, but also suggested that theft is less common than traditional audit reports suggest (Jablonski et al. 2023). Moreover, their findings indicated that interventions centred on the increasing cost of theft are likely ineffective. Instead, they recommended addressing accountability and oversight gaps at the facility level and between facility staff (Jablonski et al. 2023).

In Zambia, the introduction of an electronic logistics management information system improved data transparency and helped reduce medicine waste (OCP 2023). This is a nationwide health supply chain management system incorporating all levels of the public health sector supply chain from the country's central medical warehouse to over 2,000 pharmacies and health facilities (OCP 2023: 46). This system enables regional supervisors to gain real-time insights into stock levels and consumption data, enabling them to accurately determine the necessary quantities required for patients (OCP 2023: 46). The Zambian experience can offer a useful lesson for Morocco, considering that some studies suggest that the centralisation of the medicine supply system in Morocco contributes to stock shortages and delivery delays (Benazzouz et al. 2018: 24).

Mitigating corruption in the private healthcare system

Strengthening regulatory oversight

The Moroccan competition council's report (Conseil de la Concurrence 2022: 90) emphasised that the opacity of the healthcare market provided by private clinics in the country was primarily because these clinics are not subject to regular monitoring and there is no dedicated administrative body under the Ministry of Health and Social Protection responsible for monitoring private clinics and collecting relevant information.

Studies indicated that inadequate regulatory oversight and poor implementation of existing laws contribute to poor inspections of clinics, corruption during licencing procedures and other shortcomings (Doherty 2015). A frequently cited issue is the absence of a formal policy specifically addressing the private healthcare sector, resulting in a fragmented policy environment and unclear responsibilities (Doherty 2015: 199). Additionally, overlapping mandates among multiple regulatory bodies further complicate policy implementation (Goodman et al. 2024).

Although evidence is limited, a scoping review of governance in the private healthcare sector in low- and middle-income countries suggests that targeted interventions can improve regulatory compliance, among other findings (Goodman et al. 2024). For instance, a randomised control trial of health facility regulation reforms in Kenya showed that government inspections increased compliance with patient safety measures in both public and private facilities (Bedoya et al. 2023).

At a broader level, Doherty (2015) suggests that developing an overarching policy for the private healthcare sector is essential to guide legislation and clarify regulatory objectives. Clearly mapping out stakeholder roles and responsibilities is also necessary for the effective implementation of such policies (Doherty 2015).

Price and service delivery transparency

Evidence from Morocco indicates that fraudulent practices, such as excessive billing (e.g. through unjustifiable hospital stays, unnecessary tests) exist within the private sector (Conseil de la Concurrence 2022: 95).

To enhance transparency, the Moroccan competition council (Conseil de la Concurrence 2022: 99) suggested strictly enforcing legal provisions that require private clinics to clearly display prices for all services and hospital stays, as these

regulations are currently rarely observed. This transparency entails a visible display of prices for each service and the cost of a hospital stay, and non-compliance should result in financial and administrative sanctions (Conseil de la Concurrence 2022: 99).

The Competition Council also recommends revising the general nomenclature of medical procedures and the National Reference Tariff, considered obsolete since 2006 (Conseil de la Concurrence 2022: 98), and establishing a collective guarantee fund to end the practice of guarantee cheques, which is prohibited under the penal code (Conseil de la Concurrence 2022: 95, 99).

Another suggestion involves private clinics having clear and detailed billing for care and medications consumed to minimise risks of excessive billing, especially for medications which were not consumed (Conseil de la Concurrence 2022: 100).

Leveraging data to enhance transparency and accountability

Emerging technologies, such as blockchain,[9] crowdsourced corruption-reporting platforms (and other complaints mechanisms) and AI driven fraud detection offer some promise to enhance transparency and lower risks of corruption, but these interventions have to be sensitive to local contexts, rely on robust legal frameworks and address data privacy concerns (Al Qudah et al. 2025; Scott 2024). Complaints mechanism approaches have shown mixed results, with some positive examples, such as Uganda's toll-free SMS complaints hotline, which allows citizens to report health service delivery problems to health authorities for immediate resolution (UNICEF n.d.). The Ministry of Health's help desk reviews and sorts this community-derived data and forwards them to action centres for follow-up (UNICEF n.d.). All reports that are criminal in nature or unresolved after two weeks are automatically escalated to the State House's Health Monitoring Unit (UNICEF n.d.).

AI-driven solutions show promise in detecting potential fraud and corruption by analysing large volumes of data to identify unusual billing patterns, duplicate claims, or unnecessary medical services (Maziarz 2025). For example, Clais — a collaborative AI system for claims analysis — offers a workflow where professionals and AI can cooperate to identify claims not compliant with healthcare policy (Sbodio et al. 2024).

The adoption of blockchain and AI driven solutions is still in the early stages. Experts suggest that blockchain solutions have the potential to reduce the likelihood of corruption due to the transparent management of data, as this data is available to all

[9] Blockchain 'is a type of distributed ledger technology in which data are encrypted and bundled together in "blocks" and "chained" together in a manner that prevents records from being changed' (Cepeda Cuadrado et al. 2022: 5).

stakeholders in real time, which reduces discretion in decision-making (Cepeda Cuadrado et al. 2022).

However, serious privacy concerns remain, as AI relies on vast amount of data. Addressing these concerns requires the implementation of strong encryption and real-time monitoring to minimise the risks of data breaches and manipulation of AI models (Maziarz 2025).

Whistleblowing as an anti-corruption mechanism in health and pharmaceutical organisations

Whistleblowing mechanisms are especially important during health crises such as the Covid-19 pandemic when embezzlement of healthcare resources can lead to unsafe working conditions and poor clinical care. While the term 'whistleblowing' is typically understood to apply only to employees or former employees, patients and suppliers in the healthcare sector may have sufficient knowledge about wrongdoing to blow the whistle as well (Vian et al. 2022: 2).

Between January and November 2020, the WHO received 276 reports through its integrity hotline from staff members and the general public about wrongdoings within the WHO. Of these, 50 (18.1%) concerned breaches of the code of ethics and professional conduct, conflicts of interest, discrimination and favouritism. Additionally, 25 (9.0%) were related to human resource issues and violations of staff regulations, while 22 (8.0%) involved suspected fraud, corruption or bribery. Another 11 (4.0%) reported abuse of authority and harassment, and the majority – 159 (57.6%) – raised alarms about substantial risks to public health and personal safety, particularly in connection with the COVID-19 pandemic (WHO 2021b).

Effective protections should cover not only whistleblowers but also witnesses and those who assist in reporting. Key measures include safeguarding confidentiality, penalising those who disclose identities, reinstating whistleblowers when necessary and providing legal and financial support (Vian et al. 2022, p.7). Beyond protection, financial incentives can further encourage whistleblowing by providing an additional motivation beyond ethical duty. In 2010, India's Ministry of Health and Social Welfare, in partnership with the Central Drugs Standard Control Organisation, introduced a reward scheme offering whistleblowers 20% of the value of seized counterfeit medical products (Bahn 2010).

In some cases, patients and their families may be more likely to report corruption when they feel it is their only option for accessing care. In Morocco, a father exposed bribery after being asked for an unofficial payment to secure treatment for his child,

an expense he could not afford. Reporting the incident was his only means of obtaining care (Zouanat 2019).

While some disclosures can be made within an organisation's chain of command, others may require escalation to regulatory agencies, auditors, law enforcement, parliamentarians, citizen groups or the media. An example of an external whistleblowing mechanism is Transparency International's global network of advocacy and legal advice centres (ALACs), operating in over 60 countries. These centres received more than 1,800 reports of corruption related to COVID-19, spanning cases in the Democratic Republic of Congo, Ireland, Kenya, Nigeria, Russia, the United Kingdom, Venezuela and Zimbabwe (Transparency International 2020).

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