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The Evolution in The Field of Anticorruption in The Health Sector in Italy

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Abstract

The fight against corruption within the healthcare sector in Italy has undergone significant transformation following the introduction of Law n. 190/2012. This legislation marked a pivotal step towards establishing a comprehensive system aimed at preventing corruption through a blend of preventive measures, transparency, and administrative reorganization. Central to these efforts is the Italian National Anti-Corruption Authority (ANAC) and the National Anti-Corruption Plan (PNA), which provide structured guidelines and strategies for public administrations, including healthcare entities. This study examines the evolution and impact of anti-corruption measures in the Italian healthcare sector, focusing on key legislative and regulatory frameworks, particularly the roles played by ANAC and the PNA. The commentary explores the implementation of these measures, highlighting the innovative approaches and the challenges encountered. Significant milestones include the legislative updates, such as the Legislative Decree n. 231/2001, which introduced administrative liability for corporate crimes, and the more recent resolution n. 605/2023, which reinforces digital procurement processes, real-time data analytics, and enhanced transparency in healthcare administration. These updates align with broader national recovery efforts post-COVID-19 and aim to foster a culture of integrity and accountability within the sector. Key findings reveal that while there has been considerable progress in enhancing transparency and reducing corruption risks, challenges remain. These include resource constraints, complexity of integrating new measures with existing systems, stakeholder engagement, and ensuring rigorous monitoring and enforcement. Addressing these challenges is critical for sustaining the progress achieved and further improving the effectiveness of anti-corruption strategies. The continuous refinement of the PNA and its application within the healthcare sector illustrates a robust commitment by Italian authorities to uphold public trust and prevent corruption.

Introduction

The Law n. 190 of 6 November 2012 (*Legge n. 190/2012 "Disposizioni per la prevenzione e la repressione della corruzione e dell'illegalità nella pubblica amministrazione"* 2012) was introduced into the Italian legal system as an organic system to prevent corruption. Corruption is intended as a malfunction of the Public Administration, determined by a misuse of power, because it is oriented towards private purposes. The law aims to tackle the phenomenon with an innovative approach, not limited to repression (although always contemplated in the criminal field), but extended to policies of prevention, transparency, and the reorganization of Public Administrations. Recent studies on corruption, particularly in the healthcare sector, underline how systemic corruption can severely

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compromise public health outcomes, a trend observed globally (Fu *et al*., 2023; Hossain *et al*., 2023).

According to Law 190/2012 (*Legge n. 190/2012 "Disposizioni per la prevenzione e la repressione della corruzione e dell'illegalità nella pubblica amministrazione*" 2012) prevention must be carried out through planning and control activities, with a programming model that involves the articulations of government, and based on four essential points: transparency, training, codes of conduct, and risk analysis. The law's emphasis on transparency aligns with broader global efforts to mitigate corruption risks in public health, as evidenced by the implementation of real-time data analytics for procurement processes in healthcare sectors worldwide (Su *et al*., 2024).

A fundamental role in this model is played by the Italian National Anti-Corruption Plan (otherwise known as PNA), which ensures the coordination of national and international corruption prevention strategies in the Public Administration, and whose tools are updated periodically. The integration of risk analysis in this plan is consistent with international models that emphasize the role of digital tools in risk management, particularly in monitoring procurement and healthcare services (Dewi and Mahyuni 2024).

Since the first launch of the National Plan 2013-2016 was approved with resolution No. 72/2013 of the CIVIT (Commission for Evaluation, Transparency, and Integrity of Public Administrations) (Autorità Nazionale Anticorruzione 2015) we arrived with resolution no. 1064 of 13 November 2019 to the third PNA, concerning the programming for the three years 2019-2021. The plan's updates over the years reflect an increasing reliance on digital procurement processes, a trend mirrored in other healthcare systems, particularly in low and middle-income countries like Nigeria, where inefficiency and absenteeism due to corrupt practices have been linked to weak health system performance (Agwu *et al*., 2020).

Following the already enacted PNA and in consideration of resolution no. 12 of 28 October 2015 of the ANAC (Autorità Nazionale Anticorruzione 2015) a section specifically dedicated to health has been introduced (which we would like to point out and provide a general perspective on) to guide programming the plans of health companies and other persons assimilated to them; indications that over the years have been modified and integrated unevenly in the plans published subsequently and in its two updates. The 2019 PNA contains, in respect, a revision and consolidation combined in a single act of all the information provided to date, integrated with guidelines developed over time, while also being subject to specific regulatory acts. The gradual evolution of these plans highlights a shift towards incorporating emerging technologies such as digital risk management systems to combat corruption effectively, a trend noted in other countries like Romania, where historical patterns of corruption are being addressed in healthcare systems (Plopeanu 2024). Recent updates to the National Anti-Corruption Plan, particularly the 2023 update (resolution n. 605/2023) (Autorità Nazionale Anticorruzione 2023) continue to enhance the framework established by Law n. 190/2012 (*Legge n. 190/2012 "Disposizioni per la prevenzione e la repressione della corruzione e dell'illegalità nella pubblica amministrazione*" 2012) introducing new measures aimed at further reducing corruption risks and improving transparency in the healthcare sector.

The primary aim of this work is to provide an analysis of the evolution and implementation of anticorruption measures in the Italian healthcare sector. This includes examining the legislative and regulatory frameworks that have been established to combat corruption, specifically focusing on the role of the Italian National Anti-Corruption Authority (ANAC) and the National Anti-Corruption Plan (PNA). The study seeks to identify the key innovations, challenges, and critical issues in the application of these anticorruption measures within the healthcare context. By doing so, we aim to contribute to a better understanding of the effectiveness of current policies and provide insights for future improvements in combating corruption in healthcare. The effectiveness of such measures has been echoed globally, where anticorruption reforms in healthcare have been proven critical in improving health outcomes, as seen in both developing and developed

nations (Gaitonde *et al*., 2016; Gorodensky *et al*., 2022).

The first act to pave the way for today's organization and legislation on corruption in the Public Administration was the Legislative Decree n. 231/2001 (*D. Lgs n. 231/2001 "Disciplina della responsabilità amministrativa delle persone giuridiche, delle società e delle associazioni anche prive di personalità giuridica, a norma dell'articolo 11 della legge 29 settembre 2000, n. 300* 2001), which introduced the concept of administrative liability of companies for the crimes committed by directors, managers, or employees, establishing pecuniary or disqualifying sanctions. This model of administrative liability has parallels in many countries, where companies and even private healthcare entities are held responsible for corrupt practices, especially in public-private healthcare collaborations (Squalli 2024). This provision provides for the attribution of corporate crimes and crimes towards Public Administrations (including fraud, extortion, corruption, false accounting, stock manipulation, etc.) and is no longer exclusive to individuals who have committed the offense but also to legal persons, such as the companies they work for. Specific sanctions, including definitive disqualification from exercising the activity, prohibition of contracting/negotiating with the Public Administration, and prohibition to advertise goods or services, even definitively (art.16). It is up to the administration of the institution to determine this (art. 15).

Legislative Decree n. 231/2001(*D. Lgs n. 231/2001 "Disciplina della responsabilità amministrativa delle persone giuridiche, delle società e delle associazioni anche prive di personalità giuridica, a norma dell'articolo 11 della legge 29 settembre 2000, n. 300* 2001), however, it does not contain a specific reference relating to the health sector. Before reaching this specific mention, obtained only in 2015, it had to be passed first, with Legislative Decree n. 90/2014 (*D. L. n. 90/2014 "Misure urgenti per la semplificazione e la trasparenza amministrativa e per l'efficienza degli uffici giudiziari* 2014), converted into Law n. 114/2014 (*Legge n. 114/2014 "Conversione in legge, con modificazioni, del decreto-legge 24 giugno 2014, n. 90, recante misure urgenti per la semplificazione e la trasparenza amministrativa e per l'efficienza degli uffici giudiziari* 2014), the abolition of the Authority for the Supervision of the Public Contracts for Works, Services, and Supplies (otherwise known as AVCP) and grant the ANAC full power in the prevention of corruption in public administrations and the companies owned and controlled. Such changes are aligned with international practices where oversight bodies are being strengthened to better manage healthcare procurement and reduce opportunities for corruption, as noted in India's healthcare sector.

In this context, the task of ANAC is to prevent corruption by working in concert between public administrations and to improve the use of resources while reducing formal controls that involve procedural burdens and increase the costs of the public administration without the corresponding creation of value for citizens and businesses. Global comparisons show that countries implementing similar approaches, particularly with healthcare, have experienced positive outcomes in reducing both financial and systemic corruption (Rönnerstrand and Lapuente 2017). A text of Guidelines approved by ANAC is therefore issued, with numerous references to Legislative Decree 231/2001 (*D. Lgs n. 231/2001 "Disciplina della responsabilità amministrativa delle persone giuridiche, delle società e delle associazioni anche prive di personalità giuridica, a norma dell'articolo 11 della legge 29 settembre 2000, n. 300* 2001) about Organization, Management, and Control Models, which also contain specific obligations for subsidiaries to increase anti-corruption safeguards, planning, and control, or to introduce specific anti-corruption measures according to Law no. 190/2012 (*Legge n. 190/2012 "Disposizioni per la prevenzione e la repressione della corruzione e dell'illegalità nella pubblica amministrazione*" 2012). Additionally, with the same Law n.114/2014 (*Legge n. 114/2014 "Conversione in legge, con modificazioni, del decreto-legge 24 giugno 2014, n. 90, recante misure urgenti per la semplificazione e la trasparenza amministrativa e per l'efficienza degli uffici giudiziari* 2014), the task of preparing the PNA was assigned in full to ANAC, not in collaboration with the CIVIT, as it was in 2013, with the advantage of

identifying only one institutional body as the competent reference for anti-corruption.

The PNA is divided into a general first part, which deals with the preparation of anti-corruption measures within all public administrations, as well as towards private subjects controlled by them, and a second part that deals with the issue of corruption in specific environments, among which, with the aforementioned update with resolution no. 12 of 28 October 2015 (Autorità Nazionale Anticorruzione 2015), the health sector is specifically introduced. This move mirrors international efforts to specifically target health sector corruption, which has proven to be particularly pervasive in countries with both public and private healthcare actors, as seen in countries like Iran (Dargahi *et al*., 2024). In December 2023, ANAC introduced further updates to the PNA (resolution n. 605/2023) (Autorità Nazionale Anticorruzione 2023), building on the existing framework and incorporating new measures to address emerging challenges and enhance the effectiveness of anticorruption strategies. One of the key innovations is the formalization of digital procurement processes. This shift mandates that all public procurement activities be conducted through digital platforms, ensuring greater transparency and traceability. Additionally, the update reinforces the integration of real-time data analytics in monitoring procurement activities, allowing for more efficient detection and prevention of corrupt practices. Furthermore, the update aligns with the broader objectives of the National Recovery and Resilience Plan (PNRR), ensuring that anticorruption measures are harmonized with economic recovery efforts, particularly in the post-COVID era. This integration of economic recovery with anticorruption efforts mirrors approaches seen in countries like Ecuador, where public healthcare and procurement processes have been key focal points in addressing systemic corruption (Ortiz-Prado *et al*., 2023).

Method

This review was conducted and structured with a narrative approach to ensure a comprehensive analysis of anti-corruption legislation relevant to the healthcare sector in Italy. Two of the authors were responsible for the identification and retrieval of relevant legislative documents. They accessed governmental legal databases, including the Italian National Anti-Corruption Authority (ANAC) website, "Normattiva" website (Italian institutional database in which all numbered legislative acts published in the *Official Gazette* and/or in the *Official Collection of Legislative Acts* are stored), and other official legal repositories, ensuring that all legislation reviewed was sourced from authoritative and publicly accessible platforms. For comparison purposes with other countries' situation, PubMed/MEDLINE database research was performed using the keywords "corruption" linked with the Boolean operator AND/OR with the keywords "health", "healthcare", and "health systems".

The inclusion criteria for this review were established to select documents that specifically address corruption issues and anti-corruption measures in public administration, with a particular focus on healthcare. Documents that did not meet these criteria were excluded. After the initial identification of sources, two authors independently reviewed the content of the selected documents. They cross-checked each other's findings to ensure consistency and to minimize bias in the interpretation of the legislative texts. Any discrepancies were resolved through discussion and consensus. The review process involved assessing the historical evolution of the laws, their implementation strategies, and their practical impact on healthcare governance. Key legislative innovations and challenges in application were identified and analyzed.

Result and Discussion

The recipients of the PNA in the health sector are the companies and entities of the National Health Service (SSN), which are obliged to apply the provisions for the prevention of corruption (Article 1, co. 59, Law 190/2012) , and the guidelines for the preparation of the three-year plans for the prevention of corruption (PTPC). These entities include Local Health Authorities (Aziende Sanitarie Locali/ASL, ASP, AUSL, ULSS, ASS), Hospitals (Aziende Ospedaliere/AO), Hospitals of National Relief

and High Specialization (Aziende Ospedaliere di Rilievo Nazionale e di Alta Specializzazione/ ARNAS), University Hospitals (Aziende Ospedaliere Universitarie/AOU), Public Institutes of Assistance and Charity (Istituti Pubblici di Assistenza e Beneficenza/IPAB), Experimental Zooprophylactic Institutes (Istituti Zooprofilattici Sperimentali/IZS), and Institutes of Hospitalization and Scientific Care (Istituti di Ricovero e Cura a Carattere Scientifico/IRCCS). The alignment of these obligations with global trends is evident, as healthcare systems in countries like Ecuador and Brazil have faced similar challenges in implementing transparency across both public and private sectors (Machoski and de Araujo 2020; Ortiz-Prado *et al*., 2023).

The ANAC guidelines also apply to private law entities controlled by public administration operating in the health sector. Concerning non-public entities, such as classified hospitals and other entities accredited with the SSN, whose legal nature is governed by private law, a recommendation was addressed by ANAC to the relevant administrations. This aimed to promote transparency tools and prevent corruption and conflicts of interest, aligning with global best practices such as those implemented in Iran's medical laboratory systems to address conflicts of interest (Dargahi *et al*., 2024). The 2023 update to the PNA expanded the scope of entities required to comply with anti-corruption measures. For the first time, specific guidelines were introduced for private healthcare providers that receive public funds or are part of public-private partnerships, reflecting similar approaches in countries like Indonesia, where both private and public healthcare actors were included in anti-corruption measures related to waste management and healthcare (Astuti *et al*., 2024).

This inclusion ensures a uniform application of anti-corruption measures across both public and private sectors in the healthcare system. Furthermore, the update introduced stricter compliance requirements for all entities, including mandatory anti-corruption training programs for management and staff, aimed at fostering a culture of integrity and transparency at all organizational levels. Such initiatives have been mirrored in nations like Montenegro, where compliance with anti-corruption measures in healthcare has become crucial in the post-COVID landscape (Radević *et al*., 2022). Additionally, countries in southern Europe, including Italy and Greece, have strengthened centralized procurement processes as part of their anticorruption efforts to reduce inefficiencies in healthcare spending and minimize risks of abuse (Gaitonde *et al*., 2016).

The guidelines outline an organizational model for risk management. The entities must assign the role of Head of Corruption Prevention (R.P.C.) to a manager with specific knowledge of the organization, the healthcare facility, and its processes. The manager and their team are responsible for identifying risk aspects in the health sector, controlling conditions and behaviors not in line with good administrative management, and monitoring cases and processes, all while considering the external context. This focus on external pressures aligns with international practices seen in West Africa, where socio-political pressures have been recognized as major contributors to healthcare corruption (Onwujekwe *et al*., 2019). A key aspect of risk management is the creation of tailored mitigation strategies, a principle also observed in studies of healthcare systems in Nigeria. There, absenteeism and inefficiency within the public health workforce were linked to systemic corruption, highlighting the need for robust risk identification and management (Agwu *et al*., 2020). The importance of a rigorous internal organizational model is based on the idea that corruption can materialize when maladministration behaviors arise within the healthcare sector.

General risk areas identified include public contracts, positions and appointments, management of revenue, expenses, and assets, as well as controls, inspections, and sanctions. For example, in the procurement of goods or services, it is recommended that a team with diversified skills manage the process, which should be justified with technical reasons to avoid conflicts of interest. This risk management approach is critical in contexts like the European Union, where similar frameworks are applied to safeguard procurement processes

(Sommersguter-Reichmann and Reichmann 2024). Positions and appointments pose another risk, especially when the fragmentation of operational units artificially increases the number of positions to be filled. Correctly identifying the professional profile, setting transparent assessment criteria, and rotating members of the selection board are proposed solutions to mitigate this risk. In China, similar strategies were used to combat corruption in the healthcare sector, particularly within appointments and procurement processes (Fu *et al*., 2023).

The management of revenue, expenditure, and assets exposes administration to risks such as delays in disbursements, over-billing, and incorrect reporting. The Certification Implementation Path (PAC) serves as a fundamental tool to verify financial statements, a concept applied in countries like Brazil, where healthcare procurement practices were linked to significant financial losses due to corruption (Machoski and de Araujo 2020). Risks also arise in the management of real estate assets, where private interests may conflict with public goals. Such risks must be addressed through transparent procedures that promote impartiality and align with public interests. In terms of supervision, controls, and inspections, the standardization of the inspection program and the use of unannounced visits serve as key deterrents. The importance of "control over the controllers" has been emphasized in studies across several regions, including Turkey, where such oversight has been critical in reducing healthcare-related corruption and improving healthcare outcomes (Sommersguter-Reichmann and Reichmann 2024).

Specific risk areas in healthcare include freelance activity, waiting lists, contractual relationships with accredited individuals, pharmaceuticals, devices, research, sponsorships, and activities related to hospital deaths. Freelance activity and waiting lists present a risk of opportunistic behaviors, such as granting privileges or profits to the detriment of citizens. The digitalization of waiting lists and the adoption of IT management systems for ALPI bookings have been proposed to mitigate these risks, much like the solutions implemented in Ecuador, where IT systems have helped reduce corrupt practices in healthcare services (Ortiz-Prado *et al*., 2023). Contractual relationships with private entities expose the SSN to risks related to the misuse of public resources, including delayed authorizations and inadequate inspections. Rigorous controls and rotation of inspectors are necessary to prevent conflicts of interest. These risks mirror those faced by healthcare systems globally, including in countries like China and Bangladesh, where public-private partnerships have been particularly vulnerable to corrupt practices in healthcare service delivery (Fu *et al*., 2023; Hossain *et al*., 2023).

Pharmaceuticals, devices, research, and experimentation are areas highly susceptible to corruption. Proper inventory management through computerized systems is essential, much like that applied in healthcare systems worldwide to avoid fraud and promote transparency (Astuti *et al*., 2024). The out-of-hospital setting is also vulnerable to corruption, as doctors may prescribe certain medications for personal gain, a problem documented in numerous countries, including Brazil (Machoski and de Araujo 2020). Activities related to hospital deaths carry risks associated with funeral homes and potential conflicts of interest. Strengthening control measures, including staff rotation and confidentiality obligations, is critical to reducing these risks. These issues reflect a broader challenge seen globally, where healthcare providers must balance transparency with operational efficiency to mitigate corruption risks (Squalli 2024). The 2023 PNA update brought significant enhancements to risk analysis and management strategies. One of the critical updates was the introduction of a comprehensive digital risk management system, using real-time data analytics and automated alerts to identify and address potential corruption risks promptly. This proactive approach mirrors similar strategies in high-risk regions like West Africa, where real-time data has been crucial in detecting corruption in healthcare procurement (Onwujekwe *et al*., 2019). The update also emphasized transparency in risk management, requiring healthcare entities to publicly disclose risk assessments and mitigation plans, a practice already in place in countries like Iran

(Dargahi *et al*., 2024).

Essentially, the explicit and predetermined goal of ANAC in the publication of the latest anti-corruption plan is to "revise and consolidate in a single act of guidance all the information provided to date, integrating it with guidelines developed over time and subject to appropriate regulatory acts." This mirrors efforts in other healthcare systems, such as those seen in Brazil, where consolidation and streamlining of anti-corruption policies were critical to reducing inefficiencies in healthcare administration (Machoski and de Araujo 2020). Therefore, specifically in the healthcare sector, what has so far been examined and recorded in the 2019 PNA represents the transposition, integration, and unification of all the information provided separately by previous plans and their updates. This consolidation of healthcare-related anti-corruption strategies is critical, as countries like Iran have also sought to unify various anti-corruption measures into coherent frameworks that address both internal and external factors contributing to systemic corruption (Dargahi *et al*., 2024).

The real innovations indicated in the new PNA, however, do not exclusively concern healthcare but are applicable across all public administrations, including healthcare settings. Specifically, integration of the risk analysis phase is required, which involves analyzing not only the internal environment but also external pressures and potential criticalities arising from the local context. This expanded focus on external environments is critical for understanding systemic risks, as highlighted by studies from Bangladesh, where external socio-political factors often exacerbate corruption in healthcare procurement and service delivery (Onwujekwe *et al*., 2019; Hossain *et al*., 2023). Once these risks are identified, preventive measures and monitoring systems must be implemented. This mirrors global best practices seen in regions like Ecuador, where risk management in healthcare has increasingly involved real-time monitoring tools and digital platforms to ensure transparency and reduce opportunities for corrupt activities (Ortiz-Prado *et al*., 2023).

Specific guidance is also provided on the methods by which risks are assessed. The qualitative classification approach proposed by the PNA aims to ensure that each risk is associated with motivation based on evidence collected during analysis. This structured risk assessment strategy has parallels in healthcare systems worldwide, including Turkey, where qualitative risk assessments are used to determine levels of vulnerability in healthcare systems, especially in high-risk procurement sectors (Sommersguter-Reichmann and Reichmann 2024). Regarding the treatment of identified risks, administrations are expected to implement specific, timely measures within a reasonable timeframe. This approach, which avoids abstract or general proposals, is like strategies employed in China, where corruption risk mitigation in healthcare involves targeted interventions that are data-driven and designed to address specific vulnerabilities (Fu *et al*., 2023). The PNA's focus on concrete, actionable measures is also reflected in the practices of other nations where healthcare systems face endemic corruption challenges, such as Nigeria, where clear timelines and specific interventions have been emphasized to curb absenteeism and other corrupt behaviors (Agwu *et al*., 2020).

Lastly, the monitoring phase within the PNA has been updated to rely primarily on self-assessment methods in areas classified as low corruption risk. However, in higher-risk areas, self-assessment must be supplemented by direct monitoring actions from the RPC (Responsible for Corruption Prevention). This dual approach is essential for maintaining integrity in the system and reflects a global shift toward more sophisticated, layered monitoring mechanisms, as seen in Brazil, where self-assessment combined with external audits has proven effective in reducing corruption in municipal healthcare settings (Machoski and de Araujo 2020). Since its publication, the PNA Guidelines have been met with numerous criticisms and observations from stakeholders in the healthcare sector. One recurring criticism is that the Guidelines promote a redundancy of numerous principles that, while extensive, are not exhaustive. This has led to concerns that the Guidelines foster a prescriptive and sanctioning approach rather than a preventative one. Similar concerns have been raised in other regions, such as Ecuador's healthcare system, where an over-

reliance on prescriptive measures was found to be ineffective without adequate preventative strategies and resource allocation (Ortiz-Prado *et al*., 2023). There is also significant concern regarding the practical implementation of the PNA. The complexity of the plan, combined with a lack of resources available to the actors responsible for its implementation, has made the process cumbersome. This issue is not unique to Italy, as healthcare systems in many countries, including Montenegro, face similar challenges when trying to implement comprehensive anti-corruption frameworks without sufficient resources (Radević *et al*., 2022).

Many stakeholders argue that the real needs of the specific healthcare context are often overlooked, leaving little room for flexibility in adapting the plan to meet local requirements. This rigidity has also been a point of contention in countries like Brazil, where attempts to apply one-size-fits-all anti-corruption measures across diverse healthcare settings have proven problematic (Machoski and de Araujo 2020). Ultimately, the most critical voices have highlighted the need to strike a balance between strict rules and personal responsibility. This approach has been mirrored in other global healthcare systems, where the strict application of anti-corruption measures has been recommended only in cases of severe risk or critical events, such as in post-pandemic recovery phases (Squalli 2024). The 2023 update to the National Anti-Corruption Plan (Delibera n. 605 del 19 dicembre 2023) introduces several key innovations aimed at strengthening the anticorruption framework within the Italian healthcare sector. These innovations are designed to address emerging risks and enhance the overall effectiveness of anticorruption measures. Such updates mirror broader international trends in combating healthcare corruption, as seen in nations like China, where post-COVID reforms have similarly emphasized transparency and modernization (Su *et al*., 2024).

The update mandates the digitalization of the entire procurement process, from tendering to contract management. This digital transformation aims to increase transparency, reduce opportunities for corrupt practices, and streamline administrative procedures. In Brazil, digital tools and platforms have been pivotal in transforming procurement systems to address corruption, offering a comparable model to Italy (Machoski and de Araujo 2020). By ensuring real-time tracking and accountability, these tools help prevent corruption by minimizing human intervention in sensitive processes. Enhanced transparency requirements accompany these digital initiatives. The new provisions require detailed public disclosure of procurement activities, including contract awards, bidding processes, and performance evaluations. This is similar to approaches taken in Iran, where transparency in procurement has been crucial in reducing conflicts of interest (Dargahi *et al*., 2024). The measures extend to private entities involved in public contracts, ensuring that all stakeholders adhere to the same standards of accountability, reflecting a global push toward uniformity in anti-corruption standards in healthcare (Ortiz-Prado *et al*., 2023).

Stricter compliance and monitoring mechanisms introduced by the 2023 update require entities within the healthcare sector to adopt mandatory training programs on anticorruption practices. Enhanced monitoring mechanisms, such as real-time data analytics and automated alert systems, will be used to detect and prevent corrupt activities. Similar monitoring tools have been successfully implemented in Ecuador, where real-time analytics helped in tracking procurement activities and addressing corruption vulnerabilities in the public health sector (Ortiz-Prado *et al*., 2023). The update also broadens the scope of entities required to comply with the PNA, including newly identified organizations within the healthcare sector and affiliated private entities. This expansion ensures comprehensive coverage and uniform application of anticorruption measures across the sector, a step that mirrors global strategies where public-private partnerships in healthcare are increasingly subjected to uniform regulatory frameworks (Astuti *et al*., 2024).

The updated PNA emphasizes a more robust risk management approach, incorporating advanced risk assessment tools and methodologies. Entities are required

to conduct regular risk assessments and implement tailored mitigation strategies to address identified vulnerabilities. This is aligned with practices in countries such as West Africa, where risk assessments have played a key role in improving healthcare governance and reducing corruption (Onwujekwe *et al*., 2019). While the 2023 update to the PNA introduces significant advancements, it also presents several critical issues and challenges that need to be addressed to ensure effective implementation. Resource constraints remain a major concern, as the digitalization of procurement processes and enhanced monitoring mechanisms require substantial investments in technology and training. This issue is not unique to Italy, as similar challenges have been faced by healthcare systems in Montenegro, where financial limitations hindered the full implementation of anticorruption measures (Radević *et al*., 2022).

Additionally, the complexity of the new measures adds to the integration challenges of existing anticorruption frameworks. Ensuring coherence with previous guidelines and regulations may prove difficult for healthcare entities. This complexity has also been noted in Nigeria, where efforts to streamline anticorruption policies in the healthcare sector have faced obstacles in maintaining consistency and clarity across different frameworks (Agwu *et al*., 2020). Effective implementation also relies on stakeholder engagement. The cooperation of both public and private entities is critical to the success of the updated measures. Resistance or lack of buy-in from stakeholders could undermine these efforts, as seen in Brazil, where the lack of alignment between public and private sector actors has hindered the effectiveness of anticorruption measures in municipal healthcare (Machoski and de Araujo 2020). Operational challenges such as data management complexities and the need for ongoing system maintenance will also need to be addressed. This issue is mirrored in other global contexts, such as Turkey, where technical issues related to the digitalization of procurement have presented hurdles in ensuring seamless operations (Sommersguter-Reichmann and Reichmann 2024). Ensuring rigorous monitoring and enforcement of the new measures is crucial, but the increased workload and the need for specialized skills may strain existing oversight bodies and resources, as seen in Ecuador's healthcare reform efforts (Ortiz-Prado *et al*., 2023).

Conclusion

The implementation and continuous enhancement of anticorruption measures through the National Anti-Corruption Plan have significantly improved transparency in the Italian healthcare sector. The emphasis on digitalization, public disclosure, and rigorous monitoring has made information more accessible and processes more accountable. However, addressing the challenges of resource allocation, system integration, stakeholder engagement, operational management, and enforcement is crucial to sustaining and furthering these gains. The impact on transparency is a testament to the commitment of Italian authorities to foster a culture of openness and accountability. By continuing to refine and strengthen these measures, Italy can set a high standard for transparency in public administration, contributing to greater public trust and the effective prevention of corruption.

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