

## BUILDING RESILIENT HEALTH SYSTEMS: Lessons learned and best practices for combating corruption and improving population health

### CONSTRUYENDO SISTEMAS DE SALUD RESILIENTES: Lecciones aprendidas y prácticas óptimas para combatir la corrupción y mejorar la salud poblacional

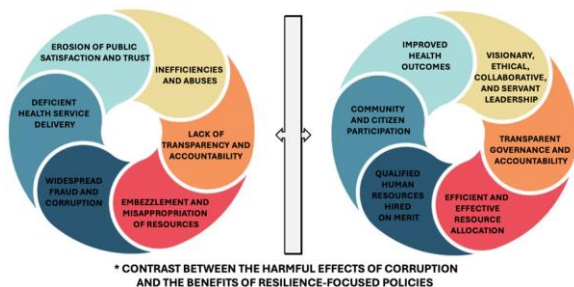
### CONSTRUIRE DES SYSTÈMES DE SANTÉ RÉSILIENS: Leçons apprises et meilleures pratiques pour combattre la corruption et améliorer la santé

### CONSTRUINDO SISTEMAS DE SAÚDE RESILIENTES: Lições aprendidas e melhores práticas para combater a corrupção e melhorar a saúde da população

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IMAGE 1: NEGATIVE CYCLE OF CORRUPTION IN HEALTH SYSTEMS VERSUS POSITIVE CYCLE OF RESILIENCE \*



## ABSTRACT

**Introduction:** This publication complements a previous article by the author by exploring systemic challenges, the impact of corruption, and strategic visions to increase the efficiency and effectiveness of health systems. **Objective:** To identify patterns and trends from select publications in order to generate new intelligence and knowledge to combat corruption and improve population health.

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**Methods:** A qualitative synthesis of eleven publications on health system strengthening and corruption was developed. Data mining techniques were employed to identify patterns of action and predominant approaches, generating 44 lessons learned and 44 best practices for building resilient health systems. Complementary literature was reviewed to corroborate findings and propose actionable reform strategies and solutions. **Results:** Corruption severely affects health, the economy, and development. A holistic approach, including visionary leadership, collaboration, competence, and interdisciplinary education, is crucial to achieving lasting systemic change. Understanding the impact of corruption and fostering cultural, social, and behavioral changes are key to effective reform. Personal and systemic reconstruction, guided by committed professionals and comprehensive frameworks, offers a viable path toward meaningful reforms. Government restructuring, collaboration among key stakeholders, and merit-based hiring improve transparency and system effectiveness. **Conclusions:** Ethical leadership, accountability, community participation, and voter responsibility, integrity, and education are essential for responsible governance, the eradication of systemic corruption, the construction of resilient health systems, and the improvement of population health.

**Keywords:** health system strengthening, health sector reform, corruption and health, health steering, health governance, health stewardship, resilient health systems.

## RESUMEN

**Introducción:** Esta publicación complementa un artículo previo del autor al explorar los desafíos sistémicos, el impacto de la corrupción y visiones estratégicas para aumentar la eficiencia y efectividad de los sistemas de salud. **Objetivo:** identificar patrones y tendencias de publicaciones selectas para generar nueva inteligencia y conocimiento para combatir la corrupción y mejorar la salud poblacional. **Métodos:** Se desarrolló una síntesis cualitativa de once publicaciones sobre fortalecimiento de sistemas de salud y corrupción. Se emplearon técnicas de minería de datos para identificar patrones de acción y enfoques predominantes, generando 44 lecciones aprendidas y 44 prácticas óptimas para construir sistemas de salud resilientes. Se revisó literatura complementaria para corroborar los hallazgos y proponer estrategias y soluciones de reforma accionables. **Resultados:** La corrupción afecta gravemente la salud, la economía y el desarrollo. Es crucial un enfoque holístico que incluya liderazgo visionario, colaboración, competencia y educación interdisciplinaria para lograr cambios sistémicos duraderos. Comprender el impacto de la corrupción y fomentar cambios culturales, sociales y de comportamiento son clave para una reforma efectiva. La reconstrucción personal y sistémica, guiada por profesionales comprometidos y marcos integrales, ofrece un camino viable hacia reformas significativas. La reestructuración gubernamental, colaboración entre actores clave y contratación basada en méritos mejoran la transparencia y eficacia del sistema. **Conclusiones:** El liderazgo ético, la rendición de cuentas, la participación comunitaria y la responsabilidad, integridad y educación del votante son esenciales para una gobernanza

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responsable, la erradicación de corrupción sistémica, la construcción de sistemas de salud resilientes y el mejoramiento de la salud.

**Palabras Clave:** fortalecimiento de sistemas de salud, reforma del sector salud, corrupción y salud, rectoría en salud, gobernanza en salud, mayordomía en salud, sistemas de salud resilientes

## RÉSUMÉ

**Introduction:** Cette publication complète un article précédent de l'auteur en explorant les défis systémiques, l'impact de la corruption et les visions stratégiques pour accroître l'efficacité et l'effectivité des systèmes de santé. **Objectif:** Identifier des modèles et des tendances à partir de publications sélectionnées afin de générer une nouvelle intelligence et des connaissances pour lutter contre la corruption et améliorer la santé des populations. **Méthodes:** Une synthèse qualitative de onze publications sur le renforcement des systèmes de santé et la corruption a été développée. Des techniques de fouille de données ont été employées pour identifier des modèles d'action et des approches prédominantes, générant 44 leçons apprises et 44 meilleures pratiques pour construire des systèmes de santé résilients. Une revue de la littérature complémentaire a été réalisée pour corroborer les résultats et proposer des stratégies et solutions de réforme actionnables. **Résultats:** La corruption affecte gravement la santé, l'économie et le développement. Une approche holistique, comprenant un leadership visionnaire, la collaboration, la compétence et l'éducation interdisciplinaire, est cruciale pour un changement systémique durable. Comprendre l'impact de la corruption et encourager des changements culturels, sociaux et comportementaux sont essentiels pour une réforme efficace. La reconstruction personnelle et systémique, guidée par des professionnels engagés et des cadres globaux, offre une voie viable vers des réformes significatives. La restructuration gouvernementale, la collaboration entre les principales parties prenantes et le recrutement basé sur le mérite améliorent la transparence et l'efficacité du système. **Conclusions:** Le leadership éthique, la reddition de comptes, la participation communautaire, la responsabilité des électeurs, l'intégrité et l'éducation sont essentiels pour une gouvernance responsable, l'éradication de la corruption systémique, la construction de systèmes de santé résilients et l'amélioration de la santé des populations.

**Mots-clés:** renforcement des systèmes de santé, réforme du secteur de la santé, corruption et santé, pilotage de la santé, gouvernance de la santé, gestion de la santé, systèmes de santé résilients.

## RESUMO

**Introdução:** Esta publicação complementa um artigo anterior do autor, explorando os desafios sistêmicos, o impacto da corrupção e visões estratégicas para aumentar a eficiência e a eficácia dos sistemas de saúde. **Objetivo:** Identificar padrões e tendências a partir de publicações selecionadas, a fim de gerar novas inteligências e conhecimentos para combater a corrupção e melhorar a saúde da população. **Métodos:** Foi desenvolvida uma síntese qualitativa de onze publicações sobre o fortalecimento dos sistemas de saúde e corrupção. Técnicas de mineração de dados foram

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empregadas para identificar patrones de acción e abordagens predominantes, gerando 44 lições aprendidas e 44 melhores práticas para a construção de sistemas de saúde resilientes. A literatura complementar foi revisada para corroborar os achados e propor estratégias e soluções de reforma acionáveis. **Resultados:** A corrupção afeta gravemente a saúde, a economia e o desenvolvimento. Uma abordagem holística, incluindo liderança visionária, colaboração, competência e educação interdisciplinar, é crucial para alcançar uma mudança sistêmica duradoura. Compreender o impacto da corrupção e promover mudanças culturais, sociais e comportamentais são fundamentais para uma reforma eficaz. A reconstrução pessoal e sistêmica, guiada por profissionais comprometidos e por estruturas abrangentes, oferece um caminho viável para reformas significativas. A reestruturação governamental, a colaboração entre as principais partes interessadas e a contratação com base no mérito melhoram a transparência e a eficácia do sistema. **Conclusões:** Liderança ética, prestação de contas, participação comunitária e responsabilidade dos eleitores, integridade e educação são essenciais para uma governança responsável, a erradicação da corrupção sistêmica, a construção de sistemas de saúde resilientes e a melhoria da saúde da população.

**Palavras-chave:** fortalecimento dos sistemas de saúde, reforma do setor da saúde, corrupção e saúde, direção da saúde, governança da saúde, administração da saúde, sistemas de saúde resilientes.

## INTRODUCTION

This publication expands and complements a previous work by the author that addressed key points and essential takeaways for combating corruption and improving population health. Aimed at being a valuable resource in both academic and professional settings, it seeks to empower students and support professionals in optimizing the performance of health systems. This new document focuses on lessons learned and best practices, offering a vision that integrates the most effective knowledge and approaches to addressing 21st-century health challenges.

*Lessons learned* are knowledge and experiences gained from the critical evaluation of past events, providing valuable insights for decision-making, continuous improvement of processes and strategies, and optimization of future approaches by identifying best practices and mistakes to avoid repetition and enhance effectiveness. <sup>(1-5)</sup>

*Best practices* include methods, techniques, or evidence-based approaches that have proven to be the most effective and efficient for achieving specific goals in a particular context, minimizing errors and maximizing effectiveness and quality in the execution of tasks or processes. <sup>(6-11)</sup> These definitions are supported by recent research highlighting the importance of applying evidence-based strategies to strengthen health systems and effectively address persistent challenges.

A *resilient health system* is able to effectively prepare for, respond to, and adapt to crises and challenges, maintaining its essential functions and strengthening its capacity to face adversities, including the impact of systemic corruption. <sup>(12-16)</sup> These systems not only manage emergencies

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effectively but also evolve in response to crises, continuously improving the quality and equity of healthcare. <sup>(17-21)</sup> According to the World Health Organization (WHO), a resilient health system must have a solid structure, adequate funding, trained personnel, access to information, and efficient governance that fosters cross-sector collaboration and community participation. <sup>(12, 22-25)</sup>

The author has published peer-reviewed original articles exploring crucial topics such as strengthening health systems, the relationship between corruption and health, and building resilient health systems. While the primary focus is on the health system in Guatemala, these studies have global relevance as they address universal challenges faced by all health systems and nations in their efforts to improve the well-being of their populations and promote socioeconomic development.

Strengthening health systems is crucial for building resilient structures, which in turn form the foundation of global health security. These resilient systems enable countries to detect, respond to, and recover from health crises while maintaining essential services. Their stability is essential for preventing global health threats. <sup>(26-31)</sup>

However, for these systems to be truly resilient, they must be free from corruption. Corruption weakens systems by diverting resources and reducing effectiveness in responding to and recovering from crises. Therefore, addressing corruption and strengthening health systems are interrelated essential steps. Only in this way can a health system be developed that functions optimally in normal times and is capable of adapting and recovering effectively in the face of 21st-century emergencies and crises, whether they are emerging infectious diseases, natural or man-made disasters, acts of bioterrorism, or epidemics of chronic diseases. <sup>(13, 19-21)</sup>

## METHOD

The main challenge of this publication was to extract new knowledge and evidence about public health systems, akin to data mining and business intelligence. <sup>(32-35)</sup> This was achieved through the synthesis of six years of extensive research using qualitative methods such as literature reviews, inductive techniques, document analysis, and interviews with key informants and focus groups. The author's extensive executive leadership experience in the public, private, and non-profit sectors, as well as in international organizations across more than 20 countries, was also crucial in this process.

A qualitative synthesis was conducted, a systematic process of integrating and analyzing findings from multiple qualitative studies, designed to generate a deeper and more nuanced understanding of a specific phenomenon or topic. The validity, relevance, and originality of qualitative syntheses have been extensively documented. <sup>(36-40)</sup>

For this study, eleven peer-reviewed articles by the same author on strengthening health systems and corruption were selected, with the primary goal of developing new knowledge and generating strategic intelligence to more effectively guide the design of plans, programs, strategies, and policies aimed at building more resilient and equitable health systems. Advanced data mining techniques

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were applied to identify key patterns and trends, <sup>(41-44)</sup> highlighting the impact of corruption on the efficiency of health services, governance models, and economic evaluations. Additionally, collaborative approaches and leadership dynamics were analyzed to propose practical solutions and sustainable reforms.

The incorporation of lessons learned and best practices from the eleven publications enabled the development of a strategic framework for analyzing health systems. This comprehensive approach addresses systemic challenges, emphasizing the need to confront corruption and inefficiencies in their multifaceted complexity. By synthesizing this knowledge, practical and visionary intelligence was generated, aimed at improving the performance and effectiveness of health systems.

By combining this publication with the author's previous article on building resilient health systems, a coherent overview is created that encompasses key points, key takeaways, lessons learned, and best practices. The *key points* highlight fundamental problems and objectives, the *lessons learned* provide practical insights based on real-world experiences, the *best practices* present proven methodologies for implementation, and the *key takeaways* synthesize general themes and strategic directions. Together, these four elements form a cohesive narrative that guides the development of evidence-based solutions tailored to both local and global contexts, ensuring that health systems are better prepared to drive reforms and improve public health outcomes.

## RESULTS

The publication ***Corruption and Health 7: Epidemic, Endemic, and Pandemic Corruption in the Guatemalan Health System Due to the Absence of Effective Health Governance*** analyzes widespread corruption in the Guatemalan health system and proposes concrete measures to combat it. Its primary objective is to provide the newly elected government for the 2024-2027 term with the knowledge and evidence needed to restore the stewardship of the health system and eradicate corruption. <sup>(45)</sup>

The following table provides a summary of lessons learned and best practices, complemented by a detailed narrative description.

	LESSONS LEARNED	BEST PRACTICES
1	Health governance is crucial	Strengthen health governance
2	Corruption as a disease	Collaborative efforts
3	Holistic approach needed	Transparency and accountability
4	Long-term commitment	Engagement of key stakeholders

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**Lessons Learned:**

1. *Health Governance is Crucial:* Governance, stewardship, leadership, and effective direction are fundamental to preventing and addressing corruption in the health sector.
2. *Corruption as a Disease:* Viewing corruption as an infection that can spread helps to understand its pervasive nature and the need for comprehensive strategies to combat it.
3. *Holistic Approach Needed:* Combating corruption requires a multifaceted approach involving all stakeholders from different sectors.
4. *Long-Term Commitment:* Sustainable change requires a long-term commitment from the government and all involved stakeholders.

**Best Practices:**

1. *Strengthen Health Governance:* Enhance the Ministry of Health’s capacity to lead, govern, and oversee the health system effectively.
2. *Collaborative Efforts:* Engage the public, private, and non-profit sectors in a unified effort to address and mitigate corruption.
3. *Transparency and Accountability:* Implement robust mechanisms for transparency and accountability in all health-related activities.
4. *Engagement of Key Stakeholders:* Identify and involve key stakeholders in governance and decision-making processes to ensure comprehensive and inclusive strategies.

In the publication **Corruption and Health 6: A Presidential Vision for Guatemala Based on the Social Determinants of Health**, the chronic governance problems in Guatemala are addressed, and a comprehensive strategy centered on the concept of 'integral security' is proposed. This includes four types of security: **medical, educational, citizen, and economic security**.<sup>(46)</sup>

The following table presents a summary of lessons learned and best practices, followed by a detailed narrative description.

	LESSONS LEARNED	BEST PRACTICES
1	Importance of informed voting	Promote voter education
2	Corruption hinders national progress	Implement servant leadership
3	Need for systemic change	Government restructuring and revitalization
4	Integral security	Integral security measures

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## Lessons Learned:

1. *Importance of informed voting:* Voters must be informed, aware, and rational in their voting decisions to break the cycle of corruption and underdevelopment.
2. *Corruption hinders national progress:* Corruption and inefficiencies significantly hinder the country's progress and development.
3. *Need for systemic change:* Incremental changes are insufficient; a comprehensive overhaul of the government structure is necessary.
4. *Integral security:* Addressing the various dimensions of security is crucial for national well-being and overall prosperity.

## Best Practices:

1. *Promote voter education:* Encourage voter education and awareness to ensure informed voting based on rational considerations and collective well-being.
2. *Implement servant leadership:* Adopt a servant leadership approach that prioritizes the population's needs and the nation's development.
3. *Government restructuring and revitalization:* Execute a comprehensive restructuring and revitalization of government operations to improve efficiency and reduce corruption.
4. *Integral security measures:* Develop and implement comprehensive security measures that address medical, educational, citizen, and economic aspects.

However, the publication ***Corruption and Health 5: Why is it difficult to accelerate the end of the HIV/AIDS epidemic?*** highlights the persistent challenges in eradicating the HIV/AIDS epidemic, despite the considerable mobilization of resources and scientific advancements achieved. <sup>(47)</sup> The following table presents a summary of lessons learned and best practices, complemented by a detailed narrative description.

	LESSONS LEARNED	BEST PRACTICES
1	Effective resource allocation and utilization	Promote ethical leadership
2	Importance of ethical values	Improve accountability
3	Deep-rooted systemic barriers	Community involvement
4	Accountability and integrity	Transparent resource management

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## Lessons Learned:

1. *Effective resource allocation and utilization:* Simply mobilizing resources is insufficient; the way resources are allocated and utilized significantly impacts the outcome.
2. *Importance of ethical values:* Restoring ethical and moral values is crucial in the fight against HIV/AIDS.
3. *Deep-rooted systemic barriers:* Addressing individual, institutional, systemic, and structural barriers is essential for progress.
4. *Accountability and integrity:* The lack of honesty, accountability, and integrity among health system leaders and program managers severely undermines efforts.

## Best Practices:

1. *Promote ethical leadership:* Encourage leaders and managers in health systems to uphold and promote ethical and moral values.
2. *Improve accountability:* Implement robust accountability mechanisms to reduce inefficiencies and combat corruption.
3. *Community involvement:* Engage poor and vulnerable populations in the design and implementation of HIV/AIDS programs to ensure their needs are met.
4. *Transparent resource management:* Ensure transparent management of resources to prevent fraud and misuse.

When analyzing the publication ***Corruption and Health 4: Leading the Integral Health Care System in Guatemala: The Good, The Bad, and The Ugly***, an in-depth perspective is offered on the challenges and experiences of leading the Integral Health Care System of the Ministry of Health in Guatemala, highlighting achievements, obstacles, and lessons learned. <sup>(48)</sup>

The following table summarizes the lessons learned and best practices from the document, followed by a detailed narrative description that offers a deeper analysis of the observations and recommendations presented.

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	LESSONS LEARNED	BEST PRACTICES
1	Vision and leadership	Foster visionary leadership
2	Competence and integrity	Merit-based hiring
3	Ethics and values	Ethical governance
4	Indifference and corruption	Support unfiltered leaders

**Lessons Learned:**

1. *Vision and leadership:* A clear vision and strong leadership are crucial for transforming health systems and overcoming entrenched challenges.
2. *Competence and integrity:* Hiring officials based on their track record and competence, rather than influences, is essential for improving system performance and reducing corruption.
3. *Ethics and values:* Ethical behavior and strong values are fundamental to addressing systemic issues in public health management.
4. *Indifference and corruption:* Overcoming widespread indifference and corruption requires dedicated efforts and the involvement of unfiltered leaders willing to challenge the status quo.

**Best Practices:**

1. *Foster visionary leadership:* Promote leadership that has a clear vision for change and is committed to effective implementation.
2. *Merit-based hiring:* Implement hiring practices based on merit and track record to ensure competence and reduce corruption.
3. *Ethical governance:* Cultivate a culture of ethics and values within the health system to address corruption and inefficiency.
4. *Support unfiltered leaders:* Encourage and support leaders willing to take risks, do more with less, and challenge entrenched systems, traditions, and practices.

In the publication **Corruption and Health 3: Leadership Development to Transform Health Systems**, an innovative proposal is outlined regarding the urgency of training new leaders capable of confronting corruption and inefficiencies in health systems. An educational model is highlighted, designed to equip these leaders and promote sustainable changes in the sector. <sup>(49)</sup>

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The following table summarizes the lessons learned and best practices from the document, followed by a detailed narrative description that offers a deeper analysis of the observations and recommendations presented.

	LESSONS LEARNED	BEST PRACTICES
1	Interdisciplinary education	Integrated curriculum
2	Key leadership qualities	Future-focused leadership training
3	Focus on systemic change	Open access educational programs
4	Impacto global	Competency-based education

**Lessons Learned:**

1. *Interdisciplinary education:* Addressing the challenges of health systems requires an interdisciplinary approach that combines multiple fields of study.
2. *Key leadership qualities:* Future health leaders must possess qualities such as integrity, accountability, innovation, and a focus on high performance.
3. *Focus on systemic change:* Transforming health systems necessitates leaders who are prepared to confront and dismantle systemic inefficiencies and corruption.
4. *Global impact:* Effective leadership in health systems can have significant impacts on global political and economic progress.

**Best Practices:**

1. *Integrated curriculum:* Develop and implement an integrated curriculum that includes health intelligence, executive leadership, integrity and anti-corruption, and health economics.
2. *Future-focused leadership training:* Focus training on leaders with a future-focused, collaborative, and servant leadership approach.
3. *Open access educational programs:* Encourage institutions to adopt and adapt the proposed Master’s in Public Health program with an emphasis on Leadership, Integrity, and Effectiveness to ensure broad access to this unprecedented, advanced training.
4. *Competency-based education:* Ensure that the educational model develops the necessary competencies and skills for leaders to effectively reform health systems.

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In **Corruption and Health 2: Challenges to Improving the Public Health System in Guatemala**, systemic corruption affecting the Guatemalan health system is explored in depth. This publication examines strategic approaches to enhance its efficiency and long-term sustainability. <sup>(50)</sup>

The following table summarizes the lessons learned and best practices from the document, followed by a detailed narrative description that offers a deeper analysis of the observations and recommendations presented.

	LESSONS LEARNED	BEST PRACTICES
1	Complexity of corruption	Comprehensive analysis
2	Multidisciplinary approach	Multilevel interventions
3	Cultural, social, and behavioral change	Matrix-based solutions
4	Need for personal and systemic reconstruction	Collaboration with international organizations

**Lessons Learned:**

1. *Complexity of corruption:* Corruption within the health system is complex and systemic, requiring multifaceted solutions.
2. *Multidisciplinary approach:* Combining academic knowledge with real-world experiences is crucial for understanding and addressing challenges.
3. *Cultural, social, and behavioral change:* Tackling inefficiency and corruption necessitates changes in thinking, behavior, and culture within the health system and society at large.
4. *Need for personal and systemic reconstruction:* Both personal and systemic reconstruction are necessary to save and improve the health system.

**Best Practices:**

1. *Comprehensive analysis:* Employ a comprehensive approach that integrates academic research and practical experiences to analyze health system challenges.
2. *Multilevel interventions:* Implement evidence-based, targeted, and varied methodological interventions at individual, environmental, structural, and suprastructural levels aimed at changing the culture and behaviors that sustain inefficiency and corruption.
3. *Matrix-based solutions:* Develop and utilize structured matrices to systematically organize information, facilitate analysis and evaluation of different options, address complex problems,

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and make decisions, such as prioritization, cause-and-effect analysis, resource allocation, and cost-effectiveness comparison.

4. *Collaboration with international organizations:* Leverage technical and financial assistance from international cooperation and development organizations to support improvements in the health system.

In the publication titled **Corruption and Health: Why is it Difficult to Improve Population Health?** an in-depth analysis is presented on how corruption, in its various forms, permeates health systems and hinders their progress. Through a review of cases and strategies implemented to combat corruption, the text provides practical recommendations based on successful experiences in the fight against this phenomenon. <sup>(51)</sup>

The following table summarizes the lessons learned and best practices from the document, followed by a detailed narrative description that offers a deeper analysis of the observations and recommendations presented.

	LESSONS LEARNED	BEST PRACTICES
1	Corruption is a major barrier	Define and analyze corruption
2	Need for committed individuals	Recommendations based on literature and experience
3	Comprehensive understanding	Promote long-term commitment
4	Direct impact on health	Focus efforts on vulnerable populations

**Lessons Learned:**

1. *Corruption is a major barrier:* Corruption is one of the biggest obstacles to improving health and well-being globally.
2. *Need for committed individuals:* The fight against corruption requires individuals dedicated to addressing it consistently and persistently.
3. *Comprehensive understanding:* A thorough understanding of corruption through literature and real-world experiences is essential for developing effective strategies.
4. *Direct impact on health:* There is a direct correlation between corruption and health outcomes, highlighting the need for targeted efforts against corruption in the health sector.

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**Best Practices:**

1. *Define and analyze corruption:* Clearly define corruption and analyze its various forms and impacts within the health sector.
2. *Recommendations based on literature and experience:* Use both academic literature and practical real-world experiences to inform recommendations and strategies.
3. *Promote long-term commitment:* Emphasize the importance of individuals and leaders committing to the fight against corruption as an ongoing, lifelong effort.
4. *Focus efforts on vulnerable populations:* Direct anti-corruption efforts toward health sectors serving poor and vulnerable populations, where the impact is most significant.

When closely analyzing the publication **Reforming the Health Sector of Guatemala: An Organizational and Functional Model to Transform the Health System**, the urgent need to implement profound changes in the Guatemalan health system is highlighted. The text addresses various structural and functional deficiencies, proposing an innovative model aimed at improving access to services, health outcomes, citizen satisfaction, and protection against financial risks. <sup>(52)</sup>

The following table summarizes the lessons learned and best practices from the document, followed by a detailed narrative description that offers a deeper analysis of the observations and recommendations presented.

	LESSONS LEARNED	BEST PRACTICES
1	Importance of reform	Contextual analysis
2	Learning from others	Variety and selection of frameworks
3	Comprehensive reform framework	Entrepreneurial and client-centered mindset
4	Need for innovation	Government commitment

**Lessons Learned:**

1. *Importance of reform:* Effective reform of the health sector is crucial to address significant deficiencies and improve overall health outcomes in Guatemala.
2. *Learning from others:* Analyzing health reforms in other countries in Latin America and around the world provides valuable insights into what works and what doesn't, offering lessons that can be adapted to the Guatemalan context.

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3. *Comprehensive reform framework:* The Theory of the Five Control Buttons provides a useful framework for understanding and implementing changes in the health system, particularly in financing, payment mechanisms, organization, regulation, and behavior.
4. *Need for innovation:* The existing model has failed due to a bureaucratic and recipient mentality; a shift towards an entrepreneurial and client-focused approach is necessary for achieving meaningful transformation.

#### Best Practices:

1. *Contextual analysis:* Conduct a thorough analysis of health reforms in similar contexts to extract relevant lessons and strategies.
2. *Variety and selection of frameworks:* Utilizing comprehensive frameworks such as the Theory of the Five Control Buttons and others (Behavioral Assessment of Health Care, EGIPSS [Integrated Performance Model for Health Care System], WHO Performance Framework, Commonwealth Fund, Building Blocks Framework, Systems Thinking) not only provides a solid foundation for planning and executing reforms but also allows for continuous evaluation adjusted to emerging needs, ensuring the effectiveness and sustainability of implemented improvements.
3. *Entrepreneurial and client-centered mindset:* Foster a shift from a bureaucratic mindset to an entrepreneurial one in health sector management to promote innovation and efficiency.
4. *Government commitment:* Ensure strong government commitment to implement and support the new reform model.

In the publication ***The Pillars of Cost-Effectiveness: A Practical Guide for Cost-Effective Decision-Making in New Health Technologies***, the urgent need for an economic approach to healthcare decision-making in Central America and the Caribbean is addressed. It offers a practical guide aimed at making health technologies more affordable and accessible, highlighting key strategies to optimize resource use in the health sector. <sup>(53)</sup>

The table below summarizes the lessons learned and best practices from the document, followed by a detailed narrative description that expands on the concepts and recommendations presented.

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	LESSONS LEARNED	BEST PRACTICES
1	Economic evaluations and health technology assessments	Economic and health technology assessment education
2	Three types of effectiveness pillars	Comprehensive effectiveness
3	Development of checklists	Implementation of checklists
4	Health alliances and partnerships	Collaborative approach

**Lessons Learned:**

1. *Economic evaluations and health technology assessments:* There is a significant need to increase awareness and application of economic evaluations and health technology assessments among health stakeholders.
2. *Three types of effectiveness pillars:* A comprehensive approach that considers clinical effectiveness, medical access effectiveness, and economic effectiveness is essential for cost-effective decision-making.
3. *Development of checklists:* Checklists can be an effective tool to ensure cost-effectiveness in the procurement of new health technologies, as they allow for rigorous evaluation of costs and benefits, thereby improving the quality and sustainability of health decisions, practices, and interventions.
4. *Health alliances and partnerships:* Collaborative efforts among stakeholders are crucial to improving health outcomes and making technologies more accessible.

**Best Practices:**

1. *Economic and health technology assessment education:* Educate health stakeholders on the importance and application of economic evaluations and health technology assessments in healthcare decision-making.
2. *Comprehensive effectiveness:* Consider clinical, access, and economic effectiveness when evaluating new health technologies to determine their cost-effectiveness, utility, and benefit.
3. *Implementation of checklists:* Implement checklists based on proven concepts from the aviation, medical, pharmaceutical, and public health industries to achieve the universal goals of patients, providers, payers, and policymakers: the best medicine at the lowest possible cost and with the best possible access.

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4. *Collaborative approach*: Foster partnerships among patients, providers, policymakers, and funders to improve access to health technologies and health outcomes.

On the other hand, the publication **Strategic Vision for Public Health in Guatemala** offers a strategic vision to improve the performance of the Guatemalan Ministry of Public Health and Social Assistance (MSPAS). It examines the limitations and challenges faced by the MSPAS and proposes a comprehensive solution to overcome these obstacles. <sup>(54)</sup>

The attached table summarizes the lessons learned and best practices from the article, followed by a detailed narrative description that expands on and contextualizes the recommendations presented.

	LESSONS LEARNED	BEST PRACTICES
1	Resistance to change	Implement seven validated concepts
2	Proven concepts	Restructure and revitalize
3	Comprehensive approach	Ensure multisectoral support
4	Collaboration is key	Shared or collaborative leadership

**Lessons Learned:**

1. *Resistance to change*: Despite government efforts, the MSPAS often fails to transform due to a culture of continuity, impunity, and resistance to change.
2. *Proven concepts*: Applying proven concepts such as systems thinking, essential public health services, and place-based interventions can help address systemic inefficiencies.
3. *Comprehensive approach*: A comprehensive approach that includes restructuring and revitalization is necessary to improve MSPAS performance.
4. *Collaboration is key*: Multisectoral support and collaborative leadership are crucial for successful transformation.

**Best Practices:**

1. *Implement seven validated concepts*: Implement systems thinking, essential public health services, levels of disease causation, community liaising programs, place-based interventions, pharmacoeconomic mindset, and a population health system.
2. *Restructure and revitalize*: Focus on reorganizing functions, structures, programs, services, and benefits (restructuring) while developing a culture of excellence, high performance, transparency, and accountability (revitalization).

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3. *Ensure multisectoral support:* Engage and secure support from diverse sectors and stakeholders to address system inefficiencies.
4. *Shared or collaborative leadership:* Foster shared or collaborative leadership from experienced experts with proven track records at both local and international levels.

Finally, the publication **Technical Review of the Health Sector Reform Proposal in Guatemala: A Critical Analysis** provides a comprehensive evaluation of a health sector reform proposal in Guatemala. It highlights various aspects of the proposal, identifying significant deficiencies and challenges. <sup>(55)</sup>

The following table summarizes the lessons learned and best practices from the document, followed by a detailed narrative description that offers a deeper analysis of the observations and recommendations presented.

	LESSONS LEARNED	BEST PRACTICES
1	Comprehensive approach	Strategic alignment
2	Realistic expectations	Innovative approaches
3	Integration of stakeholders	Collaborative governance
4	Strong leadership and governance	Monitoring and evaluation

**Lessons Learned:**

1. *Comprehensive approach:* Reform efforts must be holistic, addressing technical, programmatic, managerial, financial, political, and structural aspects.
2. *Realistic expectations:* Proposals should set realistic expectations regarding the scope and impact of reforms, especially in resolving the existing health crisis.
3. *Integration of stakeholders:* Effective reform requires the integration and collaboration of all health stakeholders to maximize resources and infrastructure.
4. *Strong leadership and governance:* Robust leadership and governance are essential for successfully implementing and sustaining reforms in the health sector.

**Best Practices:**

1. *Strategic alignment:* Ensure alignment of reform proposals with national development plans and legal frameworks to improve effectiveness and sustainability.

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2. *Innovative approaches*: Implement innovative strategies and structural changes that address systemic issues and enhance the performance of the health system.
3. *Collaborative governance*: Promote models of collaborative governance that involve and integrate diverse health stakeholders for collective impact.
4. *Monitoring and evaluation*: Establish robust monitoring and evaluation mechanisms to track progress, identify gaps, and adjust strategies accordingly.

## DISCUSSION

Diverse institutions and researchers have studied the building of resilient health systems and the impact of corruption, providing definitions, approaches, lessons learned, and best practices. These references offer a solid foundation for analyzing and understanding resilient health systems from various perspectives and applying current approaches and best practices to strengthen them.

The descriptions of resilient health systems vary among institutions and experts, providing a broad and multifaceted overview. The World Health Organization (WHO) defines them as systems that maintain their essential functions during crises and enhance their capacity to respond to future adverse events. <sup>(12)</sup> The World Bank, on the other hand, notes that these systems must absorb, adapt, and transform in response to shocks and stresses. <sup>(13)</sup> Kruk and colleagues highlight the importance of learning and adaptation capacity, using the Ebola crisis as a key example. <sup>(14)</sup> Blanchet and others present a conceptual framework focused on governance and management capacity, <sup>(15)</sup> while Thomas and his team emphasize the need for key strategies to strengthen the resilience of health systems. <sup>(21)</sup>

To build more resilient and equitable health systems, it is essential to adopt a comprehensive approach that includes visionary leadership, interdisciplinary education, and a long-term commitment to structural reform. The lessons learned underscore the importance of ethical and transparent leadership that promotes accountability and community participation in the fight against corruption. Transparent resource management and governmental restructuring, along with merit-based hiring and collaboration among key stakeholders, enhance the effectiveness and integrity of the health system. Additionally, fostering cultural and behavioral changes within the population, as well as implementing comprehensive frameworks for reform, is crucial to ensuring the sustainability of achieved advancements. These elements, when combined, offer a viable pathway toward constructing stronger health systems capable of responding effectively to crises and providing equitable and accessible care for all. <sup>(56-60)</sup>

These recommendations, aligned with the findings of this publication, provide a comprehensive framework for developing resilient health systems capable of facing crises and recovering efficiently and equitably. Below is a summary of the *44 lessons learned* and the *44 best practices* from the 11 publications, highlighting both their essential content and their relevance and importance.

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## Synthesis of Lessons Learned

The effective allocation and utilization of resources, grounded in ethical values, are crucial for overcoming systemic barriers in health systems. Accountability and integrity must be prioritized, with informed voting playing a key role in the fight against corruption, which is a significant impediment to health governance and social well-being overall. A holistic approach and a long-term commitment that emphasize vision, leadership, competence, and interdisciplinary education are essential for driving systemic change. Understanding the global impact of corruption and fostering cultural, social, and behavioral change are critical aspects.

Personal and systemic reconstruction, guided by committed individuals and comprehensive frameworks, is necessary for real reform. Learning from proven concepts and utilizing economic evaluations and health technology assessments can enhance clinical, medical access and economic effectiveness. Implementing checklists, fostering health partnerships, and adopting innovation are beneficial strategies. Overcoming resistance to change requires collaboration, realistic expectations, and the integration of all stakeholders. This underscores the importance of strong leadership and governance—characterized by strength, resilience, and effectiveness in managing challenges and adversities—to achieve significant improvements in health systems.

To combat corruption and improve population health, it is essential to strengthen anti-corruption policies and ensure their effective implementation. It is also crucial to guarantee financial accountability through transparent and accessible budgets. Furthermore, active participation from the community and citizens in oversight and decision-making in the health sector should be encouraged, along with protections for whistleblowers who report cases of corruption. Finally, the integration of digital health technologies can play a key role in enhancing transparency in health systems.

## Synthesis of Best Practices

Promoting ethical leadership and enhancing accountability are fundamental for strengthening health systems and combating corruption. Community engagement and transparent resource management foster trust and efficiency. Voter education, civic participation, and servant leadership are crucial for informed and responsible governance. Governmental restructuring and revitalization, along with comprehensive safety measures, are necessary to strengthen health governance. Collaborative efforts and stakeholder participation improve transparency and accountability.

Visionary leadership and merit-based hiring promote ethical governance. Supporting unfiltered leaders and integrating competency-based, future-oriented education into curricula prepares leaders for future challenges. Open-access educational programs and integrated analysis ensure inclusivity and comprehensive understanding. Behavioral interventions and matrix-based solutions effectively address specific issues. Collaboration with international organizations provides broader perspectives and resources. Defining and analyzing corruption, along with successful experience-based

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recommendations, are essential for targeted interventions. Fostering lifelong commitment and engagement with vulnerable populations ensures sustained impact.

Contextual analysis and the selection of appropriate reform frameworks are fundamental for guiding effective strategies. An entrepreneurial, client-centered mindset, along with government commitment, is crucial for innovative approaches. Economic education and comprehensive effectiveness evaluations optimize decision-making. The use of checklists, the adoption of validated concepts, and a collaborative approach ensure structured and effective implementation. The restructuring and revitalization of systems, securing a multisectoral approach, and collaborative leadership align strategic objectives.

Additionally, monitoring and evaluation are essential for ensuring continuous improvement and accountability, as they allow for early identification of inefficiencies, deviations, or corruption risks. These processes facilitate the implementation of corrective actions, optimize resource utilization, and ensure that health policies and programs align with the needs of the population. Furthermore, they promote transparency by providing clear and verifiable data on performance, which strengthens public trust and contributes to the fight against corruption, thereby improving outcomes in population health.

Finally, as a picture is worth more than a thousand words, Image 1 provides a powerful visual representation of the contrast between the destructive cycle of corruption and the transformative power of resilience in health systems. On one side, the negative cycle of corruption is depicted, highlighting inefficiencies, abuse, lack of transparency and accountability, diversion of funds, and poor service delivery, all of which lead to fraud, public dissatisfaction, and a deep erosion of trust. This vicious cycle perpetuates inequities, undermines health outcomes, and stifles progress.

In stark contrast, the positive cycle of resilience illustrates how visionary, ethical, collaborative, and servant leadership fosters transparent governance, accountability, and efficient resource allocation. Through community participation, qualified human resources hired on merit, and a shared commitment to better health outcomes, resilience-oriented policies strengthen public trust and deliver lasting, positive change. The juxtaposition in the image underscores how corruption corrodes, while resilience renews and uplifts health systems, ultimately benefiting the communities they serve.

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**IMAGE 1: NEGATIVE CYCLE OF CORRUPTION IN HEALTH SYSTEMS  
VERSUS POSITIVE CYCLE OF RESILIENCE \***



**\* CONTRAST BETWEEN THE HARMFUL EFFECTS OF CORRUPTION  
AND THE BENEFITS OF RESILIENCE-FOCUSED POLICIES**

## CONCLUSIONS

Building resilient health systems requires a comprehensive strategic approach grounded in lessons learned and best practices. It is essential to allocate and manage resources ethically, prioritizing accountability, integrity, and strong governance to combat corruption.

Transformational and resilient leadership, combined with a holistic approach that includes interdisciplinary and citizen education based on competencies to ensure informed voting, as well as a long-term commitment, is essential for implementing effective reforms. Government restructuring and revitalization, collaboration among key stakeholders, and transparency in resource management are essential practices that reinforce the need for ethical, visionary, shared, and servant leadership.

International collaboration enriches the resources and perspectives available, contributing to the creation of more inclusive and effective reforms. This cooperation allows for the integration of diverse knowledge, sharing of best practices, and adaptation of innovative solutions, thereby increasing the effectiveness and impact of the implemented reforms. Citizen participation, the development of skilled leadership through comprehensive educational programs, and the adoption of validated

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reform frameworks and checklists are crucial for the implementation of structured and sustainable reforms.

Together, these lessons and practices provide a robust framework to guide leaders toward solutions that not only combat corruption but also promote a more equitable, sustainable, and prepared population health to face future challenges. This comprehensive approach not only enhances the effectiveness of reforms but also contributes to building more resilient health systems capable of adapting, recovering, and thriving in a constantly changing environment.

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## CONFLICTS OF INTERESTS

No conflicts of interests are declared.

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## **AUTHORIZATION LETTER FOR PUBLICATION AND DISTRIBUTION**

To the Editorial Committee of the Journal of Medical Sciences and Life

Title of the article:

- **BUILDING RESILIENT HEALTH SYSTEMS: Lessons learned and best practices for combating corruption and improving population**

Name of the author(s):

- **Mario Ricardo Calderón Pinzón**

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**Author Contributions:** All stages of the research and writing of the article were carried out by M. Ricardo Calderón.

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