Digital Health Investment in the Eastern Mediterranean: Economic Opportunities, Challenges, and Feasibility Analysis of Telemedicine and Electronic Health Records

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Abstract:
Broader healthcare challenges in the Eastern Mediterranean region persist such as workforce, costs, and access to services. Digital health technologies like telemedicine and electronic health records (EHR) offer solutions to health system players for widescale improvement in care delivery, resource optimization, and data-informed decision making.
The present study is designed to assess the economic opportunities, challenges and feasibility of investing in digital health in the Eastern Mediterranean studying telemedicine and implementation of EHRs, additionally the study is intended to furnish strategic recommendations for policy-makers, healthcare providers, and investors considering sustainable digital health implementation.
We used a mixed-methods approach to combine primary qualitative stakeholder interviews, surveys, and case studies with secondary quantitative qualitative reports, statistical datasets, and policy documents. We used economic feasibility assessments through cost/benefit analysis, return on investment (ROI), and scenario modeling for short- to long-term impact evaluations.
The results indicated that telemedicine and receiving EHRs could a dramatic reduction in health care costs, improved efficiency and drove new jobs and recruited employees to the health tech industry. However, the funding for initial capital investments, technological infrastructure, readiness of the workforce, privacy of patient data, and institutional resistance were noted barriers. Public-private partnerships and appropriate regulatory frameworks, can be the enablers of sustainably undertaking opportunities.
The potential for digital health investment in the Eastern Mediterranean is an important economic and strategic opportunity. A combined and collaborative policy, workforce development, and cross-border coordination will provide the best possible benefits and long-term sustainability.
Keywords: *Digital health, telemedicine, electronic health records, economic feasibility, Eastern Mediterranean, healthcare investment, policy strategy*

1. Introduction

The Eastern Mediterranean area contains countries with varying health systems, technology capacities and socio-economic realities. Virtually every country in this area is experiencing a major global shift towards digital health services, defined specifically as telemedicine and electronic health records (EHR), leading to a transformation in how care is delivered. Digital health services have demonstrated potential to increase access to care, optimize efficiency of service delivery, and facilitate data driven clinical decision making (Sharma et al., 2025). In the Eastern Mediterranean, the reality is uneven adoption of technology and differences in health services related infrastructure, regulatory environment, and access to financial resources.

The region faces substantial challenges, such as workforce shortages, increases in costs of delivering services, and increased prevalence of chronic disease. Compounding country access issues, many of these countries face ongoing political instability, have geographic barriers that limit access to care, and lack financial resources (Walter, 2022). These factors drive the urgent need for transformation in the region and the potential for digital health. Digital health can overcome distance barriers through telemedicine and improve care coordination and continuity through EHR systems that will streamline information collection, data sharing, and limit service duplication.

Economic investment is crucial to the successful integration of digital health. Smart allocation of finite resources to telemedicine and/or EHR implementation can provide high return on investment by eliminating non-essential hospital visits, reducing administrative cost, and improving health outcomes. Investments in digital health have an economic potential outside the sphere of healthcare, as the creation of new markets, jobs, and innovation ecosystems can begin to stimulate larger economic outcomes. To make informed policy and investment decisions, it remains critical for regional investors or policymakers in Eastern Mediterranean countries to recognize whether a new technology could be economically innovative (Khemapech, 2019).

This research aims to identify economic prospects and challenges associated with digital health in the Eastern Mediterranean, specifically telemedicine and EHR, with the view of determining where the benefits and barriers to successful uptake were and whether a large-scale introduction was possible. Intended as a feasibility study, the research will provide an evidence-informed analysis of costs, returns, and

sustainability, which can then be used to recommend the strategic direction for investment and policy creation in the region's digital health ecosystem.

2. Literature Review

2.1 Global Trends in Digital Health Investment

Digital health is now a key investment area in the world, driven by technology, health system reform, and demand for accessible care. Documented evidence suggests that global digital health investment is growing rapidly, especially in artificial intelligence (AI), big data analytics, non-generic telehealth platforms (Hosseini et al., 2024; Kozlakidis et al., 2024). This growth in investment demonstrates not only the advancement of digital health technologies, but also the continued changes occurring in health systems toward patient-centered care and efficiency-driven strategies. Furthermore, the COVID-19 pandemic has enabled and encouraged the rapid uptake of digital solutions, leading health systems, with variations experienced by country, to introduce telehealth, remote monitoring, and even digital record-keeping unprecedentedly fast and with scale (Semyonov et al., 2023). While the growth and potential role of digital health investment globally is hopeful, the speed of development and diffusion remains uneven across countries, especially in low- and middle-income countries (Mihai et al., 2018).

2.2 Regional Healthcare Challenges and Digital Transformation Needs

Healthcare systems in the Middle East and North African (MENA) region are characterized by structural and resource constraints, including a fragmented continuum of care, high out-of-pocket payments, and a workforce shortage. All of which highlight the opportunity for digital transformation to improve the efficiency and resilience of health systems (El-Jardali et al., 2023; AlWatban et al., 2024). Scholars have suggested that the adoption of e-health in MENA is limited by issues such as insufficient ICT infrastructure, absence of a governance framework, and a social and cultural reluctance to adopt technology solutions (Al-Shorbaji, 2008; Neamah et al., 2018). Nonetheless, digital health offers opportunities to improve healthcare service delivery in the region through the use of data-based decision-making and technology-enabled service platforms. Historical review also indicates that the success of technology-digitalization projects is linked to the alignment of technology implementation with local socio-economic conditions, policy surrounding health and healthcare and capacity development (Khalifesoltani et al., 2010).

2.3 The Role of Telemedicine in Improving Healthcare Access

Telemedicine is considered a transformative opportunity to address gaps in healthcare accessibility, particularly within underserved and rural areas.

Telemedicine decreases the need for in-person consultations, thereby continuing care in a cohesive environment while decreasing costs and improving access to health services in a more equitable fashion (Parkes et al., 2022; Hosseini et al., 2024). In areas of the world with sparse or inadequate health infrastructure such as the MENA region, there is evidence telemedicine has helped diminish the variances in the availability of health services (El-Jardali et al., 2023). Telemedicine also supports the implementation of multidisciplinary care models and enables more adaptable health system models to address both user preferences and capital crises during an unanticipated situation such as the pandemic (Semyonov et al., 2023). However, where telemedicine may be a sustainable option to expand access to health care, it does not come without regulatory, financial, and cultural barriers, nor will it become an efficient use of the system without thought to interoperability with electronic health record systems (Kozlakidis et al., 2024). Overall, telemedicine appears to offer a strong opportunity to improve access to health care and influence larger digital health transformation efforts long-term.

2.4 The impact of electronic health records (EHR) on healthcare systems

Electronic Health Records (EHR) have emerged as a foundational element of digital health transformation, fundamentally changing how healthcare is delivered and managed. EHR systems enhance efficiency by allowing for improved data entry, measurement, storage and retrieval, and by increasing coordination between healthcare professionals and institutions. Evidence is showing that CHRs are associated with improved clinical decision-making and overall patient safety, reducing mistakes in sharable or replicated records associated with manual record keeping and increasing access to live patient histories (Mwogosi et al., 2024). Evidence from Blaya et al. (2010) similarly showed that EHRs had potential benefits by improving surveillance and monitoring of disease outbreaks - especially pertinent in low- and middle-income countries, where resources are often limited.

Yet, while there is potential benefit, many challenges remain surrounding interoperability, adoption and data privacy. Abukhousa et al. (2012) highlighted that new fragmented information systems often reduced exchange of information amongst practitioners, negating some of the principles of integrated care - a benefit made possible by EHRs. Mandil et al. (2020) also reaffirmed this point, emphasizing that cultural, infrastructural and regulatory barriers affect the scalability of EHR solutions in the Middle East. Hamad (2019) argued that EHR projects also require sustainable investment in workforce and organizational development/implementation of technology factors and behaviours to be successful.

It is reasonable from these studies to conclude that EHRs build up the health system but depend upon various systemic, financial and socio-cultural factors to ensure ongoing success.

2.5 Economic models for assessing digital health projects

As digital health initiatives are centered around sustainability, and valuation is associated with sustainability, it is vital to evaluate the sustainability or effectiveness of these programs. Economic models can provide outcomes modeling not just for direct benefits, but also for indirect benefits like efficiency lunch costs. Piette et al. (2012) differentiate between general issues and digital health solutions with the role and effect of digital health solutions in reducing hospitalizations and decreasing costs through proactive patient care; meanwhile, Popescu et al. (2025) expand on Piette et al. position by arguing that cost–benefit and cost-effectiveness analysis are useful for decision-makers to understand whether there is a potential return on investment through investment in digital health vacancies.

However, the applicability to address the issue of economies models to contexts, remains diverse. Blaya et al. (2010) note that digital health interventions tend to require relatively large initial cash payment, making it a costly investment for low-income settings for example; Hamad (2019) warns that sustainability is affected by whether or not countries can improve alignment of funding systems with the national health priorities, especially regarding priority health services delivered to the populations; this means that improving equity for the end users, also means ensuring financing captures both beneficiaries ideal in health systems, not to mention values connecting into equity when deploying digital health. Mwogosi et al. (2024), as another alternative view, proposed that it is also critical to align social and economic externalities associated with value creation, like increasing productivity during care and patients valuing their actual lives and health; and thus needs comprehensive assessment framework. The value creation benefits selected at the health systems level is intended to ensure decision-makers choose a digital health project that is both clinically effective and produces quantifiable benefits to their health systems through well engineered economic models.

3. Methodology

This research employs a mixed-methods research design, which included both qualitative and quantitative research designs, to comprehensively examine the economic opportunities, challenges, and feasibility for digital health investments—telemedicine and electronic health record (EHR) investments—across the Eastern Mediterranean region. The methodology was developed to enable a thorough

evaluation based on evidence, taking into account both primary and secondary data, as well as a systematic approach to the evaluation.

3.1 Research Design and Approach

The research adopts an exploratory-descriptive design that works well in situations in which data is sparse, and socio-economic factors are interrelated, and it uses an exploratory aspect which identifies emerging trends, investment possibilities, and barriers to adoption, and a descriptive aspect that measures the economic impacts and places them in context. In addition to using an exploratory-descriptive research design, the research strategy employs component triangulation, which is a strategy to strengthen the validity and reliability of findings while demonstrating validity and reliability with participants, economic indicators, and comparison cases.

The study area is the Eastern Mediterranean, which was chosen to encompass a defined geopolitical and economic region and remains variable for regional heterogeneity while identifying common structural drivers of digital health adoption that work against varying levels of regional development. The analysis incorporates national and institutional assessments that can present micro- and macroeconomic perspectives of feasibility.

3.2 Data Sources and Collection Methods

Primary Sources

Primary data was gathered through semi-structured interviews, structured surveys, and purposeful case studies.

Interviews were conducted with key stakeholders, including policymakers, healthcare administrators, technology providers, and representatives from international health organizations in the region. This revealed in-depth detail on strategic priorities, perceptions of risks, and perceptions of economic returns.

Surveys were aimed at healthcare professionals and institutional decision-makers, and addressed adoption readiness; perceived economic benefits; and perceived operational constraints of telemedicine and EHR systems.

Case studies were constructed to describe the real-life implementation experiences of selected countries in the Eastern Mediterranean region, which allowed a direct comparison of investment models that were either successful or not so successful.

Secondary Sources

Secondary data was collected from peer-reviewed academic scholarly publications, industry reports, statistical datasets, and government policy documents. The main sources included:

Global and regional health reports published by the World Health Organization (WHO) and the World Bank.

Economic and demographic datasets available from national statistics agencies and international organizations.

Regulatory and policy documents issued by ministries of health, trade, and digital transformation.

Together, the data source combination that provided qualitative accounts (depth) and quantitative indicators (breadth).

3.3 Analytical Framework for Economic Feasibility Assessment

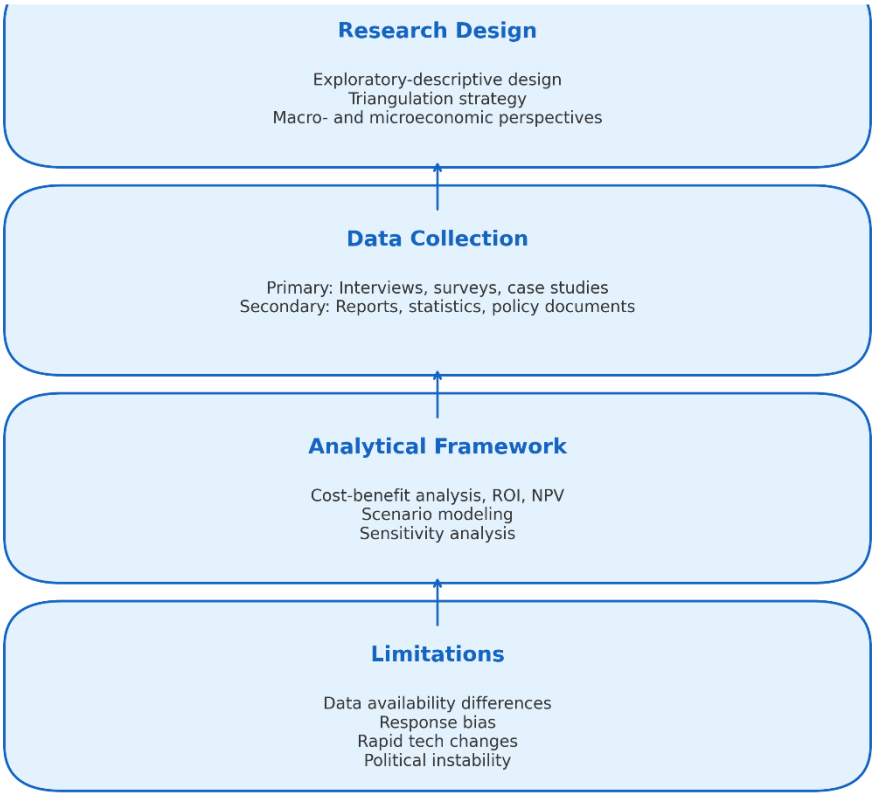
The costs and benefits of technology-driven improvement initiatives were assessed through an economic feasibility lens, which included a cost-benefit analysis as well as ROI and NPV analysis. The costs included infrastructure costs, technology costs, integration costs, workforce training costs, and ongoing operating costs. Benefits were assessed in terms of direct cost savings (e.g., reductions in hospital visits, increased efficiency), indirect economic benefits (e.g., productivity, new jobs created), and non-economic benefits (e.g., improved patient satisfaction, improved public health outcomes).

Scenario modeling was included in the analysis. The researchers modeled scenarios of three levels of technology adoption (low, moderate, high). They projected different economic outcomes based on short- and long-term leveraged investment horizons. Regional sensitivity modeling was incorporated to account for differences in GDP per capita, healthcare expenses, and readiness for digital health-related infrastructure across countries.

3.4 Limitations of the Study

Although the methodology aimed to achieve maximum comprehensiveness and reliability, there are limitations. First, the data availability and quality varied between the Eastern Mediterranean countries, which may have modestly impacted the ability to make regional comparisons. Second, the reliance on self-reported material in interviews and observations introduced the possibility of response error or bias. Third, because of the rapidly evolving, and adaptive nature of digital health technologies, many of the economic progressions could become obsolete at the emergence of more disruptive innovations, or the dynamics of markets, stakeholders and activities change. Finally, national political instability or conflict in parts of the region may impact types of investments feasible in a way not comprehensively articulated in this analysis.

Notwithstanding the limitations, the mixed-methods, multi-site approach guarantees that findings are innovative enough to inform evidence-based decision-making by policymakers, healthcare providers, and investors.



4. Economic Opportunities of Digital Health Investment

Digital health technologies, and in particular telemedicine or electronic health records (EHR), provide significant economic opportunities for the Eastern Mediterranean region. Well considered investments in these technologies could not only enhance modernisation of healthcare systems but also generate new economic value and support sustainable development across various sectors (Kim et al., 2023).

4.1 Potential Market Size for Telemedicine and EHR in the Eastern Mediterranean

The telemedicine and EHR market in the Eastern Mediterranean is well-positioned for tremendous growth, with increasing access to healthcare, a rise in internet access, and a gradual improvement in digital infrastructure. Global market reports predict increasing telemedicine annually at rates of more than 20%. The regional estimates are more conservative, yet suggesting multi-billion-dollar market potential within 10 years (Sharma et al., 2025). Although the EHR segment requires higher initial infrastructure investment, the ability to scale to meet future needs and integrate with new health technologies (such as AI and remote-monitoring systems) is a long-term benefit. The growing market represents opportunities for local and international investors to establish service platforms, software solutions and infrastructure, all addressing regional health service needs (Shah et al., 2014).

4.2 Reduction in Healthcare Costs Through Telemedicine

Telemedicine can save a lot of money in healthcare since it reduces unnecessary consultations in-person rather than by telehealth, saving patients traveling costs, and making better use of medical resources (Walter, 2022). Remote consultations can lessen the burden on over-loaded hospitals and clinics so healthcare providers can reduce operational costs. Additionally, telemedicine allows for early diagnosis and preventive health, lowering the number of more serious health issues and advanced illness, with associated hospitalizations and treatment in-lieu of hospitalization each require many more costly healthcare resources. Since the costs of these types of effective healthcare, economically saves government and insurer funding, compared to the economic burden of dealing with consequent treatment costs and hospitalization, health savings can now be allocated to health budgets and redirected health resources towards implantation of preventive health programming and healthy infrastructure development (Khemapech, 2019).

4.3 Increased Efficiency and Productivity via EHR Implementation

Using EHR systems in healthcare contexts contribute to operational efficiencies by moving individual patient information into a common location, while lowering unnecessary diagnostic tests, and increasing provider coordination. EHRs with digitized records enable clinicians to see a full patient history in real time, which can enhance the timeliness and accuracy of clinical decision-making. This operational efficiency can be seen in economic terms as a facility's throughput, along with lower administrative costs, and sustainable resource and costs use. Apart from efficiency - structured health data can enhance opportunities for population health analytics that will enable evidence-based health policies leading to more prudent healthcare spending decisions (Amekpor et al., 2025).

5. Economic Challenges of Digital Health Investment

5.1 Initial Capital Investments and High Start-Up Costs.

Implementing telemedicine channels and EHR systems will require considerable capital investment, including hardware assets, software licensing, network upgrades, and physical facility updates (Smith, 2007). EHR implementation may involve additions costs, such as the customization of applications, since they are typically integrated into a hospital information systems (Dávalos et al., 2009). Healthcare providers in the Eastern Mediterranean are accustomed to operating with limited budgets, meaning they cannot set aside huge amounts of money with respect to digital transformation budgets. As such, funding mechanisms and support are paramount to minimizing risk of becoming stalled or incomplete in terms of implementation, which could lead to wasted investments with limited return on investment (Abdul et al., 2024).

5.2 Gaps in Technological Infrastructure

Digital health implementations are only as effective as the access to reliable internet service and secure data centers (workforce capacity, server capacity, and hardware infrastructure) available and possible. Many countries within the region, particularly those in rural or underserved areas, still lack affordable broadband coverage/reliability, consistent access to electricity, and appropriate server capacity. There were no bodies of water or remote locales affected by above access issues worsen the scalability of telemedicine initiatives and result in failure of the intended use of hospital EHRs by the patients needing to access them most. Unfortunately, when lower capacity, remote or underserved regions do not have reliable infrastructural access, the associated costs of telehealth increases due to redundancies created and operational review considerations (Abdul et al., 2024).

5.3 Workforce Readiness and Training Needs

Digital health initiatives call for a workforce with both the technical and clinical skills needed to integrate new systems. Most healthcare professionals in the region have little to no experience with advanced health IT systems, making the learning curve steep and adoption more likely to be resisted. Training programs are necessary, but they do entail time and resources expense of initial temporary productivity loss while learning. Without structured, continuous professional development programs, agencies run the risk of technologysystem under-utilization and the corresponding decrease in potential economic implications (Faulkenberry et al., 2021).

5.4 Data Privacy, Security and Legal Frameworks

Systemic digitization of health records presents an elevated risk level associated with the potential for the occurrence of cybersecurity breaches, unauthorized access and identity thief. Lack of consistency in the data protection laws across across the Eastern Mediterranean heightens the potential vulnerabilities impacting health care finding acceptable, and thus supporting greater userid confidence may be difficult to assure to a patient or healthcare system. Strengthening legal frameworks and establishing clear data governance policies is key to the greater trust in digital health systems. The implications of not doing this increase the potential for expensive breaches, reputational damage, and potential legal liability not to mention diverting existing investments (Kigen, 2022).

5.5 Resistance to Digital Transformation in Healthcare Systems

Cultural, organizational, and behavior factors may deter acceptance of digital health solutions. Some providers, for example, view conventional mechanisms of service delivery superior, mostly derived from concerns with the quality of patient interactions and believing digital systems to be unreliable. Institutional inertia, lack of change management frameworks, and a suspicion of technology-mediated health care all can erode the implementation timeframes and make project expenditure overly burdensome (Tayefi et al., 2021). To reduce this resistance, specific awareness campaigns, stakeholder involvement, and concrete indications of economic and clinical benefits must be developed.

Table 1. Summary of Key Economic Challenges in Digital Health Investment

Challenge	Description	Potential Economic Impact
High Implementation Costs	Significant capital outlay for hardware, software, and integration.	Limits adoption; increases financial risk for providers and governments.
Infrastructure Gaps	Poor broadband access, unreliable electricity, limited data storage capacity.	Restricts scalability and service reach, particularly in rural areas.
Workforce Readiness	Lack of technical skills and training in health IT systems.	Reduces system utilization; delays return on investment.
Data Privacy & Security Risks	Weak legal protections and cybersecurity vulnerabilities.	Increases risk of costly breaches and legal liabilities.

Challenge	Description	Potential Economic Impact
Resistance to Change	Cultural and institutional reluctance to adopt new technologies.	Prolongs implementation; increases operational costs.

6. Feasibility Assessment of Telemedicine

The feasibility of telemedicine adoption in the Eastern Mediterranean region will depend on the trade-off achieved between initial costs, ongoing costs, and longer-term economic benefits.

6.1 Cost-benefit analysis of telemedicine initiatives

The great advantages of telemedicine is the associated cost savings - reduced travel costs for patients, decreases in hospital readmissions, and more effective use of the healthcare provider's time (Stanberry, 2000). However, start-up costs, like platform development, licensing, and infrastructure improvement, can be considerable upfront costs. However, a representative cost-benefit analysis in the region would suggest the break-even point is reached within 3 - 5 years, given high enough adoption levels (Alfiyyah et al., 2022).

Table 2. Hypothetical Cost-Benefit Model for Telemedicine Deployment (5-Year Horizon)

Item	Estimated Cost (USD)	Estimated Benefit (USD)
Platform Development & Licensing	$1.5M	–
Infrastructure & Equipment	$2.0M	–
Annual Operational Costs	$0.8M/year	–
Reduced Patient Travel Costs	–	$1.2M/year
Reduced Hospital Readmissions	–	$0.9M/year
Increased Provider Efficiency	–	$0.7M/year
Net Present Value (NPV)	–	$3.4M

6.2 Examples of Case Studies in Eastern Mediterranean Countries

Jordan: Pilot telemedicine projects in rural areas have reduced patients' travel times by over 60%, reducing care waiting times and decreasing the government's health care costs by cutting the transportation subsidies.

Lebanon: Private hospitals that have adopted teleconsultation services have experienced quicker patient turnover and expanded acceptance of the service to the diaspora community.

Oman: Government programs for chronic disease management via telemedicine have provided an overall 15% reductions in avoidable inpatient visits within the first year (Alfiyyah et al., 2022).

7. Feasibility Assessment of Electronic Health Records (EHR)

EHR systems are a long-term commitment to the future of health care modernization; significant efficiencies can be achieved, but a considerable degree of planning is needed for implementation (Mathai et al., 2017).

7.1 Costs of Implementation and Operational Costs

EHRs require substantial capital up front for software licensing, hardware updates and integration into existing systems . Implementation will often require training staff on the new workflows associated with the EHR, and regular system maintenance and system upgrades will incur additional expenses (Alelyani et al., 2021).

Table 3. Example EHR Implementation Cost Breakdown

Cost Component	Estimated Amount (USD)
Software Licensing & Customization	$3.5M
Hardware (servers, terminals, storage)	$2.2M
Data Migration & Integration	$1.0M
Training & Capacity Building	$0.6M
Annual Maintenance & Support	$0.9M/year

7.2 Advantages in Clinical Decision-Making and Patient Outcomes

EHR systems improve clinical decision-making by giving immediate access to complete patient data to make it easier to avoid errors in prescribing of medications and allow a more thorough diagnosis process. Evidence based on experiences from similarly-minded upper-middle income countries showed a 15–25% improvement in clinical workflow efficiency after adoption of EHR (Mumtaz et al., 2023).

7.3 Case Studies and Lessons from Regional Adoption

United Arab Emirates: The EHR was adopted at scale nationwide across public hospitals which included better interoperability as highlighted by 20% reduction in duplicate testing.

Bahrain: The EHR was introduced in a phased implementation process to address potential resistance beginning with the large volume urban hospitals first, and then expanding to rural areas.

Egypt: The EHR pilot projects at university hospitals showed increased availability of research data to help inform public health policies processes (Shah, 2024).

7.4 Long-Term Economic Benefits and Scalable Potential

The financial savings from EHR systems are significant because of reduced administrative work, hospital utilization for capacity, and expedited billing for the organization over a 10 year period. The potential to scale is highest in countries with current nationwide health identification systems, which facilitate and share data across healthcare providers (Adeniyi et al., 2024).

Figure Placeholder - A general line graph comparing the cumulative savings over ten years for EHR and telemedicine investment of an imaginary region in comparison to the first financial year. (Manteghinejad et al., 2021).

8. Conclusion

Investment in digital health offers a transformative pathway for the Eastern Mediterranean region that augments economic, societal, and clinical returns. Telemedicine and electronic health records (EHR) can provide solutions to access to healthcare, operational costs, clinical decision-making, and generate greater resiliency within healthcare systems. The analysis illustrated that although many digital health initiatives and technologies require substantial initial capital and operational spend to implement, the longitudinal returns were robust enough to warrant performance-based investment, especially with adequate policies in place to support their adoption and stakeholder engagement.

The economic viability of any digital health initiative is inherently dependent on readiness of infrastructure, human resources capacity for training, legislative requirements, policies interests, and sociocultural acceptance. Some telemedicine programs can show immediate value in access to care and resource allocations, while EHR will be more longer-term on their efficiencies, and significant value of data for policy-making. Demonstration of both telemedicine and EHR systems will require upfront planning to succeed and scale, as well as intelligent, appropriate

incentives, and ongoing monitoring and evaluation to maximize return on investment and future sustainability.

This research indicates that a digital health investment is an economic and strategic opportunity for the Eastern Mediterranean region. Stakeholders, including decision-makers, providers, and financier must coordinate and collaborate on digital health programs to maintain economic viability and social benefit in a region that allows healthcare systems to become more connected, efficient, and equitable.

Ethical Approval

This study did not require formal ethical clearance from an institutional review board, as it involved minimal risk to participants and data were collected anonymously. Informed consent was obtained from all participants through the first question of the survey, which explicitly asked whether they agreed to participate or preferred to opt out. This approach ensured that participants were fully aware of the study's purpose and voluntarily consented to take part. All procedures were conducted in accordance with recognized ethical guidelines for survey-based research, respecting participants' autonomy, privacy, and confidentiality throughout the study.

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