



Impact of Hospital Information Systems on Effectiveness and Efficiency: A Case Study Analysis

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INTRODUCTION

- ❑ Healthcare is one of the most significant aspects of any community, which is one of the key reasons why healthcare practitioners must perform their duties as effectively as possible.
- ❑ HIS is an information system that controls every aspect of information processing in a hospital. This includes any data about patients that is stored on paper or other devices.
- ❑ Processing patient data electronically, HIS, a medical information area, aims to provide the greatest help possible to healthcare providers.
- ❑ The majority of sizable hospitals with many beds or well-organized clinics now rely on HIS, which makes it easy for them to manage and maintain all of their medical records.

Overview of HIS System

A HIS is a computer system that stores and manages medical information about patients. The diagram shows that a HIS is made up of several different components, including a patient management system, clinical support systems, and an electronic medical record (EMR).

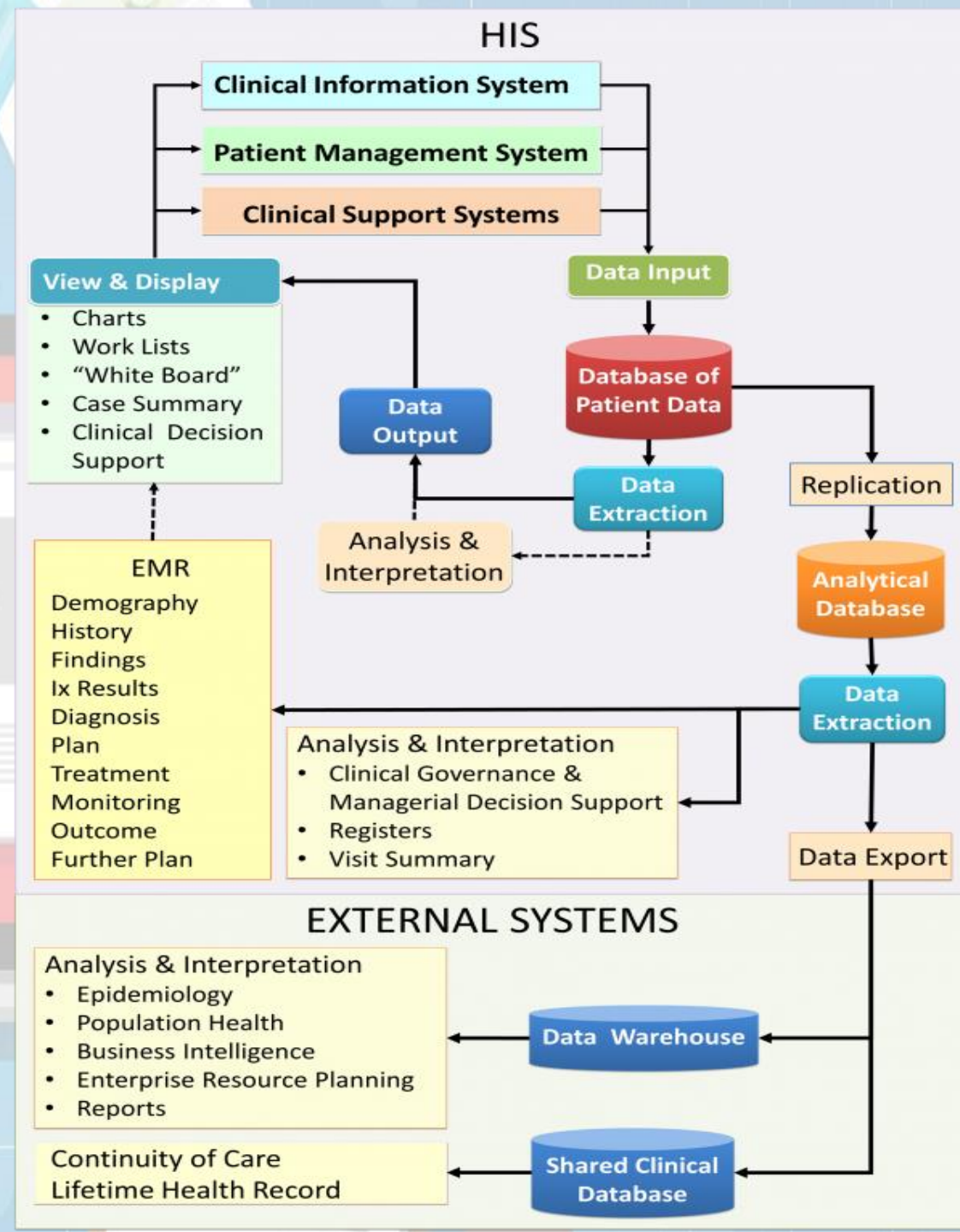
The patient management system tracks a patient's demographic information, such as their name, address, and date of birth. It also tracks a patient's medical history, including their allergies, medications, and immunizations.

Clinical support systems provide clinicians with information and tools to help them make decisions about patient care. For example, a clinical decision support system might suggest a diagnosis or treatment plan based on a patient's symptoms.

The EMR is a central repository for all of a patient's medical information. It includes everything from a patient's demographics and medical history to their lab results and imaging studies.

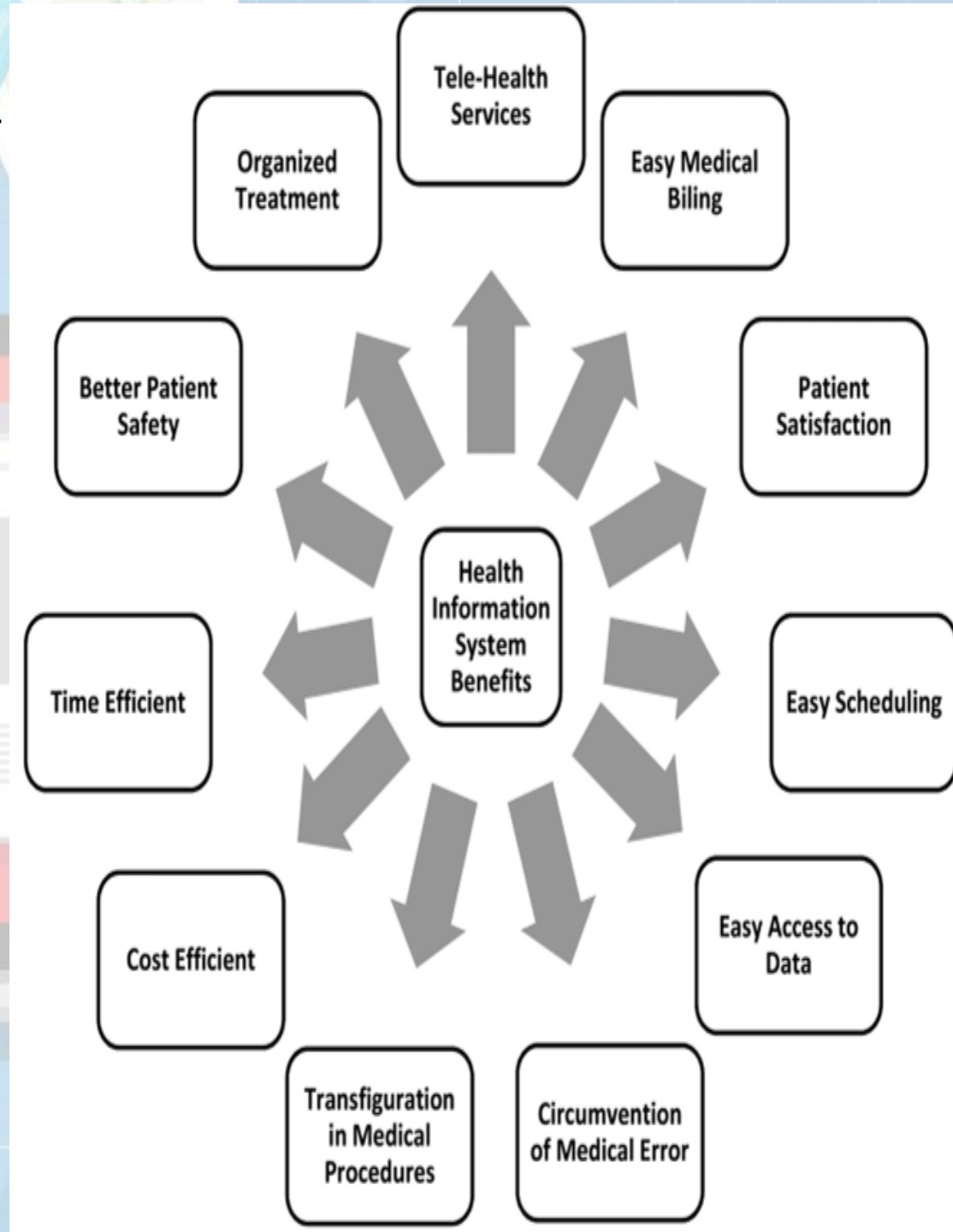
The HIS also interacts with a number of external systems, such as public health registries, billing systems, and pharmacy systems. This allows for the exchange of data between the HIS and other healthcare providers.

Overall, the diagram shows how a HIS can improve the quality of care by providing clinicians with a comprehensive view of a patient's medical history and by making it easier to share information with other healthcare providers.

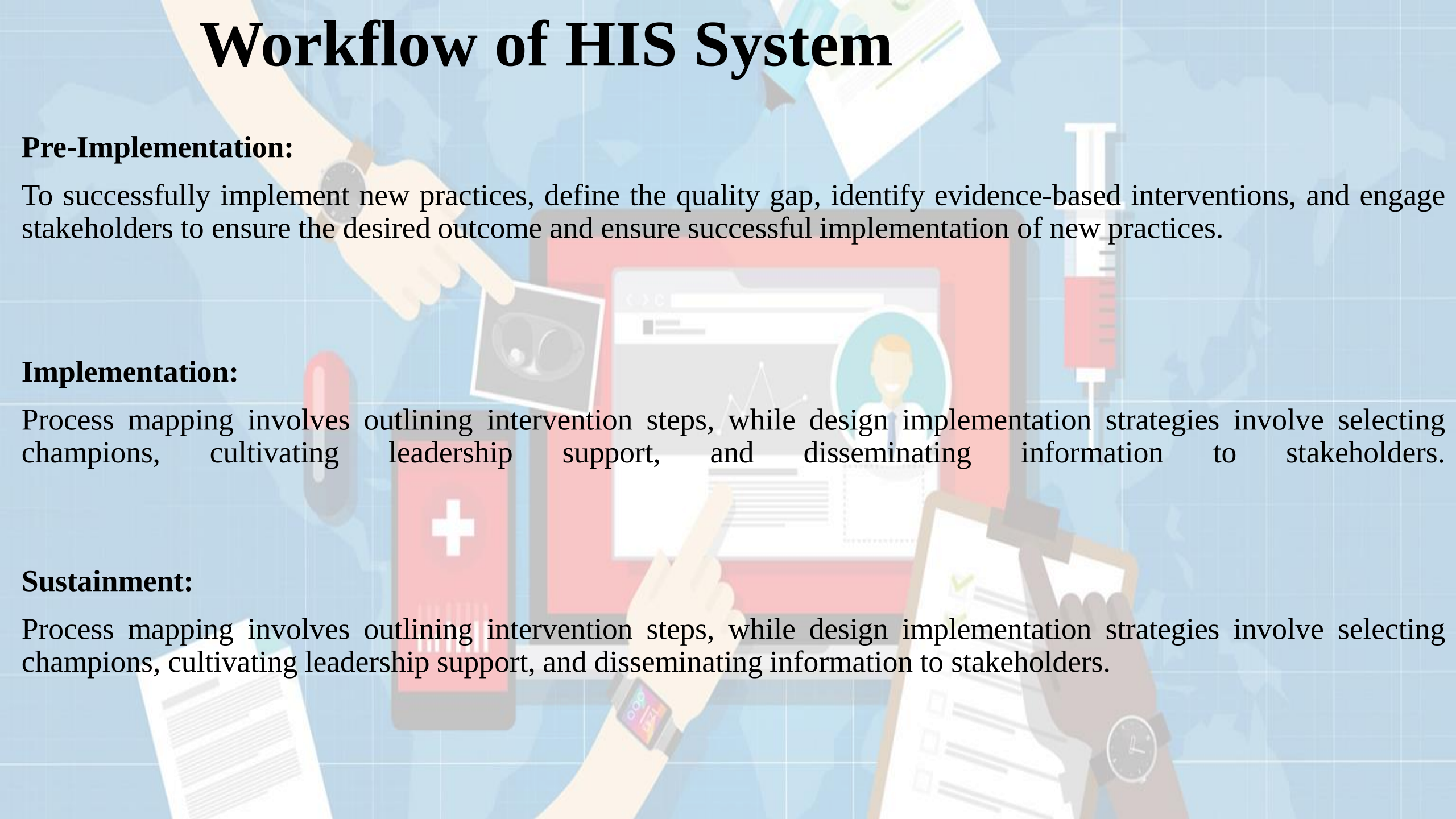


Benefits of HIS System

- ❑ Health information systems improve patient safety, satisfaction, cost efficiency, time efficiency, and data access.
- ❑ They reduce medical errors, streamline administrative tasks, and improve billing accuracy.
- ❑ They also facilitate easy scheduling, tele-health services, and organized treatment.
- ❑ Tele-health services allow patients to receive care remotely, while health information systems provide a central location for medical records.
- ❑ They streamline medical billing, reducing errors and improving efficiency.
- ❑ Health information systems also prevent medical errors by providing healthcare providers with complete and accurate patient information.
- ❑ They also facilitate the transformation of medical procedures.



Workflow of HIS System

The background features a light blue grid pattern. Overlaid on this are various medical and technological icons: a hand holding a tablet, a syringe, a smartphone with a white cross, a laptop displaying a user interface with a person's profile, a clipboard with a checklist, and a hand pointing at a document. The overall theme is healthcare and digital technology.

Pre-Implementation:

To successfully implement new practices, define the quality gap, identify evidence-based interventions, and engage stakeholders to ensure the desired outcome and ensure successful implementation of new practices.

Implementation:

Process mapping involves outlining intervention steps, while design implementation strategies involve selecting champions, cultivating leadership support, and disseminating information to stakeholders.

Sustainment:

Process mapping involves outlining intervention steps, while design implementation strategies involve selecting champions, cultivating leadership support, and disseminating information to stakeholders.

BARRIER OF HIS SYSTEM

External Environment

- Final User Actions
- Poor Computer Skills
- Poor Training and Support
- Opposition to Change

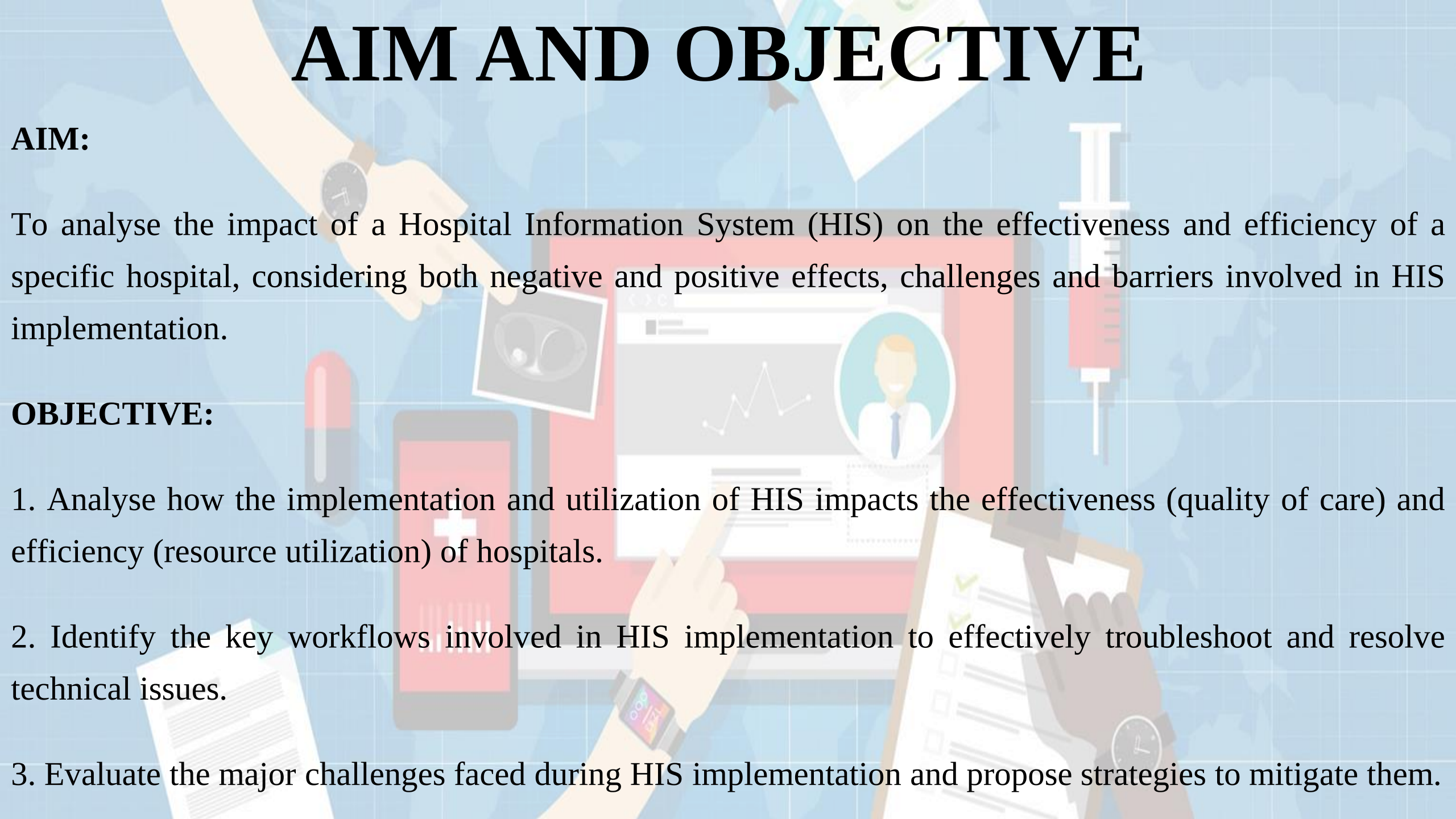
Organization

- Workflow Disruptions and Decreased Efficiency
- Strict Rules and Regulations
- Poor Planning
- Poor Communication and Engagement

Technology (Hardware/ Software)

- Data Governance and Ethical Concerns
- Poor Data Quality
- Lack of Data Terminology Standards
- Security and Privacy Concerns

AIM AND OBJECTIVE

The background features a collage of medical and technological icons. It includes a hand with a watch, a syringe, a smartphone with a red cross, a laptop displaying a line graph and a person's profile, a clipboard with a checklist, and various papers and documents. The overall theme is healthcare and digital technology.

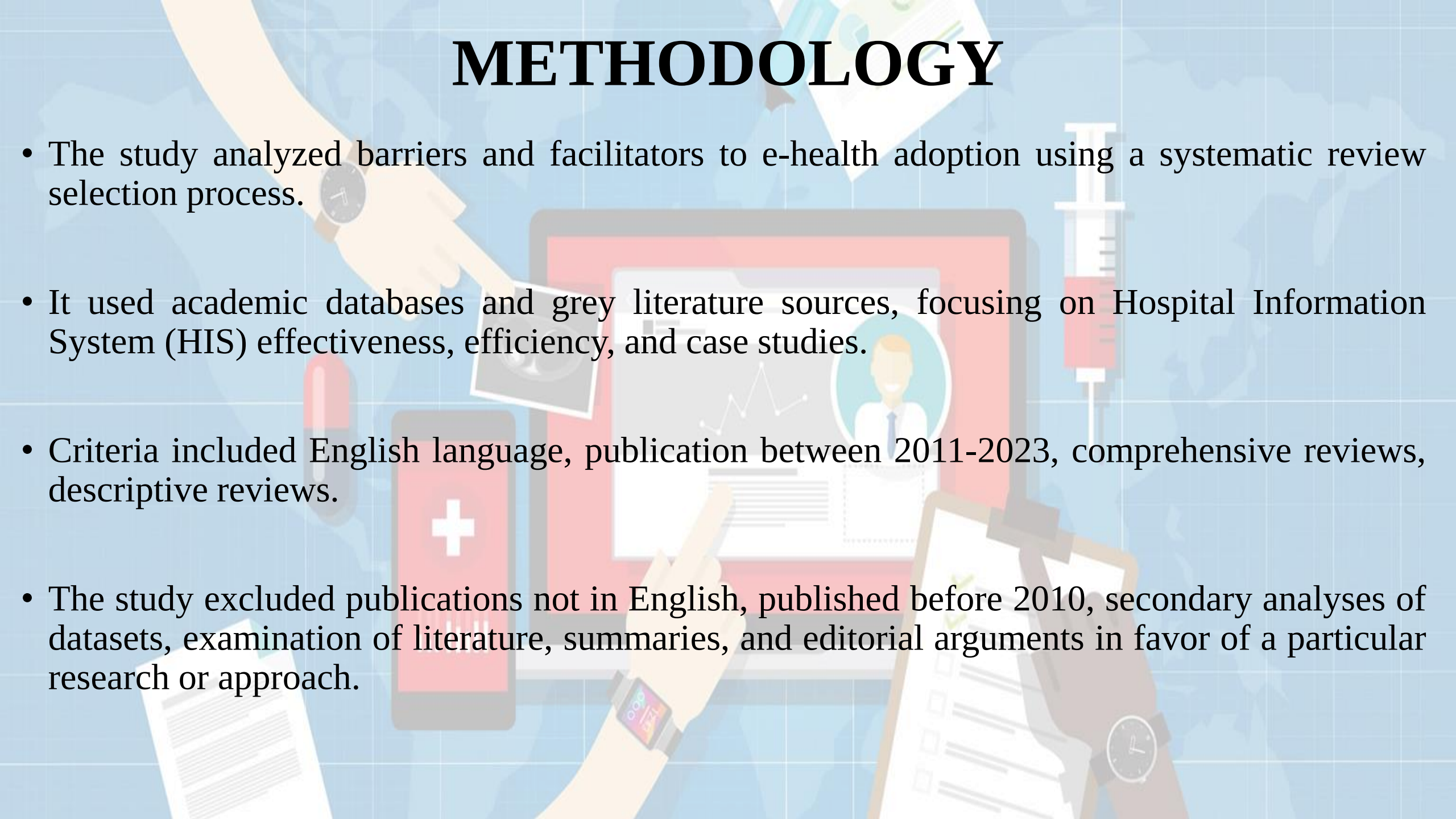
AIM:

To analyse the impact of a Hospital Information System (HIS) on the effectiveness and efficiency of a specific hospital, considering both negative and positive effects, challenges and barriers involved in HIS implementation.

OBJECTIVE:

1. Analyse how the implementation and utilization of HIS impacts the effectiveness (quality of care) and efficiency (resource utilization) of hospitals.
2. Identify the key workflows involved in HIS implementation to effectively troubleshoot and resolve technical issues.
3. Evaluate the major challenges faced during HIS implementation and propose strategies to mitigate them.

METHODOLOGY



- The study analyzed barriers and facilitators to e-health adoption using a systematic review selection process.
- It used academic databases and grey literature sources, focusing on Hospital Information System (HIS) effectiveness, efficiency, and case studies.
- Criteria included English language, publication between 2011-2023, comprehensive reviews, descriptive reviews.
- The study excluded publications not in English, published before 2010, secondary analyses of datasets, examination of literature, summaries, and editorial arguments in favor of a particular research or approach.

RESULTS

- This paper explores the effectiveness and efficiency of Healthcare Information Systems (HIS) in healthcare delivery, focusing on the workflow of HIS implementation.
- It presents a three-phase framework for implementing Evidence-Based Practices (EBPs), highlighting the need for careful planning, stakeholder engagement, and ongoing evaluation.
- Challenges to smart healthcare adoption include technical, organizational, and environmental issues.
- The framework promotes careful planning, active stakeholder engagement, strategic implementation strategies, and ongoing evaluation for long-term improvement.

RECOMMENDATION

- Implementing a Hospital Information System (HIS) requires proactive planning, assessment of existing IT infrastructure, and a comprehensive data migration plan.
- The process involves a phased rollout, issue tracking, vendor support, root cause analysis, configuration adjustments, testing, and validation.
- Comprehensive training and user support are also essential.
- Continuous performance monitoring, regular updates, and process improvement are crucial for ensuring the system's success.

CONCLUSION

- The study explores the effectiveness of Healthcare Information Systems (HIS), a framework for implementing Evidence-Based Practices (EBPs), and the challenges hindering smart healthcare adoption.
- It reveals that well-designed HIS can improve healthcare delivery, but complex customization needs evaluation.
- The three-phase framework for EBPs emphasizes careful planning, stakeholder engagement, and strategic implementation strategies.
- Addressing these challenges is crucial for successful smart healthcare implementation.



Thank You!

Open for Questions