



EXPLORING THE STATUS, CHALLENGES, AND STRATEGIES FOR EFFECTIVE IMPLEMENTATION OF ELECTRONIC HEALTH RECORD (EHRs) IN PRIVATE SECTOR: A COMPARATIVE ANALYSIS

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INTRODUCTION

- EHRs, or Electronic Health Records, is the digital equivalent of a patient's paper chart. It securely consolidates medical history, demographics, medications, allergies, immunizations, lab results, radiology images, vital signs, personal statistics, and billing information.
- EHRs streamline care, education, and research, revolutionizing healthcare data storage, sharing, and utilization. This enhances efficiency and patient care significantly.



EVOLUTION OF EHRs

Early Development

- 1960s: Early experiments with computerized health records begin.
- 1982: VA's DHCP system goes live, one of the first large-scale EHRs.

Standards and Advocacy

- 1991: IOM report advocates for widespread EHR adoption.
- 1996: HIPAA establishes standards for electronic health care transactions and privacy.

Government Initiatives

- 2004: ONC is established to promote EHR adoption.
- 2009: HITECH Act incentivizes EHR adoption and meaningful use.

Adoption and Interoperability

- 2015: MACRA emphasizes EHR importance through MIPS.
- 2021: 21st Century Cures Act promotes interoperability and patient access to health information.

OBJECTIVES

01

To study the present rate of adoption of electronic health records in the United States, Canada, and India.

02

To study the key barriers to the effective adoption of EHRs in the healthcare system.

03

To discuss the potential strategies and future directions for addressing the identified challenges and promoting the effective adoption of EHRs.

DATA & METHODS

The dissertation utilize the systematic review of literature to justify the objectives of the study.

The literatures were searched using academic and electronic databases such as: PubMed, Science direct, Scopus, JStor, Library of various universities and Google Scholar.



The key terms were used to search the potential literatures to understand the exploring the status, challenges, and implementation of electronic health record (EHRs) in private sector: a comparative analysis

The following keywords were used to search the literatures. "electronic health record" "private sector" "EHR implementation" "challenges" "health information technology" "comparative analysis" "EHR adoption" "barriers" "electronic medical record" "implementation strategies"

DATA & METHODS

Inclusion Criteria

01

Geographical Focus: Studies conducted in the USA, Canada, and India.

02

Research Focus: Articles examining the implementation, adoption, and barriers to Electronic Health Records (EHRs).

03

Publication Criteria: English-language research articles, review papers, and policy documents published between 2005 and 2023.

Exclusion Criteria

01

Studies that do not specifically address the implementation, adoption, or barriers of Electronic Health Records (EHRs).

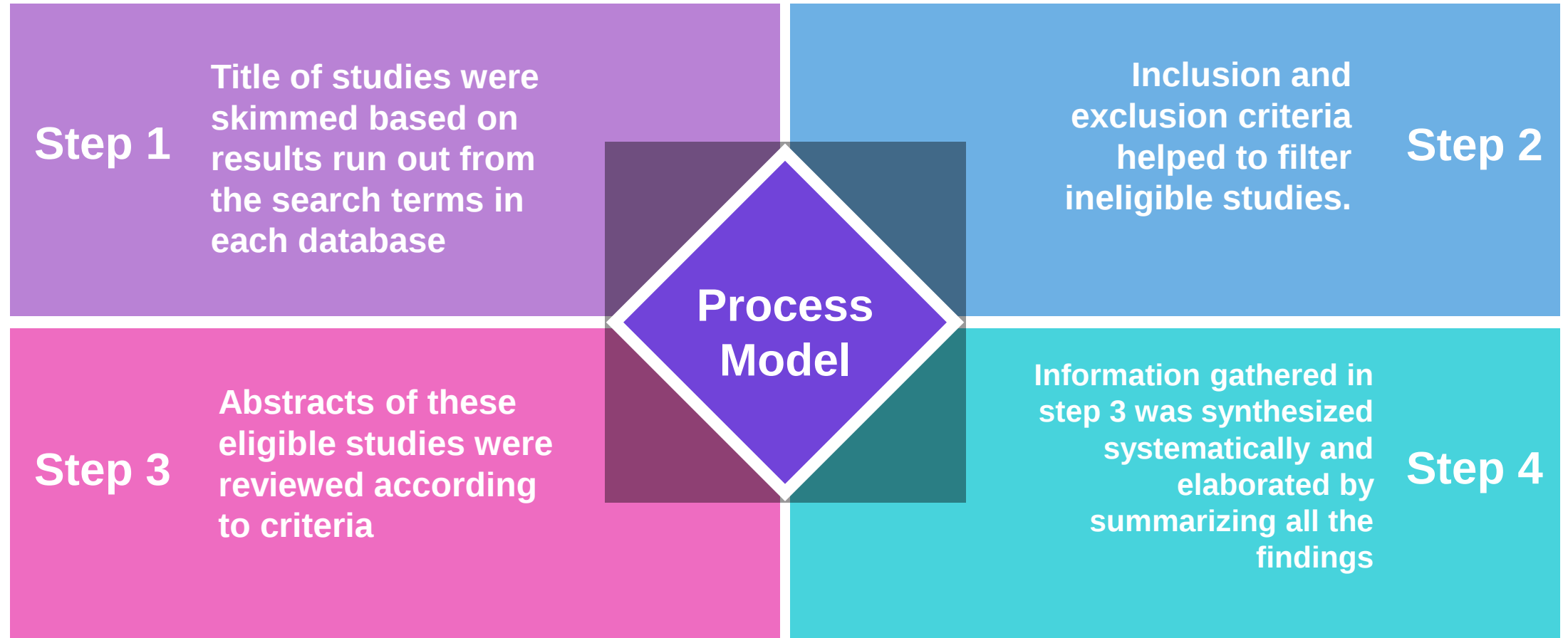
02

Research focused on EHRs implementation in countries not included in the USA, Canada, and India.

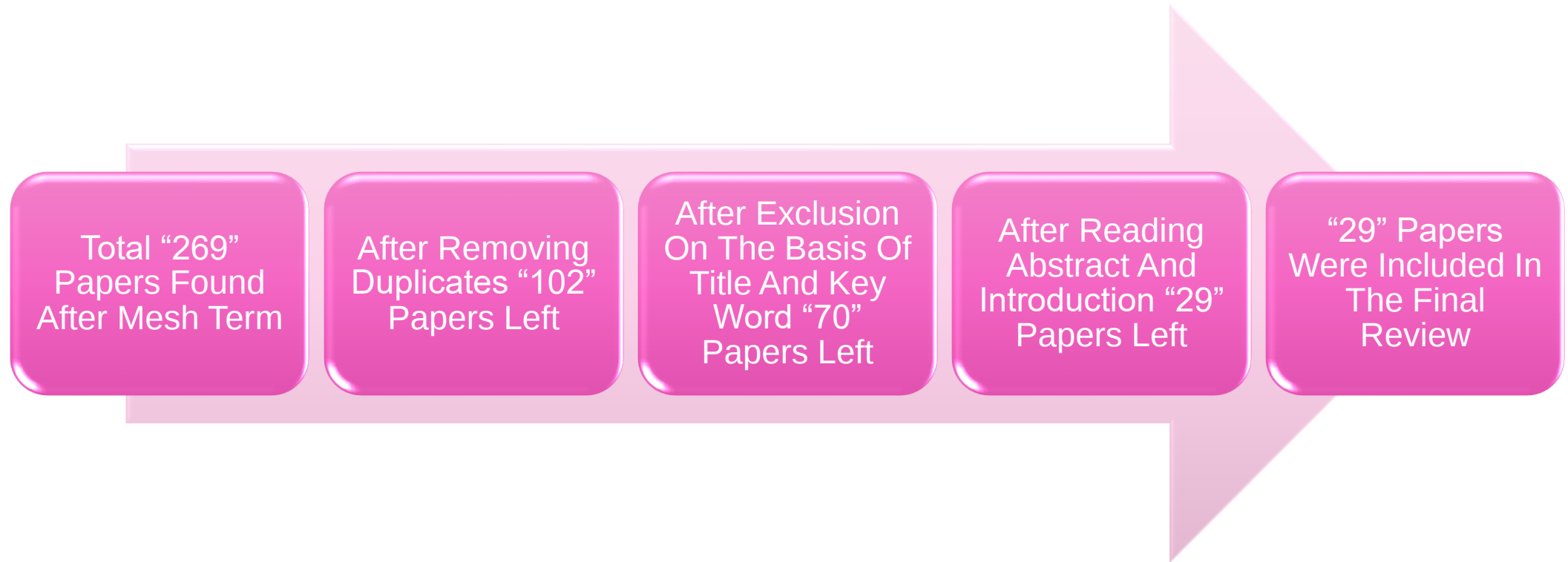
03

Articles published in languages other than English will be excluded from the review.

PROCESS MODEL



STAGES OF STUDY SELECTION PROCESS



RESULT AND DISCUSSION



UNITED STATES

High Adoption Rates



As of 2017, 96% of non-federal acute care hospitals and 86% of office-based physicians have implemented certified EHR systems. Adoption rates have steadily increased, with significant growth observed in both basic and comprehensive EHR systems across healthcare facilities.

Variations in Adoption Across Hospital Types



Large hospitals and teaching hospitals show higher adoption rates compared to medium-sized, small, and rural hospitals. System-affiliated hospitals also demonstrate higher adoption rates than independent facilities, reflecting potential resource advantages.

Impact of Legislative Initiatives



The HITECH Act of 2009 played a crucial role in promoting meaningful use of EHRs through financial incentives and regulatory support. Subsequent legislation, such as the 21st Century Cures Act, continues to drive adoption by mandating patient access to electronic medical records.

CANADA

Progressive Adoption and National Initiatives



- Canada Health Infoway (CHI), founded in 2000 and funded by the federal government, has been instrumental in promoting EHR adoption across Canada.
- Adoption rates have steadily increased, with significant growth observed from 20% in 2006 to 62% of Canadian medical practitioners using EMRs by 2013.

Impact on Healthcare Delivery



- By 2019, 86% of Canadian family physicians and 79% of specialists had integrated EMRs into their practices, enhancing efficiency and patient care.
- Standardization efforts through pan-Canadian EMR content standards have facilitated improved information management and data-driven decision-making.

INDIA

Government Initiatives and Policy Framework



- **Digital Health Mission:** Launched by the Government of India to integrate healthcare and IT sectors, aiming for universal health coverage through EHR adoption.
- **National Digital Health Blueprint (NDHB):** Provides a standardized framework for EHR implementation, emphasizing interoperability and data security standards.
- **EHR Standards:** Mandated by MoHFW, including SNOMED CT, ICD 11, and HL-7, to ensure clarity and compatibility in health information systems.

Impact of Legislative Initiatives



- **National Digital Health Mission (2022 Target):** Aims to digitize health records for all Indian citizens, enhancing accessibility and efficiency in healthcare services.
- **Corporate Hospitals:** Leaders like Max Healthcare and Apollo Group have achieved advanced stages on the EMR Adoption Model, showcasing robust EHR integration and operational efficiency enhancements.

CHALLENGES

Interoperability and Data Sharing

Interoperability challenges are significant in both the US and Canada, affecting coordinated care and data exchange.

Financial and Resource Allocation

High costs and limited funding for EHR systems are major hurdles in Canada and India, necessitating strategic investments and resource management.

Regulatory and Security Concerns

Ensuring robust privacy and security measures for patient data is crucial across all three countries, with India needing comprehensive regulatory frameworks.

Usability and Clinician Engagement

Improving system usability and addressing workflow disruptions are essential to prevent clinician burnout and resistance in the US, Canada, and India.

CHALLENGES SPECIFIC TO INDIA

Low Public Health Expenditure

The Indian government allocates only 1.13% of its GDP to healthcare, which is significantly lower than the averages in both developed and developing nations (NITI Aayog, 2019).

Absence of Specific Technical Criteria

Governmental authorities have not outlined specific technical criteria or mandatory standards for healthcare provision and service delivery, making adherence to the voluntary EHR Standards of 2016 optional, unlike countries like Australia and the United States, which have essential prerequisites for efficient record-keeping and data exchange.

Lack of Regulatory Framework

India lacks specific regulatory frameworks for healthcare data security, leading to concerns about using Aadhaar for managing sensitive patient data, as evidenced by the criticism and non-enforcement of the Aarogya Setu app due to data security issues.

Limited IT Budget Allocation:

There is a notable disparity in IT budget allocation for EHR implementation in Indian hospitals, with private hospitals allocating only 2.5% of their total budget to IT—much lower than the 5% seen in other nations—and government hospitals directing even less towards IT, focusing instead on revenue-generating elements like hospital beds and wards.

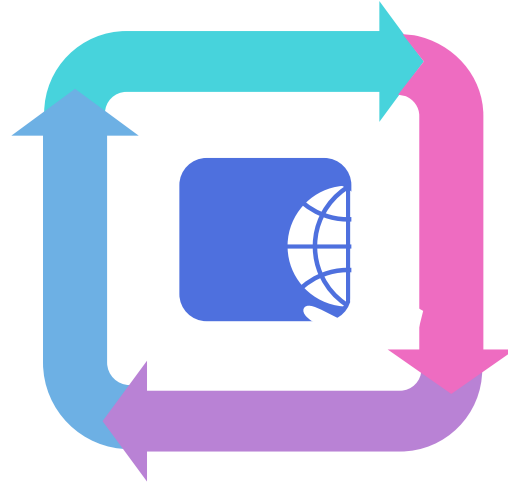
CONCLUSION

Global Adoption of EHRs

EHR adoption signifies a worldwide shift towards leveraging technology for improving healthcare delivery and patient outcomes.

Persistent Challenges

Despite progress, challenges such as disparities in healthcare infrastructure, regulatory frameworks, and financial resources persist globally, hindering uniform EHR implementation.



Legislative and Organizational Impact

Legislative initiatives like the HITECH Act in the US and Canada Health Infoway have driven significant advancements in EHR integration, enhancing healthcare efficiency and standardization.

Future Strategies

To maximize EHR benefits, global efforts should prioritize enhancing interoperability standards, strengthening data security measures, fostering public-private partnerships, and improving healthcare IT infrastructure.

RECOMMENDATIONS

01

Standardized interoperability: Promote international collaboration to establish common standards for data exchange, enabling seamless information sharing across borders.

02

Cybersecurity best practices: Develop and implement robust cybersecurity measures to safeguard sensitive patient data stored in EHR systems.

03

Continuous evaluation and improvement: Regularly assess the effectiveness and impact of EHR systems, and refine policies and practices based on data-driven insights.

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THANKYOU

