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# Factors influencing health managers' acceptance of eHealth services in Saudi Arabia.

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2018



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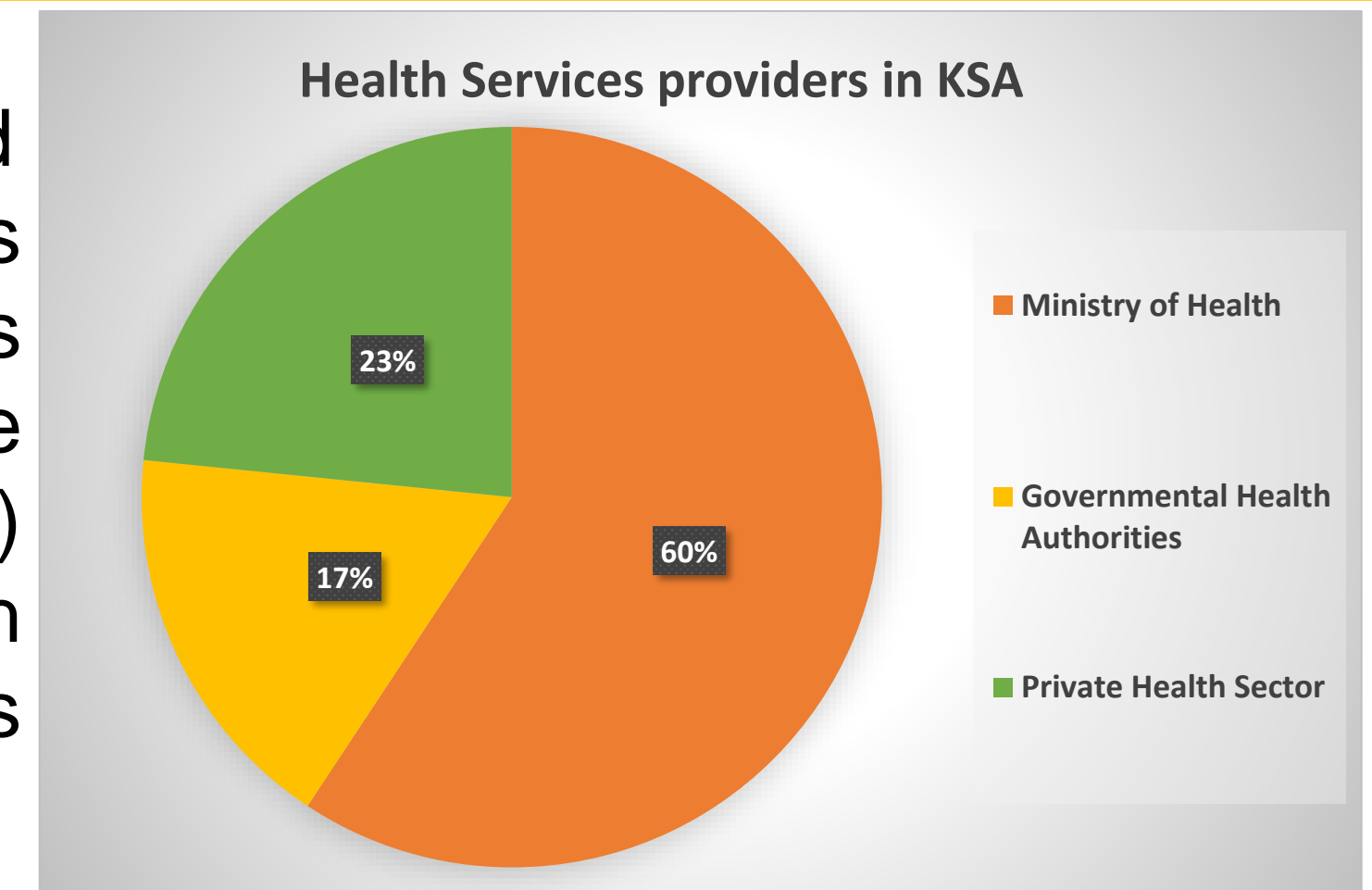


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**Background:** Electronic Health (eHealth) is defined by the World Health Organization (WHO) as “the use of Information and Communication Technology (ICT) for health”. Kingdom of Saudi Arabia (KSA) is a country with one of the largest land masses and populations in the Middle East. Its difficult geographical terrain made the accessibility of advanced health services especially for people in rural areas one of the main health challenges. Therefore, eHealth was suggested as an innovative solution. Health Services across the country are accessible from three categories of provider; Ministry of Health (MOH) facilities, Government run Health Authority facilities, and the Private Health Sector. This study aims to explore health managers' intention to accept/use eHealth services in Saudi Arabia. It has been planned to be carried out in three phases where findings from each phase inform the next one.



## Systematic review (SR)

1<sup>st</sup> phase

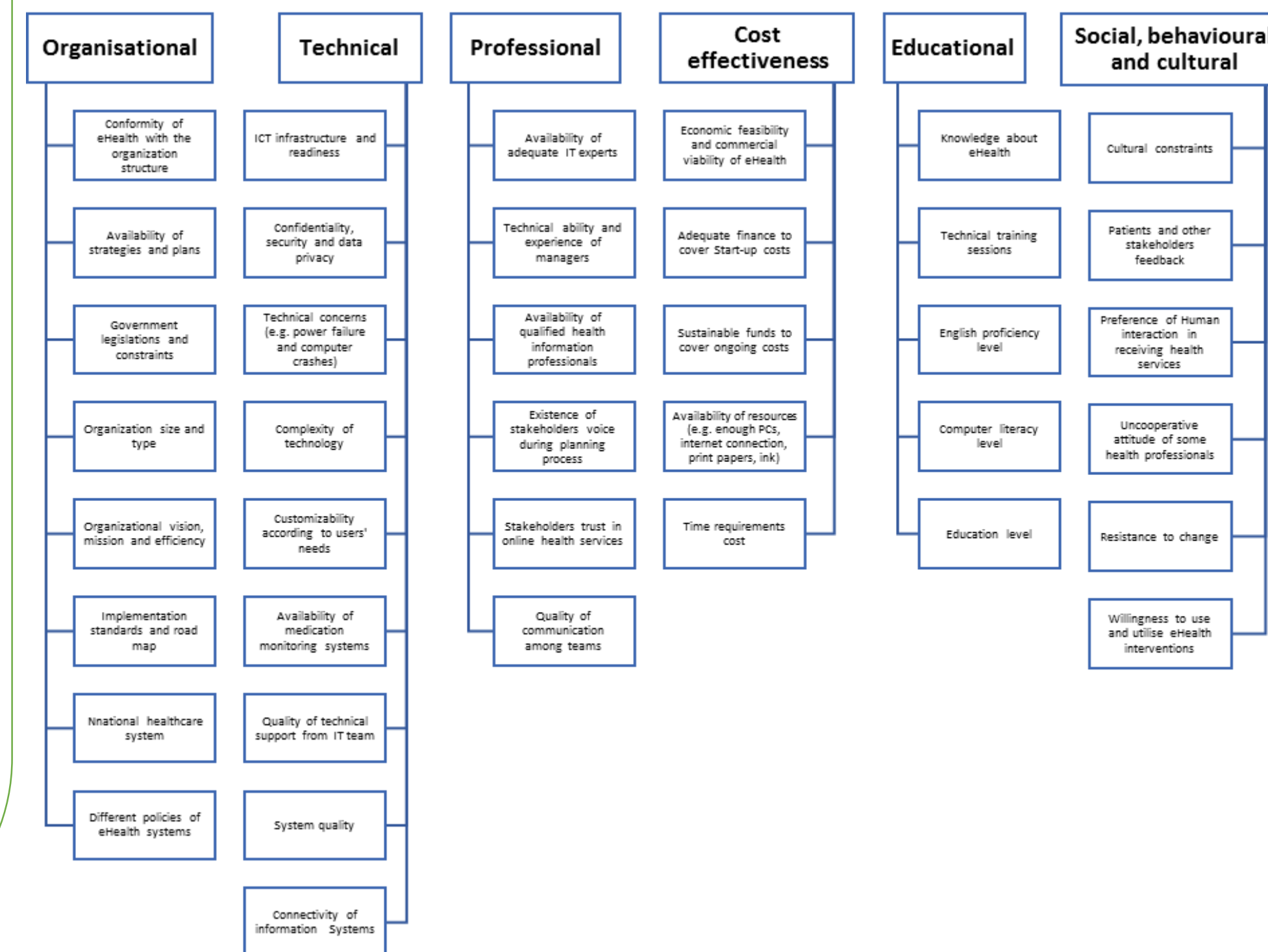
**Overall aim:** To critically appraise, synthesise and present the available evidence on the status of eHealth adoption, acceptance, facilitators and barriers in Saudi Arabia from perspectives of multiple stakeholders

### Methods:

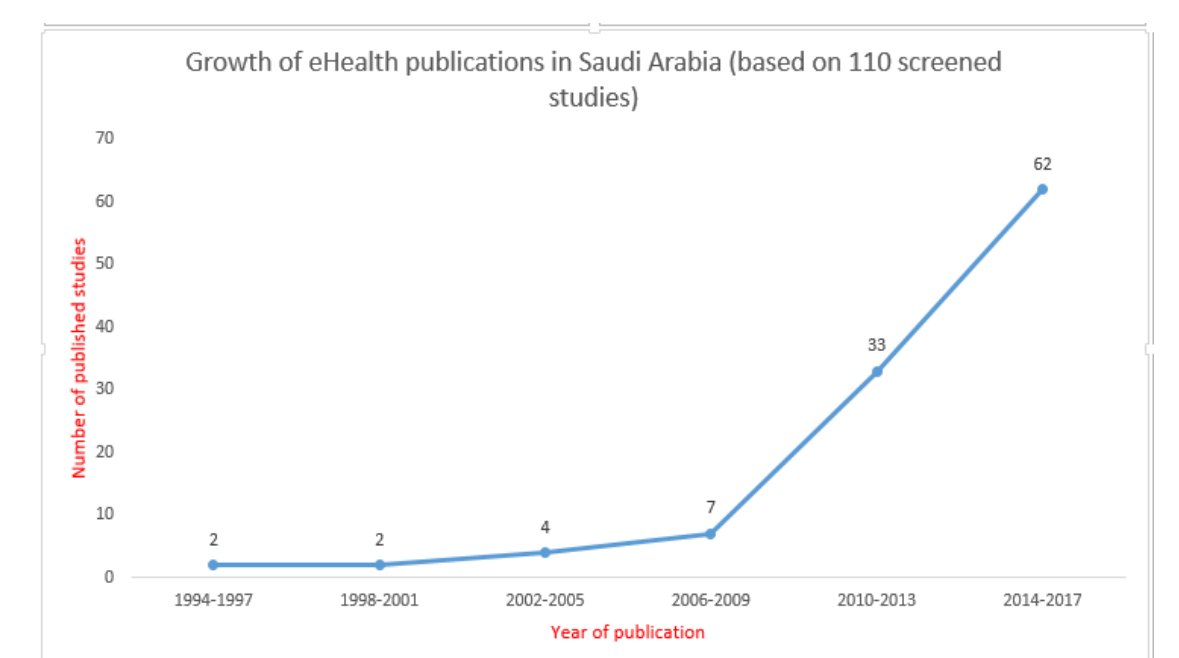
- ❖ Preferred Reporting Items for Systematic review and Meta-Analysis Protocols (PRISMA-P) was followed to write the SR protocol
- ❖ Protocol published with the international prospective register of systematic reviews (Prospero)
- ❖ Five databases were searched for articles published in English between 1993 and 2017
- ❖ Inclusion and exclusion criteria of studies were applied in which only peer-reviewed, full-text primary research articles were included
- ❖ Critical appraisal tools appropriate to study design were applied
- ❖ Eleven items from every study were extracted for further synthesis

## Results

1. Thirty-nine factors were identified as influences affecting the adoption and acceptance of eHealth in Saudi Arabia from the perspective of multiple stakeholders.



2. The number of research publications was limited to few geographical areas in the country.



3. The study showed evidence of continual growth in eHealth publications in the country which reflects the importance of this field in the future healthcare.

## Quantitative survey

2<sup>nd</sup> phase

**Overall aim:** To determine the main factors that influence health managers' acceptance of eHealth services in Saudi Arabia

### Methods:

- ✓ Ethical approval for conducting this survey online had been gained
- ✓ An online questionnaire in both Arabic and English language was designed around the Unified Theory of Acceptance and Use of Technology (UTAUT) model and informed by the SR findings
- ✓ Professionals with health managerial role from multiple disciplines such as: health professions, management, and health IT were invited to participate
- ✓ Participation links were distributed across a range of social media platforms
- ✓ SPSS version 21 was used for analysis

## Results

1. Data was collected June-July 2018.



2. After running data cleaning to diagnose and report any errors or missing data, 385 complete responses were ready for analysis.



3. The top influential factors to acceptance and use of eHealth services from the perspectives of health managers.

Factor	Percent
Availability of operational resources	75%
Trust in confidentiality, security, and data privacy	70%
Availability of qualified human resources	69%
ICT infrastructure and readiness	68%
The quality of eHealth systems and applications	66%

3<sup>rd</sup> phase

## Future work: Qualitative interviews in Aseer province

**Overall aim:** To explore more in-depth the perspectives of health managers towards accepting and using eHealth services in Saudi Arabia

**Methods:** This phase of the study is on-going. Interviews with key health managers in the MOH facilities in Aseer Province are planned to take place in January 2019. Interviews' questions are to be informed by the 2<sup>nd</sup> phase findings

## Conclusion

- Findings may have drawn a clearer picture of the key challenges in accepting and using eHealth services from the perspective of health managers and prioritize the main areas for improvement
- Research may extend to cover the experience of eHealth acceptance level in different geographical settings across the country to give a clear shot of the current practice and future plans for eHealth
- Research may extend to cover the experience of eHealth acceptance level from the perspectives of different groups of professionals such as: Health practitioners and Health IT professionals

### Acknowledgment:

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### Conflict of Interest:

The authors declare that there is no potential conflict of interest in respect to this study.

### Published output:

- 1) Abdullah Alshahrani, Katie MacLure, Derek Stewart. Status of eHealth research in Saudi Arabia: a systematic review protocol. PROSPERO 2017 CRD42017065009 Available from: [http://www.crd.york.ac.uk/PROSPERO/display\\_record.php?ID=CRD42017065009](http://www.crd.york.ac.uk/PROSPERO/display_record.php?ID=CRD42017065009)

### Papers under review:

- 1) A systematic review of the adoption and acceptance of eHealth in Saudi Arabia: views of multiple stakeholders
- 2) Factors influencing health managers acceptance of eHealth services in Saudi Arabia