Privacy and Security Risks in Telehealth Environment

Shannon Houser, PhD, FAHIMA
University of Alabama at Birmingham
Cathy Flite, PhD, FAHIMA
Temple University
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Presentation outline

- Background (purpose of the study)
- Research design
- Current study methodology
- Findings
- Implications and discussion

Acknowledgement

- We want to thank Susan Foster, EdD, MBA, RHIA, CHPS for her contribution to this study

Background

Telehealth use for patient visits has grown rapidly as an important role and valuable resource during and post-pandemic.

Privacy and security in telehealth practices have been identified as a major concern and challenge for the development of successful telehealth systems.

Survey: Reimbursement ranks as No. 1 barrier to telehealth expansion

BECKER's Hospital Review | October 10, 2017

C-suite executives and managers from 104 hospitals and clinics with established telehealth programs:

1. Reimbursement: 59%
2. Cost/resources: 34%
3. Patient/provider awareness/education: 25%
4. Licensing/regulation: 20%
5. High-speed internet access: 6%

46%

of US consumers "***unlikely***" to use telemedicine, survey finds

BECKER's Hospital Review
October 12, 2017

Challenges with telehealth use during Covid-19 pandemic

(Houser et al. 2021)

76 healthcare administrators completed a survey in January 2021.

1. Patient challenges with telehealth services (65%)
2. Constant updates of telehealth guidelines and procedures (49%)
3. Legal and risk issue concern (43%)
4. Understanding valid telehealth documentation for reimbursement purposes, payer denial (43%)
5. Lack of resources and IT support of telehealth guidelines and training (29%)

68 million

telehealth services delivered March – October 2020

2,700% increase

compared to the same period from 2019

(CMS Reports, 2021)

Research Questions

What are the challenges and risks in telehealth practice?

Did the pandemic raise new privacy and security challenges?

What are the best practices in privacy and security for telehealth services?

Research Design

Phase I

Quantitative study, survey/questionnaire

Phase II

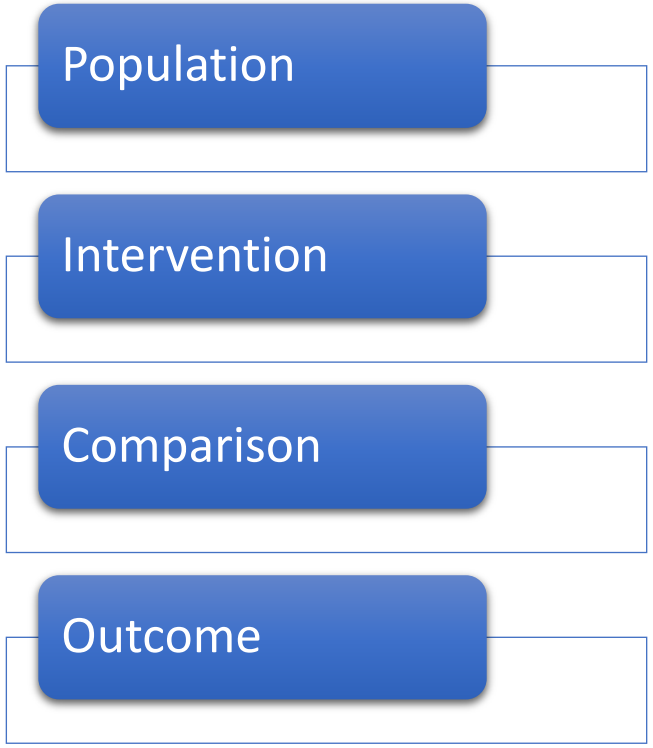
Systematic review

Phase III

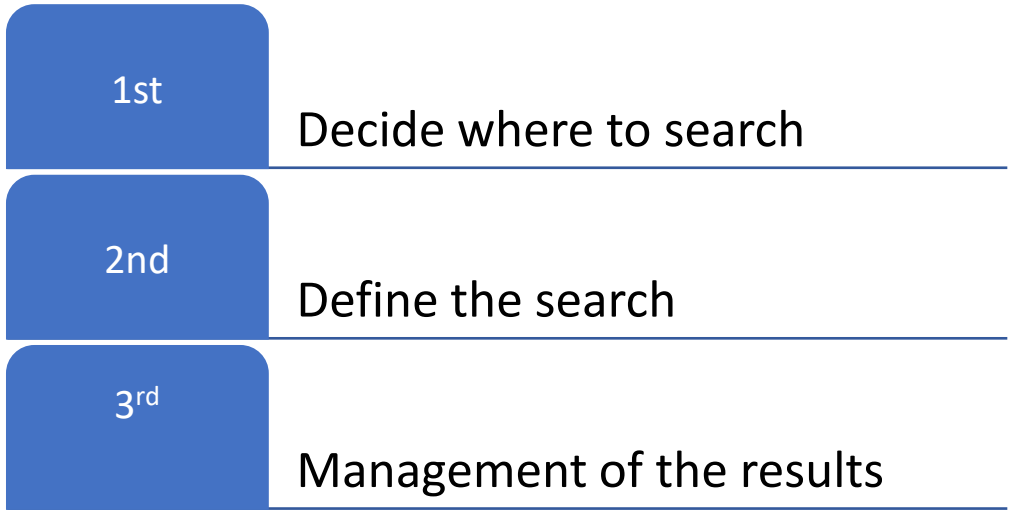
Qualitative study, interview, focus group

Search Strategies – Systematic Review

PICO framework



Steps



-Review and redefine the search criteria

-Three researchers

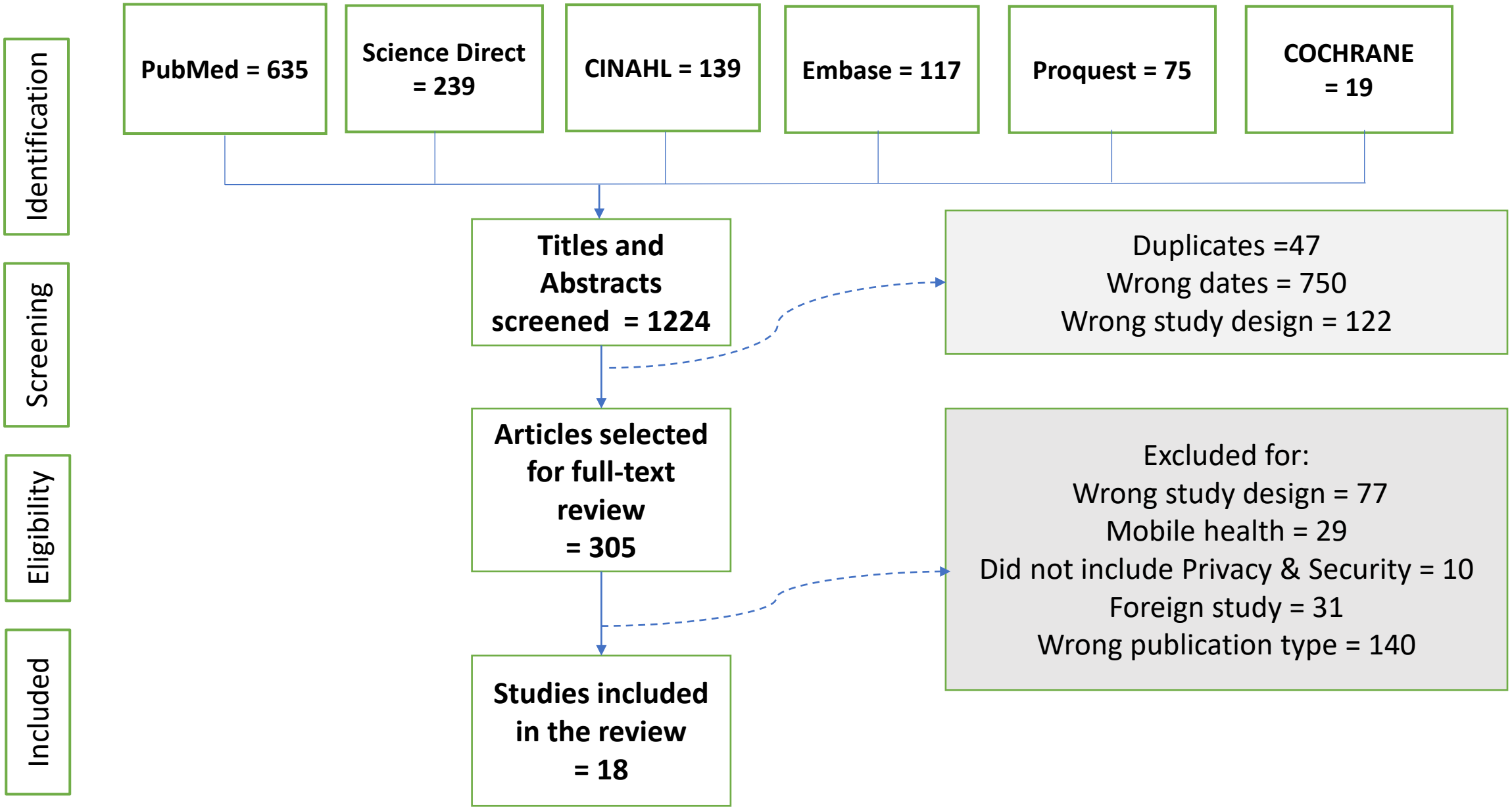
Study Design – Systematic Review

Inclusion criteria

- English language only
- Peer-reviewed empirical studies
- January 2020 to February 2022
- Search terms:
  - telehealth, telemedicine,
  - privacy, security, confidentiality

Exclusion criteria

- Studies conducted outside of U.S.
- Study design: non-empirical studies (such as systematic review, literature review, commentary)
- Non-telehealth related studies (such as mobile health, eHealth)


Identification
Screening
Eligibility
Included
PubMed = 635
Science Direct = 239
CINAHL = 139
Embase = 117
Proquest = 75
COCHRANE = 19
Titles and Abstracts screened = 1224
Duplicates =47
Wrong dates = 750
Wrong study design = 122
Articles selected for full-text review = 305
Excluded for:
Wrong study design = 77
Mobile health = 29
Did not include Privacy & Security = 10
Foreign study = 31
Wrong publication type = 140
Studies included in the review = 18

Type of study by design (n=18)

Study Types	Data Collection Methods	Total Articles
Qualitative study	Interview (semi-structured) Focus group	5
Quantitative study	Survey	8
Mixed-method	Interview, focus group, survey	4
Pre-post design	Both quantitative and qualitative measures	1
Total		**18**

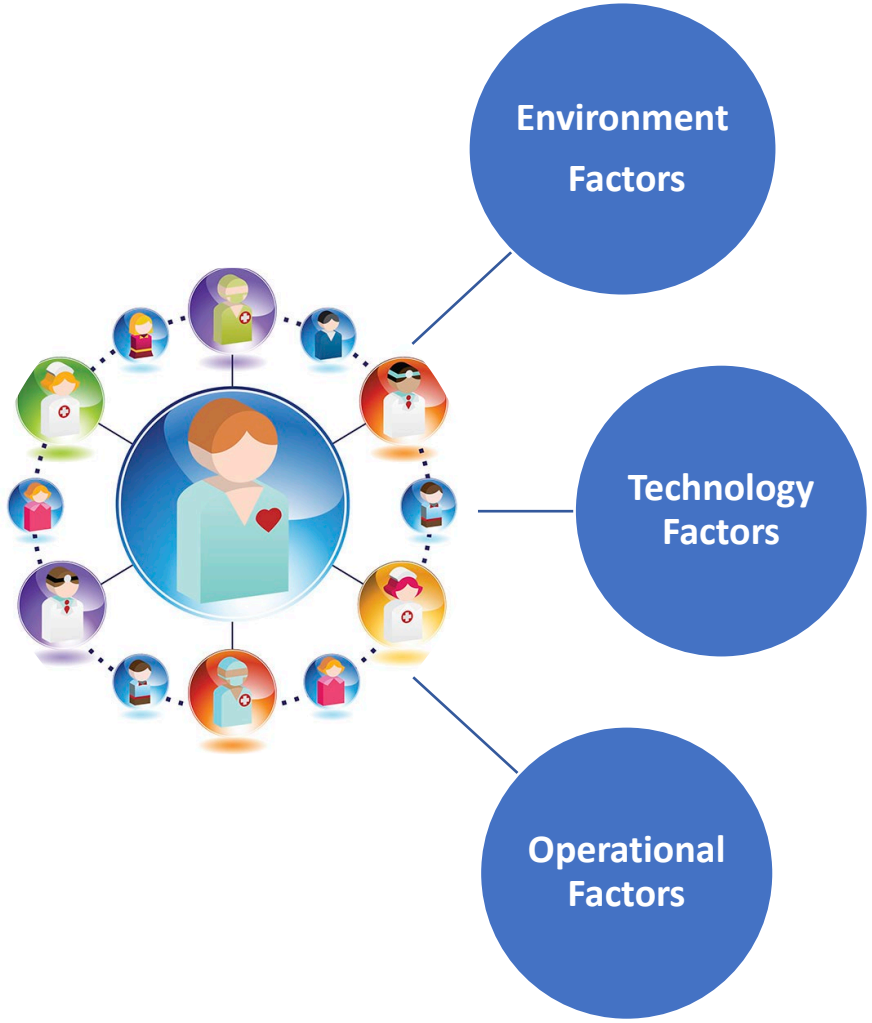
Type of study participants (n=18)

Patient, Parent, Consumer level (n=10)	Provider level (n=6)	Both patient & provider levels (n=2)
Community (consumers) members Residents (consumers) from a state	State Mental Health Authorities representatives	Patients & clinical personnel from community health center
Children and their parents from pediatric primary care practices	Credentialed athletic trainers	Patient and provider from adolescent medicine at a large pediatric HCO
Patients from: • Orthopedic surgery office • HIV outpatient clinic • Outpatient endovascular neurosurgery clinic • Outpatient child mental health clinic	Providers from: • Pediatric rheumatology • Emergency medicine & neurologists • State Children's Hospital • Behavioral health providers	
In-home remote patient monitoring via telehealth for blood pressure monitoring		

Challenges in using telehealth services (n=18)

Patient related	Provider related
• Privacy and confidentiality concern • Age (i.e., elderly, young adults) • Space, location, environment (homeless) • Special patient population (i.e., HIV, pregnancy, mental health) • Trust of provider and others • Technology use • Health/digital literacy (language, medical terminology) • Patient awareness, communication	• Privacy and confidentiality concern • Space, location, environment • Technology use • Digital literacy • Accessibility • Limitation of quality assessments and diagnosis • Professional development, training • Burn out of using telemedicine • Liability, legal and regulatory issues • Reimbursement issues (payer denial)

Factors associated with telehealth privacy and security



- Lack of private space for vulnerable populations (i.e., homeless, elderly, adolescent/parent)
- Difficulty sharing sensitive health information (i.e., HIV, behavior health, contraception) remotely
- Videoconferencing may inadvertently expose the patient's living conditions to the provider

- Technology data security issues (hacking of video visit)
- Limited access to internet and technology
- Lack of digital devices, cellular data, or WiFi
- Digital literacy
- Poor quality of audio or video

- Privacy and security concerns
- Reimbursement, payer denials
- Technology accessibility
- Training and education
- Maintenance and updating devices

Lessons Learned

Lack of in-depth data from searched studies

Time consuming for conducting systematic review study

Learned while conducting the study

Continuous decision-making as needed

Future study and recommendation

- Complete and publish Phase II systematic review study
- Phase III Qualitative study on privacy and security in telehealth services (interview and focus group, build best practice)
- Telehealth here to stay (address technology, digital literacy, accessibility)
- Minimize privacy and security risks and challenges is a priority
- Building best practice guidelines and policies is necessary

TeleHealth

Patient Visits

Thank you!

Questions?

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