Synopsis for Dissertation

Title:

"A study of challenges faced by ASHA in using Digital Health products"

Introduction:

Digital health refers to the use of information and communications technologies in medicine and other health professions to manage illnesses and health risks and to promote wellness. Digital health has a broad scope and includes the use of wearable devices, mobile health, telehealth, health information technology, and telemedicine. Digital Health has been gaining momentum because it is envisioned to:

- Improve access to healthcare
- Reduce any inefficiencies in the healthcare system
- Improve the quality of care
- Lower the cost of healthcare
- Provide more personalized health care for patients

The broad scope of digital health includes categories such as mobile health (mHealth), health information technology (IT), wearable devices, telehealth and telemedicine, and personalized medicine.

Many Digital health solutions are being used in Rajasthan. Some of these have been developed by private organizations. The GoR has also developed some of its own digital health solutions which are being used by the state health authorities. Many initiative CHIP, PCTS, OJAS, CHRIS, e-Sushrut, IMPACT (integrated system for monitoring of PCPNDT Act), ASHAsoft, IASPMS(Integrated Ambulance Services Payment Monitoring system), eUpkaran, NiKshay and many other portals for data monitoring are the eHealth initiatives used and implemented

in the state. These initiatives work as a system and provide means to capture and present data In an organized manner for meaningful analysis.

In Rajasthan, the community health workers popularly called ASHA workers are extensively using PCTS, ASHA digital app, ODK etc. to capture health realted inputs from the field. In this study the problem and challenges faced by the ASHA workers in using the application would be understood, assessed and analysed.

Rationale for the Study:

Rajasthan, characterized by diverse demographics and geographical landscapes, grapples with significant healthcare disparities, particularly in remote and underserved regions. Digital health solutions hold immense promise in mitigating these disparities and bolstering healthcare delivery. However, the effective integration of such solutions faces numerous challenges, ranging from technological barriers to institutional resistance and digital literacy. This study seeks to delve into the root causes of these challenges and chart a course toward their resolution, thereby fostering the realization of the transformative potential of digital health in a district of Rajasthan.

Scope of the Study:

The digital health solutions used in the healthcare system of our state varies across different levels, from sector level to the state level. Various solutions are used at each different level by different healthcare service providers ranging from the first point of contact, i.e., community health workers to the Block level officials like the MOIC, to the state level used by PD's and PMO for monitoring and evaluation. As this incapsulates a vast range of solutions varying across different levels of the system, we are focusing on the digital solutions used by the primary point of contact with the beneficiary or the general population, the community health worker, i.e. ASHA worker.

Research Question: Problem Statement

What are the challenges faced by Asha worker in deployment and use of Digital Health Solutions?

Objectives:

1. Identify and study the existing digital health solutions by Asha workers
2. Identify the principal implementation challenges encountered in the deployment of digital health solutions.
3. Explore the multifaceted factors contributing to these challenges, encompassing technological limitations, infrastructural deficiencies, regulatory complexities, and socio-cultural dynamics.
4. Understand existing strategies and initiatives aimed at overcoming implementation hurdles and achieving tangible impacts in the realm of digital health.

Methodology:

Type of Study:

The study is primarily **Descriptive** in nature therein various aspects of the challenges and problems faced by ASHA worker in using the Digital Health applications would be covered.

Design of Study:

In order to gather relevant information and data for a meaningful study selected ASHA workers working in various blocks of Pali district of Rajasthan would be identified and telephonically contacted.

Sampling Technique:

Purposive sampling method would be used to identify ASHA workers as respondents in the study.

Sample size:

ASHA's will be contacted from the blocks in the district. Total 50 ASHA, telephonically interviewed.

Data Collection Method:

1. Secondary Data Analysis: Conduct a comprehensive review of existing literature, reports, and health records to ascertain the status of digital health implementation, reports, and case studies pertinent to digital health implementation challenges with some studies pertinent to Rajasthan

The district under the study is PALI after evaluation of the usage of the digital health solutions.

2. Primary Data Collection:

    a. Sampling: Utilize purposive sampling to select ASHAs from some blocks of the identified district of Rajasthan (Pali). Sample selection will prioritize diversity in terms of geographic location, experience level, and background.

    b. Interviews: Conduct telephonic interviews with ASHAs to explore their perspectives on implementation challenges, including technological barriers, training needs, community acceptance, and infrastructural constraints.

Data Analysis:

The data collected will be analyzed using statistical tools and software (excel). The relationship between different variables will also be taken in consideration while analyzing the data (the demographic information and challenges will be related). For open ended questions, an analysis of the responses to highlight the common points and grouping of these into specific issues will be done. This will help us

understand both the numbers and the personal experiences behind the challenges faced by ASHA workers in using digital health solutions.

Analysis and recommendations:

The interpretation of the information gathered and data collected would be analyzed based on the field conditions and other inputs gathered from respondents for arriving at meaningful conclusion. The information gathered and data collected would also be corroborated using other secondary sources of available information and relevant experiential knowledge about the use of the digital health solutions.

Implications of the Research:

The technological advancements in the healthcare sector and the digitization of health are the future of health in the country. This study would help to identify the challenges faced and suggest/recommend some ways to tackle these problems. The perspective of the user will be taken in the analysis to get insights on the user-end expectations from the digital solutions.

References:

(2020, september 22). Retrieved from US food drug administration: https://www.fda.gov/medical-devices/digital-health-center-excellence/what-digital-health

Nitin Kumar Joshi, 1. P. (2021). Overview of e-Health initiatives in Rajasthan: An exploratory study. *Journal of Family Medicine and Primary Care*.

Ronquillo, Y., Meyers, A., & Korvek., S. J. (2023). Digital Health. *National Library of Medicine*.

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Tool for Data Collection (Questionnaire)

1. Age:
    - Under 25
    - 25-35
    - 36-45
    - 46-55
    - Over 55
2. Education Level:
    - No formal education
    - Primary School
    - Secondary School
    - Higher Secondary
    - Graduate
    - Postgraduate
3. Years of Experience as an ASHA Worker:
    - Less than 1 year
    - 1-3 years
    - 4-6 years
    - 7-10 years
    - More than 10 years
4. Region of Work:
    - Urban
    - Rural
    - Semi-urban

5. How frequently do you use Digital Health Solutions in your work?
    - Daily
    - Weekly
    - Monthly
    - Rarely
    - Never
    - Others (please specify)
6. How comfortable are you with using new technology in general?
    - Very comfortable
    - Comfortable
    - Neutral
    - Uncomfortable
    - Very uncomfortable
7. Have you received any training on how to use Digital Health Solutions?

- Yes
- No

8. If yes, how was the quality of the training received.?
    - Excellent
    - Good
    - Average
    - Poor
9. Do you have access to ongoing technical support for using these products?
    - Yes
    - No
10. How easy is it for you to use Digital Health Solutions products?
    - Very easy
    - Easy
    - Neutral
    - Difficult
    - Very difficult
11. Do you face any of the following technical issues while using these products? (Select all that apply)
    - Internet connectivity problems
    - Device malfunctions
    - Software bugs
    - Difficulty in navigation
    - Language barriers
    - Others (please specify)
12. How have Digital Health Solutions impacted your efficiency in performing health-related tasks?
    - Greatly improved
    - Improved
    - No change
    - Reduced efficiency
    - Greatly reduced efficiency
13. Do Digital Health Solutions help you provide better care to patients?
    - Strongly agree
    - Agree
    - Neutral
    - Disagree
    - Strongly disagree
14. How do patients in your community react to the use of digital health solutions?
    - Very positively
    - Positively
    - Neutral
    - Negatively
    - Very negatively
15. Now, let's talk about the challenges you face with Digital Health Solutions. Please rate the severity of each challenge on a scale of 1 (Not a challenge) to 5 (Very challenging):
    - Lack of proper training

- Technical issues (internet, devices)
- High cost of devices/data plans
- Limited time to learn and use new solutions
- Poor user interface (difficult to navigate)
- Privacy and security concerns
- Resistance from patients/community to using technology
- Other (please specify)

16. How do you usually overcome these challenges?
    - Seeking help from colleagues
    - Referring to training materials
    - Contacting technical support
    - Trial and error
    - Not able to overcome them
    - Others (please specify)
17. Do you have access to user manuals or guides for the digital health solutions you use?
    - Yes
    - No
18. How helpful have the following features been in your work? (Rate 1- Not Helpful at All, 5- Very Helpful)
    - Digital health survey
    - Maintaining data base
    - No multiple/duplicate entries
    - Easy retrieving/searching beneficiary.
19. Do you have concerns about the privacy and security of patient data in digital health solutions?
    - Very concerned
    - Concerned
    - Neutral
    - Slightly concerned
    - Not concerned
20. What suggestions do you have for improving the use of Digital Health Solutions among ASHA workers?
21. How do you feel about the change from paper based to digital solutions?
22. What functionalities would you like to see in digital health solutions to better support your work.
23. Do you have any comments or feedback regarding digital health solutions.