

BACK TO BASICS IN DIGITAL HEALTH TRANSFORMATION: A STEPWISE FLOWCHART FOR DIGITIZATION OF PERSONALIZED PATIENT SUPPORT PROGRAMS

F.S. BAKRIN

KPJ Healthcare University, Negeri Sembilan, Malaysia



**ISQUA
2023-I/
1634**

**Digital
Healthcare
& Innovation**

INTRODUCTION

The past decade in patient support programs has seen tremendous innovation in digital health technologies. The process of development meets with a particularly complex healthcare system that creates many challenges in the pathway to digital transformation (see figure below).



There is a need to step back and fundamentally digitize and organize information. A well-designed and validated digitization plan shall prevent hospitals from being overwhelmed and allow efficient adaptation to telehealth technologies. Thus, appropriate research methods and extensive analyses of data should be introduced to ensure the effectiveness of a patient support program at hospital.

AIM

The aim of this study was to conduct a narrative review in providing a stepwise flowchart consisting of mixed methods approach for an effective digitization plan for patient support program.

METHOD

In this narrative review, a comprehensive search was performed through the Cumulative Index to Nursing and Allied Health Literature (CINAHL) and National Library of Medicine (MEDLINE) using the following keywords: “patient support”, “development”, “validation”, “digital”, “ICT”, “qualitative” and “quantitative”. The inclusion criteria were that studies had to be on development of patient support program and articles had complete descriptions of qualitative and quantitative methods. The quality of articles was assessed using the critical appraisal skills programme (CASP) tools.

CONCLUSIONS

The use of the mixed method approach may allow hospitals to adopt multiple approaches to data collection and analysis for the purpose of transforming information into digital format. Hence, the proposed flowchart is practical and flexible to initiate a smaller project of Telemedicine by starting with deeper digitization of materials for patient record (e.g. EMR) or patient education (e.g. e-book).

FUTURE STUDY

A scoping review will be conducted to identify and formulate a framework involving the development and validation for a total digital transformation in patient support program.

ACKNOWLEDGEMENT

Thank you to Prof Dato Dr Azizi Hj Omar for proofreading the first draft of the poster's content and to Mdm Azlinda Mohd Sarif for verifying the needs of patient support program at hospital. Thank you to KPJ Healthcare Berhad and KPJ Healthcare University for the continuous support of this project.

CONTACT INFORMATION

Faizah Safina Bakrin, PhD, RPh
Email: faizasafina@gmail.com
Handphone No / Whatsapp: +6019-2258796



RESULTS & DISCUSSION

A stepwise flowchart (see Figure 1) was designed to include both qualitative and quantitative methods for developing and validating the fundamental part of transforming a digitalized patient support program. There are five phases of the whole process: identification, triangulation, validation, digitization and evaluation. Further clarification of the purpose and methodology of each phase is shown in Table 1.

Figure 1: Flowchart of Digitization Plan of Patient Support Program

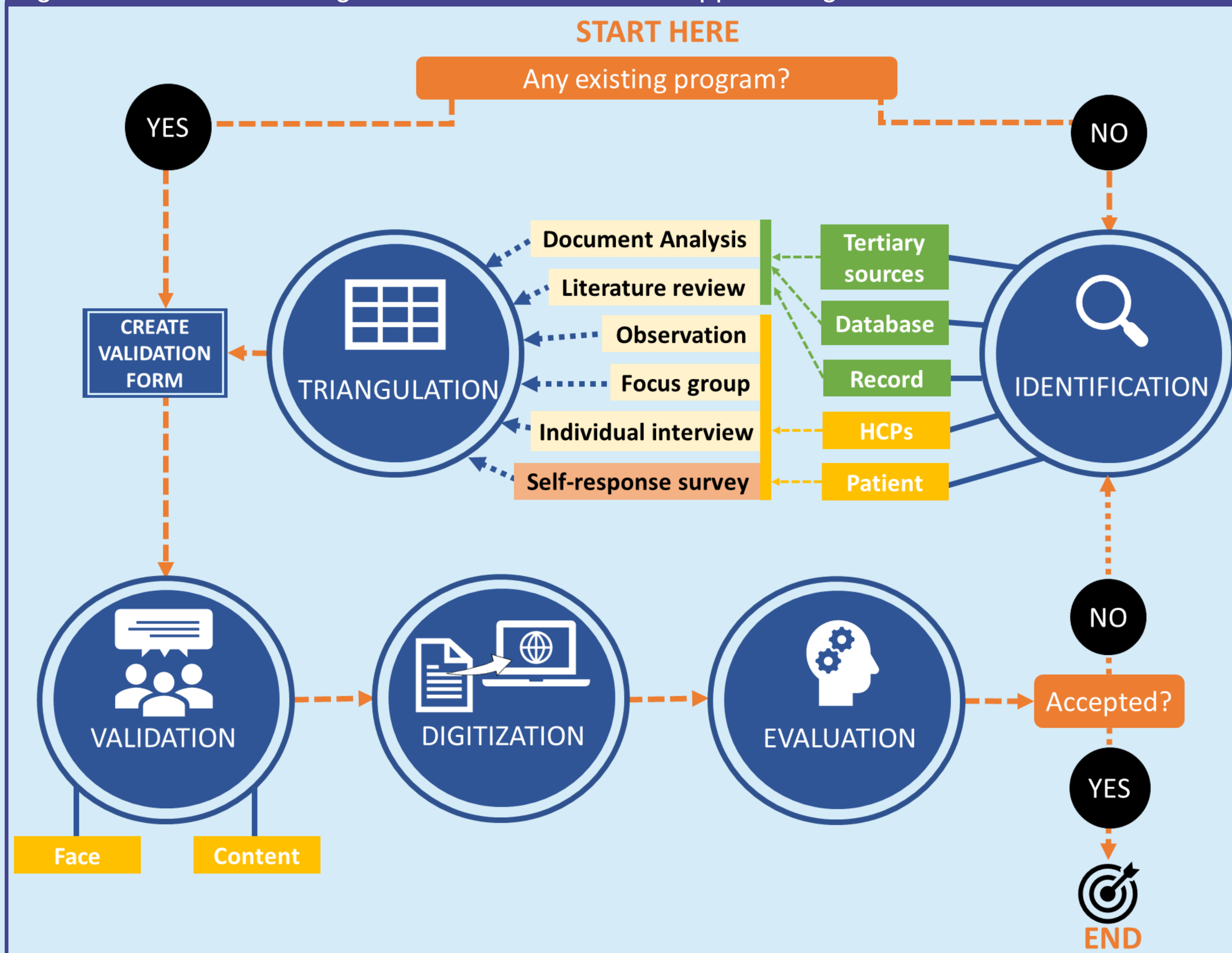


Table 1: The Five Phases of Digitization Plan for Patient Support Program

Phase	Purpose	Methodology	Reference
Identification	Identify relevant and reliable sources	Qualitative: Purposive sampling strategy	(Palinkas et al., 2016; Tenny et al., 2022)
Triangulation	Tabulate data according to similarities of information	Qualitative: interview, observation, focus group discussion, document analysis and literature review Quantitative: self-response survey	(Östlund U, Kidd L, Wengström Y, 2020; Rooshenas et al., 2019)
Validation	Evaluate the themes and contents (validation form)	Both qualitative and quantitative Sample: content validity (5-7 expert) and face validity (5-20 patients)	(Caruso et al., 2017; Hurwitz & Altmiller, 2021)
Digitization	Convert information to digital format	Qualitative: Collaboration between content provider (hospital staff, researcher etc) and ICT technical staff	(Bakrin, 2010; Helena et al., 2019)
Evaluation	Conduct usability testing of the digital format	Both qualitative and quantitative Sample: alpha testing (5-7 content providers) and beta testing (5-20 patients)	(Kukafka et al., 2020; Schiering et al., 2021)

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