

Original Paper

Identifying and Optimizing Factors Influencing the Implementation of a Fast Healthcare Interoperability Resources Accelerator: Qualitative Study Using the Consolidated Framework for Implementation Research—Expert Recommendations for Implementing Change Approach

Jane Li¹, MBBS, PhD; Emma Maddock¹, BSc; Michael Hosking¹, BOT; Kate Ebrill¹, BHSc, MPH; Jeremy Sullivan²; Kylynn Loi¹, BPharm; Danielle Tavares-Rixon¹, BIT; Rajiv Jayasena¹, PhD; Grahame Grieve³, PhD; Alana Delaforce¹, BN, MN, PhD

¹Australian e-Health Research Centre, CSIRO, Brisbane, Australia

²Australian Government Department of Health, Disability and Ageing, Canberra, Australia

³Health Intersections Pty Ltd, Melbourne, Australia

Corresponding Author:

Alana Delaforce, BN, MN, PhD

Australian e-Health Research Centre

CSIRO

Level 7, Surgical Treatment and Rehabilitation Service

296 Herston Road, Herston

Brisbane, 4029

Australia

Phone: 61 07 3253 3647

Email: alana.delaforce@csiro.au

Abstract

Background: Fragmented sharing of health information is known to negatively impact patient care and outcomes. To support the sharing of health information between systems, Fast Healthcare Interoperability Resources (FHIR) has emerged as the global interoperability standard for health information exchange. To speed up the process of adoption, various FHIR accelerator groups have been formed. FHIR accelerators such as the Sparked program in Australia enable communities and collaborative groups to develop high-quality FHIR standards for health care information exchange and encourage widespread uptake. However, limited research exists on the development, delivery, and implementation of FHIR accelerator programs.

Objective: This study used qualitative methods to identify the key components of the Sparked FHIR accelerator, what factors influence implementation, and which strategies may help enhance its delivery.

Methods: Semistructured interviews were conducted with Sparked stakeholders in the early stage of the program. The Sparked FHIR accelerator intervention components were described using a standardized reporting checklist (Template for Intervention Description and Replication). The Consolidated Framework for Implementation Research (CFIR) 2.0 was used to analyze factors influencing implementation. On the basis of a cumulative majority analysis, the most mentioned factors influencing implementation were identified. These factors were then mapped to the Expert Recommendations for Implementing Change (ERIC) tool to identify strategies for enhancing the implementation of the Sparked program.

Results: A total of 17 participants were interviewed, including program leads, coauthors, representatives of software industry implementers, clinicians, and consumers. In total, 8 key CFIR influencing factors were identified: engaging, innovation design, assessing needs, local conditions, access to knowledge and information, partnerships and connections, capability, and work infrastructure. After mapping the top CFIR influencing factors to the ERIC tool, 5 strategy clusters were identified: adapt and tailor to context, develop stakeholder interrelations, support participants, train and educate stakeholders, and use evaluative and iterative strategies.

Conclusions: This study enabled the core components of the Sparked FHIR accelerator to be defined and identified the factors that have the strongest influence on program implementation. Using the CFIR-ERIC approach facilitated the generation of

expert-informed recommendations for improving the implementation of Sparked, but researcher recommendations were needed to supplement the tool. This research offers valuable insights for decision makers and implementers.

(*JMIR Med Inform* 2025;13:e66421) doi: [10.2196/66421](https://doi.org/10.2196/66421)

KEYWORDS

Fast Healthcare Interoperability Resources accelerator; FHIR accelerator; Sparked; Consolidated Framework for Implementation Research; Expert Recommendations for Implementing Change; implementation enhancement plan; digital health; interoperability standards

Edited by A Coristine; submitted 12.Sep.2024; peer-reviewed by Y He, M Nakayama; comments to author 25.Dec.2024; revised version received 14.Feb.2025; accepted 17.Mar.2025; published 27.May.2025

Please cite as:

Li J, Maddock E, Hosking M, Ebrill K, Sullivan J, Loi K, Tavares-Rixon D, Jayasena R, Grieve G, Delaforce A
Identifying and Optimizing Factors Influencing the Implementation of a Fast Healthcare Interoperability Resources Accelerator: Qualitative Study Using the Consolidated Framework for Implementation Research–Expert Recommendations for Implementing Change Approach
JMIR Med Inform 2025;13:e66421
URL: <https://medinform.jmir.org/2025/1/e66421/>
doi: [10.2196/66421](https://doi.org/10.2196/66421)
PMID:

©Jane Li, Emma Maddock, Michael Hosking, Kate Ebrill, Jeremy Sullivan, Kylynn Loi, Danielle Tavares-Rixon, Rajiv Jayasena, Grahame Grieve, Alana Delaforce. Originally published in JMIR Medical Informatics (<https://medinform.jmir.org>), 27.May.2025. This is an open-access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in JMIR Medical Informatics, is properly cited. The complete bibliographic information, a link to the original publication on <https://medinform.jmir.org/>, as well as this copyright and license information must be included.