



THE UNIVERSITY *of* EDINBURGH

Edinburgh Research Explorer

Methodological reflections on the evaluation of the implementation and adoption of national electronic health record systems

Citation for published version:

Takian, A, Petrakaki, D, Cornford, T, Sheikh, A & Barber, N 2012, 'Methodological reflections on the evaluation of the implementation and adoption of national electronic health record systems', *International journal of integrated care*, vol. 12. <https://doi.org/10.5334/ijic.958>

Digital Object Identifier (DOI):

[10.5334/ijic.958](https://doi.org/10.5334/ijic.958)

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Publisher's PDF, also known as Version of record

Published In:

International journal of integrated care

Publisher Rights Statement:

CC-BY

General rights

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.



Volume 12, 15 June 2012

Publisher: Igitur publishing

URL: <http://www.ijic.org>

URN:NBN:NL:UI:10-1-113079 / ijic2012-99

Copyright: 

Conference abstract

Methodological reflections on the evaluation of the implementation and adoption of national electronic health record systems

Amir Takian, Brunel University, UK

Dimitra Petrakaki, Sussex University, UK

Tony Cornford, London School of Economics and Political Sciences, UK

Aziz Sheikh, University of Edinburgh, UK

Nick Barber, The School of Pharmacy, University of London, UK

Correspondence to: Amir Takian, E-mail: amir.takian@brunel.ac.uk

Abstract

Introduction/purpose of presentation: Far-reaching policy commitments to information technology-centered transformations of health-care systems have now been made in many countries. There is as yet little empirical evidence to justify such decisions, hence the need for rigorous independent evaluation of current implementation efforts. Such evaluations however pose a number of important challenges. This presentation has been designed as a part of a Panel based on our experience of evaluating the National Health Service's (NHS) implementation of electronic health records (EHR) systems in hospitals throughout England. We discuss the methodological challenges encountered in planning and undertaking an evaluation of a program of this scale and reflect on why and how we adapted our evaluation approach—both conceptually and methodologically—in response to these challenges.

Study design/population studied: Critical reflections on a multi-disciplinary and multi-facet independent evaluation of a national program to implement electronic health record systems into 12 'early wave' NHS hospitals in England.

Findings: Our initial plan was to employ a mixed methods longitudinal 'before-during-after' study design. We however found this unsustainable in the light of fluxes in policy, contractual issues and over-optimistic schedules for EHR deployments. More importantly, this research design failed adequately to address the core of multi-faceted evolving EHRs as understood by key stakeholders and as worked out in their distinct work settings. Thus conventional outcomes-centric evaluations may not easily scale-up when evaluating transformational programs and may indeed prove misleading. New assumptions concerning the implementation process of EHR need to be developed that recognize the constantly changing milieu of policy, product, projects and professions that are inherent to such national implementations. The approaches we subsequently developed substitute the positivist view that EHR initiatives are self-evident and self-contained interventions, which are amenable to traditional quantitative evaluations, to one that focuses on how they are understood by various stakeholders and made to work in specific contexts. These assumptions recast the role of evaluation towards an approach that explores and interprets processes of socio-technical change that surround EHR implementation and adoption as seen by multiple stakeholders.

Conclusions and policy implications: There is likely to be an increase in politically-driven national programs of reform of healthcare based on information and communication technologies. Programs on such a scale are inherently complex with extended temporalities and extensive and dynamic sets of stakeholders. They are, in short, different and pose new evaluation challenges that previously formulated evaluation methods for health information systems cannot easily address. This calls for methodological innovation amongst research teams and their supporting bodies. We argue that evaluation of such system-wide transformation programs are likely to demand both breadth and depth of experience within a multidisciplinary research team, constant questioning of what is and what can be evaluated and

how, and a particular way of working that emphasizes continuous dialogue and reflexivity. Making this transition is essential to enable evaluations that can usefully inform policy-making. Health policy experts urgently need to reassess the evaluation strategies they employ as they come to address national policies for system-wide transformation based on new electronic health infrastructures.

Keywords

electronic health record, evaluation, methodology, socio-technical changing
