

Content Summaries of Selected Best Papers for the IMIA Yearbook 2022 Section "Clinical Information Systems"

Harris B, Ajisola M, Alam RM, Watkins JA, Arvanitis TN, Bakibinga P, Chipwaza B, Choudhury NN, Kibe P, Fayehun O, Omigbodun A, Owoaje E, Pemba S, Potter R, Rizvi N, Sturt J, Cave J, Iqbal R, Kabaria C, Kalolo A, Kyobutungi C, Lilford RJ, Mashanya T, Ndegese S, Rahman O, Sayani S, Yusuf R, Griffiths F

Mobile consulting as an option for delivering healthcare services in low-resource settings in low- and middle-income countries: A mixed-methods study

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19;7:20552076211033425**

Coronavirus Disease 2019 (COVID-19) has led to changes in health behaviour and in the organisation and delivery of health services worldwide. The World Health Organization (WHO) is promoting the adoption of remote or mobile consultation (mConsulting) as an alternative to face-to-face consultation. mConsulting is a two-way clinical consultation between a person with a perceived health need and a health provider using mobile technology (e.g., mobile phone, tablet, laptop). Mobile technology has spread rapidly in low- and middle-income countries (LMICs) over the past decade.

In a literature review, the authors identified seven systematic reviews and four empirical studies on mConsulting in LMICs and derived factors on acceptability, affordability and availability of mConsulting services, changing behaviour and effects on health outcomes as well as challenges using mConsulting.

Then, they conducted a scoping study of mConsulting involving policy and document review, secondary quantitative analysis of

data from household and adult surveys, qualitative interviews and workshops with key stakeholders in five countries: remote rural areas in Pakistan and Tanzania, and urban slums in Bangladesh, Kenya and Nigeria.

Data from 5,322 urban slum households was analyzed and interviews with 424 stakeholders in rural and urban sites were conducted. Most households (85% and more) reported access to a mobile phone. In Bangladesh, four in five households had access to airtime every day, compared to fewer than one in five in Nigeria and Kenya. Access to data/WiFi and the Internet was even more limited, with the majority of urban households reporting no access at all. Only a small number of adult respondents (total n=88) reported that they had used their phone or another digital device to access and receive health information, advice or care in the last 12 months. However, between five and 17 mConsulting services operating through provider platforms could be identified in each country. Many were targeted at specific health conditions or groups. The findings suggest that mConsulting is a viable option for remote and spatially marginalised communities with minimal access to health services in LMIC settings. In the five countries studied, legal frameworks are in place through national ICT and e/mHealth policies, mConsulting is already taking place and there is a general willingness among decision-makers, health workers and community members to offer and use mConsulting services, provided that key challenges are overcome. These challenges include addressing the pragmatic aspects of mConsulting - technology, infrastructure, data security, confidentiality and acceptance - and ensuring that mConsulting is integrated into broader health and technology systems, which themselves require strengthening and support.

Lenert LA, Ilatovskiy AV, Agnew J, Rudisill P, Jacobs J, Weatherston D, Deans KR Jr

Automated production of research data

from a canonical fast healthcare interoperability resource data repository: applications to COVID-19 research

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The need for reliable, rapidly accessible EHR data for risk factor research, predictive modelling and emerging disease assessment was once again brought home to us by the COVID-19 pandemic. With the rapid evolution of the pandemic, the demands for rapid data updates in the various large COVID-19 research networks and consortia have also increased. While latency periods of several months between the emergence of EHR data in routine clinical practice to their availability for research were common in the past, faster data production cycles and shorter latencies are now required in the COVID-19 era. The more new variants of the virus and new therapies emerge, the more valuable rapidly available and up-to-date data become. This demanding task requires the automation of processes for the creation of analytical databases. As different research networks have different requirements for data and data models, data production for different networks is resource intensive and can potentially lead to data loss due to compression or inaccuracies in mappings. In this article, the authors describe the use of the Fast Healthcare Interoperability Resources (FHIR) standard data model as a canonical model for the initial storage of the data for subsequent transformation into two more analytically oriented data models, as well as an architecture for multiple simultaneous largely automated translations from FHIR into these two data models. The authors build their system on an open source platform. It converts data elements from various formats into FHIR, transforms them into the analytical data models in near real time and maintain them in synchrony. The approach could significantly improve the availability of standardized datasets for research.