

Enhancing Co-ordinated Health Care in Sri Lanka by developing an Information Technology-driven Health Care System – an opinion

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Introduction

The gap between health needs and health resources is greater in Low and Middle Income Countries (LMIC) compared to High Income Countries^{1,2}. Health services should be tailored according to local health needs and available resources, necessitating a “whole system approach”³. However, the success of this depends on effective coordination among all stakeholders. Appropriate information sharing is an essential element of effective coordination. Unfortunately health information sharing in any LMIC encounters many challenges^{1,2}. This article describes the importance of an Information Technology (IT)-driven Health Care System, and proposes how to develop it in Sri Lanka.

Need for IT-driven integration

Sri Lankan health needs are dominated by non-communicable diseases (NCD)^{4,5}. These are projected to increase further due to an aging population, sedentary lifestyles and sub-optimal management of risk factors,^{1,2,4}

Reducing NCDs can only be achieved by better

coordination among Family Medicine/General Practice, Public Health and Secondary Care Organisations^{3,6}. To provide better coordinative health care services, the Department of Community and Family Medicine in Jaffna University integrated preventive and curative services in the Nallur Medical Officer of Health (MOH) area^{7,8}. However, the experience over the last five years has shown that the paper-based health information system does not facilitate coordinative healthcare delivery⁹. For example, screening and case detection are not sufficiently followed up, there are poor recall systems and referral pathways, and wastage of health resources due to duplication of tests.

For this reason, we argue that we need an IT-based health information system to drive coordinative healthcare¹⁰⁻¹². This should optimise resource utilisation and improve patient outcomes.

Opportunities in Sri Lanka

There are many factors in Sri Lanka that create this opportunity for IT-driven integrated healthcare. The geographical targeting of community-based services through the MOH facilitates delivery of successful projects. Free at the point of access state-provided health and education, high mobile phone usage, good internet services, high literacy levels and trust in healthcare workers will also contribute to success⁶.

Proposed IT-driven integration

The integrated IT system for Sri Lanka should support to provide comprehensive, continuous, accountable and patient-centred healthcare for current and future NCD-related problems⁷. This will be achieved through seamless information-sharing across the whole system including clinical care, research and education, administration and policy making. We should start this process in a defined geographical area (MOH) for a specific NCD. This experience can then be used to establish IT-driven integrated healthcare across the whole country and to the other NCDs.

Benefits of IT-driven integration

There are many benefits of an IT-driven integrated Health Care System, not only to individuals but also to the whole health care system¹¹⁻¹⁴:

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- Individuals: sharing information electronically will improve care by promoting the use of care pathways and continuity of care across providers.
- System: IT integration will support clinical decision making and education of healthcare providers. It will also enable health surveillance for a region, and research into the effectiveness of health interventions. Administrative and financial data will support policy- and decision-making for service provision.

Overcoming the challenges of IT-driven integration

There will be barriers to implementing such a system in any LMIC including: high initial cost; lack of technical expertise; insufficient computational skills; requirement for continuous internet services and electricity; data safeguarding and possible resistance from healthcare providers and the public¹³.

Development of this system will only be possible through a multidisciplinary team approach, with collaboration of Clinicians, Researchers, Health Informaticians, IT Experts and System Users from both LMIC and countries with expertise in health information technology^{10,13}. The team needs to understand current record keeping, data quality, the stage of IT in health information, and medico-legal issues for data protection^{10,13}. They can then identify the optimal technology, define the outcomes, formulate the strategy and implementation plan. This needs to include evaluation, so that effectiveness can be assessed after implementation^{10,13}.

Summary

Sri Lankan health problems are dominated by increasing NCDs. Urgent intervention through coordinative healthcare delivery is necessary. Coordination should be facilitated, and could even be driven, by an IT-based health information system. This would not only improve the health of the population in Sri Lanka but could also be used as a model for other LMICs with similar challenges in detecting and managing NCDs.

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