

Mobile health applications during epidemic management in India: a review

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Abstract

INTRODUCTION: Smart cities endeavour to provide a good quality of life to its inhabitants. The COVID-19 pandemic necessitates redrawing the framework of epidemic management in India. Information, Communication & Technology (ICT) solutions such as mobile health (mHealth) can complement this.

OBJECTIVES: To review ICT and mHealth used for epidemic management in smart cities of India.

METHODS: A systematic review was conducted to identify the use of ICT or mHealth applications for epidemic management in smart cities. A predefined search strategy and a predefined eligibility criterion to search for articles published in English on Medline were used.

RESULTS: Our study showed ICT and mHealth use has increased during the recent COVID-19 pandemic in India and available solutions can be applied in smart city framework to improve epidemic management and achieve mHealth targets.

CONCLUSION: We conclude that there have been many advances in the provisions of ICT and mHealth interventions in India in context to smart cities and scope for improvements abound.

Keywords: ICT, mHealth, smart cities, epidemic, disease surveillance

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1. Introduction

Smart cities are conceptualized around the ideas that they would provide a good quality of life to its inhabitants using principles of equity, efficiency, and foresight. Several nations have developed policies to design smart cities. The smart cities are expected to have robust and flexible core infrastructure and incorporate technologies to this end. Innovations in the data sciences and technology have become the guiding principle in improving human health with changing urban landscape (Ramaswami *et al.*, 2016). These innovations have often been termed as *Smart Solutions* which include Smart Mobile phones (Smartphones), Smart applications (Apps) for these phones, etc. Under the Smart Cities Mission of

the Ministry of Urban Development, Government of India (MoUD), New Delhi Municipal Council (NDMC) has been selected as one of the first twenty cities (<http://smartcity.ndmc.gov.in/>). Many municipal services can now be availed simply through tapping on an app e.g. NDMC311 App or calling a number. Also dedicated websites are used to provide doorstep delivery of public services by the New Delhi government (<https://ar.delhigovt.nic.in/content/doorstep-delivery-public-services>) or provision of cash for elderly or immobile patients through India Post. (www.indiapost.gov.in) are a part of smart city project. Similar smart solutions include continuous and remote monitoring of the health status of the elderly (Majumder *et al.*, 2017). Smart solutions in healthcare can save both lives and money. The use of such smart health solutions would further transform a usual city into a smart city and

