

# Innovations in Healthcare and their Impact on Global Healthcare Industry

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**Abstract:** *We live in the information age and are progressing towards a time to be governed by technology. Innovations are an integral part of society as a whole and healthcare is not far behind in that domain. With the looming new diseases being discovered, regularly, it becomes important to invent new ways and technology to tackle such said diseases. When it comes to healthcare, innovation isn't only restricted toward tackling diseases, but also towards more developed forms, such as robotics, artificial intelligence and such. Geriatric populace is an all-time growth and WHO predicts that by the year 2050, 1 in every 5 people will be of the age of 60 or more. They suffer from various physiological and mental health issues. It is of extreme importance that healthcare service providers should focus on developing new techniques, keeping up with time, to tackle different health related issues among the elderly. Moreover, healthcare being an integral part of the globe, it still requires a large financial support from the governments which, unfortunately, is lacking in countries like India. In today's time, India spends around 1.2% of its total GDP on healthcare, as compared to 18.2% spent by the US. This paper focuses on the innovations that took place in the field of healthcare in the past 20 years and it takes a look on how it has affected the global healthcare industry as a whole, as well as the role of government expenditure in the domain of innovations in healthcare.*

**Keywords:** global healthcare, innovation, GDP, health innovations, artificial intelligence

## 1. Introduction

In India, the elderly record for 7% of the complete populace, of which 66% live in villages and almost 50% of them in poor conditions. With the decrease in fertility and mortality rates joined by an improvement in child survival and expanded life expectancy, a huge component of statistic change is the dynamic increment in the quantity of elderly people. Expanding life span and weak healthcare add to the level of inability among the elderly and intensify the issues of caregiving. In India, the life expectancy has consistently gone up from 32 years at the time of independence to more than 63 in the year 2001. The elderly experience changes in various parts of their lives (Lena, Ashok, et al., 2009). The physiological decrease in ageing alludes to the physical changes an individual encounters as a result of the decrease in the typical working of the body bringing about poor portability, vision, hearing, failure to eat and process sustenance legitimately, a decrease in memory, the powerlessness to control certain physiological capacities, and different ceaseless conditions. Ageing in India is exponentially expanding because of the noteworthy additions that society has made as far as expanded life expectancy. With the ascent in elderly populace, the interest for all encompassing consideration will, in general, develop. By 2025, the geriatric populace is expected to rise to 840 million in the creating nation. It is anticipated that the extent of Indians at the age of 60 and more established will ascend from 7.5% in 2010 to 11.1% in 2025. In 2010, India had more than 91.6 million elderlies and the quantity of elderly in India is anticipated to achieve 158.7 million by 2025. A geriatric populace puts an expanded weight on the assets of a nation and has raised worries at numerous dimensions for the administration in India. The geriatric populace is both medicinal and sociological issue. The elderly populace endures high rates of mortality and morbidity because of irresistible infections (Mane, 2016). On 29<sup>th</sup> September 2017, World Health Organization released a news release,

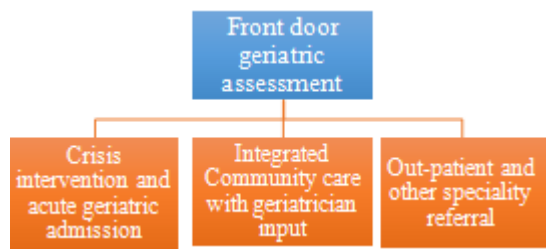
stating that health services around the world are not ready for the older populace and they keep leaving them behind. Dr Tedros Adhanom Ghebreyesus (Director-General of WHO) said that 1 in 5 people all around the world will be aged 60 or above, by the year 2050.

## 2. Background

In the UK, national reports found issues in providing care older surgical patients and has further suggested that some innovations should take place in the field (Partridge, Collingridge, et al., 2014). It was found that even though a huge number of people would like to avail these services, national funding for perioperative care has not been accepted, universally. Scott, Votova, et al. (2007) found that there are certain fall risk assessment tools that show moderate to good reliability and validity in almost all the health care services areas. They also found that, even though this is so, no one tool can be used or implemented in all settings. According to the UNFPA report (2017), Vayomithram is a successful programme, that comes under the Kerala Social Security Mission, which gives fitnesscare and health-related help to the aged in organization and municipal regions. Vayomithram began first in Kollam and Thiruvananthapuram districts at some stage in 2010–2011 and increased over time.

It provides drug treatments, which are cost-free, through mobile clinics and runs an assist table for the needy aged. Round-the-clock service desks operate at various districts, through which the aged can get an access to mobile hospital and counsellor's services. Besides those, eye camps, fitness camps and widespread welfare activities are conducted within the mission location for the elderly. Vayomithram additionally presents home care for the aged who're bedridden. Palliative care is a crucial thing of Vayomithram. In a research conducted by Witham, Roberts, et al. (2019), it was found that in order to provide better

health care services to the ever-growing elderly populace, it is essential that the academic geriatric medicine should grow.



**Figure 1:** A model of Interface Geriatric Pathway

Ismail, Fox, et al. (2014) researched about the working of the innovation – Interface Geriatric Pathway. They found that it avoids unnecessary admissions with their high cost and high risk. Effective innovation advancement requires an extraordinary exertion in interdisciplinary cooperation to incorporate advances into the current wellbeing and social administration frameworks with the plan to fit into the elderly's regular day to day existence (Pilotto, Boi and Petermans, 2018). Boustani, Alder, et al. (2019) suggested an innovative payment method for the elderly suffering from dementia. They pointed out that the current system doesn't support the biopsychosocial needs of the families of the patients suffering from dementia and they suggested one with the purview of their overall needs. Increasing expenses, be that as it may, are by all account not the only issue in giving health services to the elderly in the US. For instance, there aren't sufficient suppliers with explicit training in treating geriatric patients. Accordingly, The John A. Hartford Foundation (JAHF), the Donald W. Reynolds Foundation, and others have granted a huge number of dollars throughout the years to increment and improve restorative training in geriatrics (Healthaffairs.org, 2016). As per American Geriatrics Society projections, US needs somewhere in the range of 20,000 geriatricians now, and the present number is just 7,423 (Healthaffairs.org, 2016). Better instalment techniques that esteem geriatric consideration would improve the probability that students loaded with high measures of obligation would go into that field.

In the interim, a few officials have found a way to improve how medicinal services frameworks address the requirements of elderly Americans. Two congressional bills identified with more established individuals, for instance, were presented in summer 2016 with uncommon bipartisan support. One bill, to change over the Independence at Home Demonstration to a lasting national Medicare program, was presented by four US Senators: Michael Bennet (D-CO), John Cornyn (R-TX), Edward J. Markey (D-MA), and Rob Portman (R-OH). This "innovative, team-based model" for conveying essential consideration is bringing quantifiable, top notch care to patients experiencing various weakening sicknesses, for example, Alzheimer's and congestive heart failure, while bringing down expenses for the Medicare program. Amid the previous couple of decades, specialists have planned and tried new models of consideration to address the interesting needs of individuals with dementia and their guardians. Highlights of these models, for example, a group based way to deal with consideration; an

emphasis on the guardian, who might be a relative or an immediate caregiver—that is, an individual paid to give care; and the long haul the executives of side effects—are not actually connected inside the present structure of essential consideration. In this manner, new models of consideration require an update of the physical and social practice condition. The models additionally require a workforce arranged to furnish group based consideration to individuals with dementia crosswise over destinations of consideration, and such a workforce is accessible just in few specific clinical locales. At long last, the models run counter to money related motivating forces in the present social insurance conveyance framework. Elderly with dementia accumulate more noteworthy social insurance costs than those without dementia, and a great part of the consideration they get is in expensive settings, for example, nursing offices and clinics. Therefore, the Centers for Medicare and Medicaid Services (CMS), among different payers, looks to distinguish models of consideration that lessen the expense of consideration for individuals with dementia by staying away from consumptions related with pointless consideration or mind-boggling expense settings of consideration (Callahan, Sachs, et al., 2014). **Network Care Centers (KIOSKS):** Community care for the aged will develop out of cooperation of players of social, monetary and political administration from the grass root level yet with a close supervision and co-appointment at government level.

In Indian setting such endeavors will be facilitated at district, block, state and government levels. Network care focuses (kiosks), like ICDS focuses, set up at town/village level with co-appointment units at block levels (under Block Development Officers) and at region (under District Collector) levels (Salam, 2010).



**Figure 2:** KIOSK model

### Aim

The aim of this scientific literature review was to shine a light on the innovations that had taken place in regards with geriatric healthcare since 2007 and to emphasize the need of new innovations and modifications of the existing ones.

### Design

A scientific literature review was undertaken to investigate the innovations for the elderly healthcare domain, and their impact on the field of geriatric healthcare.

### Search Methods

Search terms identifying with evaluation of elderly care and innovations in the field of geriatric masses were trialed and

the accompanying inquiry terms were created: truncations "elderly OR geriatric" joined with "healthcare" (truncated) and "innovations" (truncated), utilizing the Boolean administrator "AND". A three-stage search was then attempted: (a) database search, (b) steady pursuit and (c) applying consideration and prohibition criteria to center the search.

### 3. Discussion

As was seen in multiple researches that the geriatric populace faces a variety of health – whether physiological or mental – issues and the elderly population is increasing at an alarming rate, it is of utmost importance that the healthcare service providers focus on the overall geriatric health. With the current health system, not focusing much on the elderly population, it shows that there is a need for innovation in that field. Certain researches do mention about innovations which are working towards the betterment of the geriatric population, for example, Callahan, Sachs, et al. (2014) and Ismail, Fox, et al. (2014), but even they require certain modifications, in order to keep up with the advent of new diseases and novel issues in the lives of the elderly.

### 4. Suggestions

It is suggested that proper revisions be done to certain innovative models, already implemented, and much more innovations, technologies, ideas need to be invented and implemented, globally, especially in the developing countries, which are going to see an exponential rise in the elderly population in the coming years (WHO, 2015).

### 5. Conclusion

It can be concluded that even though some healthcare providers focus on the overall health of the elderly, globally, a lot more work needs to be done in the field. The elder population is dependent on the working population financially, socially, and in terms of health. By tackling the domain of health, other dependencies can also be dealt with, indirectly.

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