A Study on Emerging Health Conditions Among the Elderly in India and the Sufficiency of Medical Framework and Health Insurance

N.V. Subramanyan

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Synopsis

Over the decades, the number of elderly in India has steadily increased. The percentage of the elderly to the total population recently has been declining but is masked by the increasing number of younger population members. However, the gradual shift from basically an agrarian economy to an industrialized economy, mainly one based on the information technology-focused sector, has had a telling effect. For instance, the prevalence of lifestyle diseases such as diabetes mellitus and cardiovascular diseases has been increasing tremendously. There is an alarming rise in the prevalence of diabetes, which has gone beyond an epidemic form to a pandemic one. The number of diabetic patients more than doubled from 19 million in 1995 to 40.9 million in 2007 and is projected to reach 69.9 million by 2025.[10] Similar is the Indian experience with hypertension patients and also the incidence of Alzheimer's disease and other forms of dementia, especially among the elderly. This spurt of diseases and the resultant morbidity is severely affecting the quality of life of the elderly. Further, a matter of grave concern is that since disease prevalence is also increasing rapidly among the younger section, the number of the elderly affected in the future is certain to be high, which should indicate the time and energy spent in addressing the situation must be increased immediately to have any chance of avoiding a catastrophe. The silver lining is that reputed research institutions such as the Centre for Cellular & Molecular Biology and also some defense institutions are conducting studies to work out ways to deal with and control the problem.

However, what compounds the difficulty at the grassroots level is that the medical and health care infrastructure in India is perhaps inadequate to meet the challenge because of the sheer magnitude of population. Ironically, even though the cost of medical treatment is low in India compared to developed countries, it is still beyond the reach of the common Indian as the health insurance industry is still developing. The absence of a social health care policy and health insurance setup makes the scenario scary. Without a doubt, India seems to be sitting on a major crisis that could have serious consequences at the economic, social and humanitarian levels.

The present paper is an attempt to study the situation; analyze and estimate, using actuarial tools, the effect on the economy with particular focus on the present and future elderly segment of the population; identify opportunities for the insurers to address the situation; and finally to suggest remedial measures to deal with the situation. Medico-actuarial studies in this area will also be covered.

Executive Summary

The six decades after Independence have been eventful for India, with all-around growth in economic terms, life expectancy and global recognition. And there has been a sea change in the social fabric too, especially on demographic terms, with the number of people older than 60 steadily increasing. However, the percentage of the elderly to the total population has been declining, which is masked by the increasing number of younger members. (Further details are given in the enclosed graph at the appendix.) The gradual shift from an agrarian base to an industrial economy has had a telling effect. Prevalence of lifestyle diseases such as diabetes and cardiovascular diseases have increased considerably with resultant morbidity severely affecting the quality of life. The inadequacy of health care infrastructure in India further compounds the problem and absence of a credible social health care policy and health insurance setup makes this a serious issue needing immediate attention.

The present paper is an attempt to study the situation, analyze and estimate the economic impact, and identify opportunities for insurers to address the situation.

Methodology of Research and Material Used

For the purpose of this paper, due reference has been made to the medical journals; websites of research institutions, insurers and regulators; census reports; and government departments as mentioned in the Citations and Bibliography section.

Wherever India-specific data was not available, especially on disease prevalence by age and sex, data from a limited number of relevant countries in the Indian subcontinent were extrapolated to the Indian case based upon United Nations' population estimates for 2000 and 2030. Urban and rural populations were considered separately wherever possible. Every effort is taken to stick to the synopsis and digressions, if any, are only to sustain the flow. All currency is mentioned in U.S. dollars (converted at: 1 USD = 40 INR) for ease of comparison.

Incidence of Lifestyle Diseases in India

As mentioned earlier, the incidence of lifestyle diseases has increased manifold in India over the decades, almost at more than a linear rate. Most notable has been the spiking of diabetes followed by the rise of cardiovascular diseases (CVD) among the total population in general and the elderly in particular. About 10 percent of Indian adults suffer from hypertension and 37 million have type 2 diabetes, and, with Indians being genetically predisposed to develop type 2 diabetes, this is projected to reach 57 million by 2025.[2] With an aging population and environmentally driven changes in behavior, non-communicable diseases (NCDs) such as CVDs, diabetes, cancer, stroke and chronic lung diseases have emerged as major public health problems. The number of deaths due to ischemic heart diseases is projected to increase from 2 million in 2010 to 3.2 million by 2020.[2] Premature morbidity and mortality in the most productive phase of life are posing serious challenges to the economy. It is estimated that in 2005, NCDs accounted for 5.5 million, or 53 percent of nearly 10.3 million, deaths in India.[1]

About 6 million Indians have coronary artery disease (CAD) and about 5 million have rheumatic heart disease (RHD) while approximately 0.2 million babies are born annually with some congenital cardiothoracic defects.[1] In the aging population, degenerative diseases of the aorta are also increasing and it is likely that the burden of CVD will increase. This paper details the impact of some of the major diseases such as diabetes and CVD.

Diabetes

The Situation Now

Worldwide, there are estimated to be 285 million diabetics corresponding to 6.4 percent of the adult population in 2010; this amount is expected to grow to 438 million by 2030, corresponding to 7.8 percent of the adult population.[1] Prevalence of diabetes is higher in men than women, but there are more women diabetics than men.[1] While global diabetic prevalence is 6.4 percent, it varies from 10.2 percent in the Western Pacific to 3.8 percent in the developing world, which is expected to experience the highest increase.[2] The World Health Organization (WHO) predicts that developing countries will bear the brunt in the 21st century with more than 70 percent of people with diabetes now living in low and middle income countries. India has the world's largest diabetic population, estimated at 50.8 million, followed by China with 43.2 million.[10] The largest age group currently affected by diabetes is 40- to 59-year-olds, and, by 2030, this is expected to move to 60- to 79-year-olds with 196 million cases.[1] Indications are that the diabetes epidemic will continue even with constant obesity levels. However, given increasing obesity prevalence, it is likely that future diabetic prevalence is somewhat underestimated.

Estimated Numbers Diabetics for 2000 and 2030 and Population Changes

	2000	2030	2000-2030			
Region	Number of Diabetics		% Rise in Diabetics	% Rise in Population	% Rise in Population > 65 Years	% Rise in Diabetics
India	31,705	79,441	150.56	40	168	101
China	20,757	42,321	103.89	16	168	115
Developed West	44,268	68,156	53.96	9	80	NA
World	171,228	366,212	113.87	37	134	61

Source: World Health Organization.

Diabetes is a major cause of premature illness, and death and noncommunicable diseases including diabetes account for 60 percent of all deaths.[2] In India, less than 50 percent of diabetics are diagnosed and, with those diagnosed also receiving inadequate treatment, complications and morbidity from diabetes rise exponentially.[4] However, 80 percent of type 2 diabetes is preventable by changing diet, increasing physical activity and improving the living environment.[4] Yet, without effective prevention,

diabetic incidence is likely to rise. Even though insulin's indispensable nature is recognized by its inclusion in WHO's Essential Medicines List, it is still unavailable uninterruptedly in many parts of India.[7]

In India, the number of diabetics is increasing due to population growth, aging, urbanization, increasing obesity prevalence and physical inactivity. Quantifying diabetic prevalence and the number of present and future diabetics is important to allow rational planning and budgeting.[1] The financial burden borne by diabetics depends on their economic status and social insurance policies. In India, diabetics or their families bear almost the whole cost of medical care.[4] Estimated expenditure on diabetes is $28 billion in 2010 and will rise to $61 billion in 2030.[5] An estimated average of $878 per person will be spent in 2010 on diabetes care in India.[4] WHO predicts net losses in national income from diabetes and CVD at $336.6 billion in India between 2005 and 2015.[6] WHO projects that deaths by diabetes and other NCDs will increase by 20 percent over the next decade.[7]

The first systematic nationwide study on diabetes in India was performed by the Indian Council of Medical Research (ICMR) task force on diabetes in 2006 using uniform methodology and sampling techniques performed at six centers. Population sampling in urban areas was based on stratified random design and in rural areas on cluster sampling. Those older than 14 were screened using a post 50g oral glucose load, and capillary blood glucose greater 9.4 mmol/L (greater than 170 mg/dL) was taken as diabetes.[10] In all, 34,194 subjects were screened and prevalence of diabetes was 2.1 percent in urban subjects and 1.5 percent in rural populations. There has been a veritable explosion in diabetes epidemiology studies in India in the past 20 years.[4] But, the studies suffer from major lacunae and there is significant variability in various methodological issues such as sample size, sample selection, case detection, responder/nonresponder status, age-standardization, diagnostic criteria, biochemical estimations, regression-dilution effects and reporting methods as well as multiple inherent limitations of cross-sectional epidemiological studies. Therefore, most studies cannot be taken as nationally representative. India has a population of more than 1 billion and to extrapolate results from nonrepresentative studies is scientifically inappropriate. However, despite these caveats, it is useful to examine these studies.

Initial studies among urban subjects in Delhi reported on known diabetes and compared this with the diabetes prevalence in Southall, London. Diabetes was more prevalent among Indians living in Delhi and Southall compared to British whites.[7] Other studies from urban, semi-urban and specific regions of India have confirmed the high prevalence of diabetes among various populations although the prevalence rates are widely different.

In large cities, diabetes prevalence among adults (20 or older) has ranged from 8 to 15 percent. A study from Kashmir in adults older than 40 reported a low prevalence of 4.25 percent. A nationwide study of more than 21,000 subjects from big and small cities in India reported a lower prevalence of diabetes as compared to large cities. In the late 1990s, Ramachandran et al. and Mohan et al. reported a high prevalence of diabetes (11 to 12 percent) in Chennai, while Asha Bai et al. reported a lower prevalence of known diabetes (4.9 percent) as well as overall diabetes (7.6 percent) from different parts of the same city. Variable prevalence rates in different urban populations in India are expected as there is a large variation in CVD risk factor prevalence as well as CVD mortality in different Indian urban regions.[10]

There are few epidemiological studies in semi-urban India and many in rural populations. In earlier years, there was a very low prevalence of diabetes in rural populations. However, two recent studies, from Maharashtra and Andhra Pradesh, report very high prevalence rates similar to those in urban Indian populations. Interestingly, a significant correlation of body mass index with diabetes has been observed in these studies. It has been hypothesized that although there is a significant increase in diabetes as populations move from rural to semi-urban to urban and cosmopolitan habitats, a reverse migration of culture may already be taking place in Indian rural populations. Earlier rural-urban disparities in diabetes could be due to a low prevalence of overweight and obesity in rural subjects compared to urban subjects.

Serial cross-sectional epidemiological studies on diabetes to demonstrate secular changes have been rare in India. From Chennai, a significant increase in type 2 diabetes prevalence among adults has been reported. Using similar diagnostic criteria such as known diabetes and/or fasting and post-glucose load hyperglycemia, the age-adjusted diabetes prevalence among adults in urban Chennai increased from 8.3 percent in 1988-89, to 11.6 percent in 1994-95, 13.5 percent in 2000 and 14.3 percent in 2003-04.[10] Similar increase was observed in prevalence of impaired glucose tolerance from 8.3 percent to 9.1 percent, 16.8 percent and 10.2 percent respectively.[10] Increase in diabetes prevalence has also been reported from rural Tamilnadu. Serial studies from Jaipur using slightly different criteria such as known diabetes and fasting hyperglycemia have also reported increasing diabetes among urban subjects.

Analyzing secular trends reveals a steep increase in urban populations (exponential trend R2= 0.744) while among rural population increase is slower (R2= 0.289).[10] Although prevalence is relatively low in rural populations, there is evidence of a high burden of impaired glucose tolerance.

Trends in Diabetes Research

Due to the increasing disease burden, there is active research in India and the insulin and oral anti-diabetic (OAD) drug segments are seeing robust growth. The emphasis is now on novel agents.

The global insulin market, currently estimated at $14.5 billion, is growing at a compound annual rate of 14 percent and is expected to touch $24.5 billion by 2030.[7] Sixty percent of insulin now is available in injectable form, which has inherent disadvantages such as pain, itching, allergy and insulin lipodystrophy, causing atrophy of fats. Further research has shown that even with injectable insulin treatments, a significant percentage of patients fail to attain lasting gylcemic control. So, research is focused on introducing devices with innovative technology aimed at varied administration such as inhalable insulin, topical patches, buccal spray and nasal/intranasal spray formulations. Of these, the capsule formulation is a result of indigenous research in India.

Candidate	Trial Phase	Formulation	Technology	Company
Alveair	Phase I-II	Inhaler formulation	Polymer/bio-adhesive drug-delivery platform	Coremed Inc.
Oral-lyn	Phase III and commercially launched in some countries	Buccal spray	RapidMist delivery technology	Generex Biotechnology
IN-105	Phase I-II	Capsule formulation	Conjugated insulin molecule	Biocon Ltd.
Undisclosed	Preclinical phase: animal trials	Capsule formulation	biodegradable novel polymeric nanoparticles	Transgene Biotek Ltd.
Technosphere	Phase III	Inhaler formulation, inhalant micro particle formulation	CPE-215 Permeation enhancement technology	MannKind Corp.
U-Strip	Preclinical phase: animal trials	Insulin patch	U-Strip patch technology	Encapsulation Systems Inc.
Nasulin	Phase II	intranasal insulin spray		Bentley Pharmaceuticals

Note: Phase I study is designed to determine the metabolic and pharmacological actions of the drug on humans, the safety associated with increasing doses and evidence on efficacy. The total number of subjects included is in the range of 50 to 100. Phase II is carried out to evaluate efficacy and short-term safety in select populations, involving several hundred people, to establish the optimal dosage and dose range for the drug. Phase III studies are conducted with several hundred to several thousand people to confirm efficacy of the study drug and establish its safety profile.

Cardiovascular Diseases

Indians, as compared to the rest of the world, have a greater prevalence at younger ages of CVD as well as coronary conditions characterized by smaller coronary arteries, diffuse distal disease and multi-vessel disease, with a higher incidence in women.[2] Further, the prevalence of metabolic syndrome, characterized by increased weight, low high-density lipoprotein, high triglycerides, high fasting blood sugar and hypertension, is markedly higher in India than the rest of the world. According to recent estimates, the cases of CVD may increase from about 29 million in 2000 to as many as 64 million in 2015.[4] Deaths from CVD will also more than double and most of this increase will occur on account of coronary and inflammatory heart diseases. Data also suggest that although the prevalence rates of CVD in rural populations will remain lower than that of urban populations, they will continue to increase, reaching around 13.5 percent of the rural population of 60- to 69-year-olds by 2015.[4] The prevalence rates among adults 40 and above are also likely to increase. Prevalence rates among women will keep pace with those of men across all age groups. With such an incidence of CVD, which is expected to increase in the future, aggressive treatment is the need of the hour. Prime statistics of the CVD situation in India is given in the tables below.

Prevalence Percent of CVD in India

Year	Area	20-29 years		30-39 years		40-49 years		50-59 years		60-69 years	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
2010	Urban	7.92	7.67	8.54	8.84	10.06	14.22	13.23	13.95	21.25	21
	Rural	1.8	1.3	4.45	2.9	3.94	8.23	5.22	13.38	12.28	12.37
2015	Urban	9.3	8.98	9.73	10.18	11.01	16.19	13.77	15.28	22.99	22.87
	Rural	1.8	1.3	5.13	2.9	4.32	9.08	5.5	14.89	13.31	13.71
2020	Urban	11.47	11.04	11.64	12.31	12.65	19.35	15.05	17.57	26.12	26.15
	Rural	1.98	1.43	6.51	3.19	5.21	11.02	6.37	18.23	15.87	16.71
2025	Urban	14.85	14.25	14.62	15.63	15.26	24.28	17.27	21.21	31.16	31.4
	Rural	2.4	1.73	9.09	3.86	6.91	14.71	8.12	24.55	20.81	22.4

Estimated Mortality Due to CVD in India

Year	20-29 years	30-39 years	40-49 years	50-59 years	60-69 years
2010	332687	363820	438981	512452	2250378
2015	419680	498062	572402	780488	2946268
2020	555891	715928	783693	1248155	4050217
2025	787852	1101131	1148086	2135771	5957556

Metabolic Syndrome

Increased WC	28.40%
Low HDL	28.50%
High TG	46.80%
Increased FBS	12.70%
Hypertension	45.80%

Source: Ministry of Health, India.

Geriatric Health in India

The Situation Now

India is in a phase of demographic transition. According to the 2001 census, the population of elderly was 76 million as compared with 20 million in 1951, and is projected to reach 324 million by 2050.[7] This transition is attributed to decreasing fertility due to the availability of family planning interventions and decreasing mortality rates due to better health care. However since the reduction in mortality is greater than the decrease in fertility, overall population is increasing and the elderly segment is expected to increase significantly in the future.[8] There is a sharp decline in the death rate from 28.5 in 1961 to 7.8 in 2001, while the birth rate for the same time period fell from 47.3 to 21.9.[8] Over the past decades, India's health program and policies have been focusing on issues such as population stabilization, maternal and child health, and disease control. However, current statistics for the elderly in India gives a prelude to a new set of medical, social and economic problems that could arise if a timely initiative in this direction is not taken by the program managers and policy makers. There is a need to highlight the medical and socio-economic problems being faced by the elderly of India and strategies for bringing about an improvement in their quality of life also need to be explored.

Socio-Demographic Profile of Elderly

Almost 75 percent of the elderly live in rural areas, of which 48.2 percent are women out of whom 55 percent are widows.[8] Seventy-three percent of the elderly are illiterate depending on physical labor. One-third was reported to be living below the poverty line, i.e., 66 percent of older people are vulnerable without adequate food, clothing or shelter.[8] Ninety percent of the elderly were from the unorganized sector with no regular income.[8] The number of centenarians in India is about 0.2 million, and India is one of the few countries in the world where the sex ratio of the elderly favors males.[1] This could be attributed to various reasons such as under-reporting of females, especially widows, and higher female mortality in different age groups.

Medical and Socio-Economic Problems Faced by Elderly

In India, the elderly suffer from dual medical problems, both communicable as well as non-communicable diseases further compounded by impairment of special sensory functions such as vision and hearing. Prevalence of tuberculosis is higher among the elderly than younger individuals.[4]

Among those older than 60, 10 percent suffer from impaired physical mobility and 10 percent are hospitalized at any given time, with both numbers increasing with age.[8] Among those older than 70, more than 50 percent suffer from chronic conditions including hypertension, CVD and cancer.[8] According to government statistics, CVD accounts for one-third of elderly mortality, respiratory disorders account for 10 percent of mortality while infections including tuberculosis account for another 10 percent.[8] Neoplasm accounts for 6 percent, and accidents, poisoning and violence constitute less than 4 percent of elderly mortality with more or less similar rates for nutritional, metabolic, gastrointestinal and genito-urinary infections.[4] An ICMR report on the chronic morbidity profile in the elderly states that hearing impairment is the most common morbidity followed by visual impairment.[10] Elderly people who belong to middle and higher income groups are prone to develop obesity and its related complications due to a sedentary lifestyle and decreased physical activity. Rapid urbanization has led to a breakdown in family values and the framework of family support, economic insecurity, social isolation and abuse of the elderly leading to a host of psychological illnesses. In addition, widows are prone to face social stigma and ostracism. The socio-economic problems of the elderly are aggravated by factors such as lack of social security and inadequate facilities for health care and rehabilitation. Also, in India like most of the developing countries, pension and social security is restricted to those who have worked in the public sector or the organized sector of industry.

The central and state governments have already made efforts to tackle the problem of economic insecurity by launching policies such as the National Policy on Older Persons, National Old Age Pension Program and Annapurna Program. However, the benefits of these programs have been questioned several times in terms of the meager budget, improper identification of beneficiaries, lengthy procedures and irregular payment.[7]

The Implications

Economic

There are serious problems associated with the increased elderly population as well as the increased incidence of medical conditions among them. The chief problem is probably the loss of available capital and also the loss of the workforce due to the need of taking care of the elderly. Given the extremely difficult fiscal position of the state governments, the central government will play a key role in augmenting public health investments. Due to the gap in health care facilities, the government plans to increase health sector expenditure to 6 percent of gross domestic product, with 2 percent of GDP contributed as public health investment by the year 2010.[3] The government needs to increase the commitment to the health sector to 8 percent of the annual budget. Provisioning higher public health investments is also contingent upon an increase in the absorptive capacity of the public health administration to utilize funds gainfully. To reduce inequities and imbalances, the most cost-effective method would be to increase the sectoral outlay in the primary health sector. Such outlets afford access to a vast number of individuals and also facilitate preventive and early stage curative initiatives, which are cost effective.

Social

The social implications are just too many to be ignored and their impact is far reaching. The feeling shared by a majority of people in India is that they are currently doing too little to actively prepare for a comfortable retirement. India, like most countries, is facing the challenge of an aging population. In 2050, the number of dependent adults in India will equal the number of dependent children for the first time.[3] This crossover arrives much later when compared with mature countries and, indeed, other emerging economies, giving India more time to plan. The elderly form a treasure house of knowledge and are a big support to the family system. In a way, they form the bridge between the past and future generations.

In looking at the future of the elderly, the World Bank has established a model with three pillars of provision: the state, occupational and the individual[11]—each pillar has a differing level of importance within a country, but together these pillars encompass a country's total pension provision. In India, a traditional reliance on social provision (Pillar 1) has made the state the main provider. In recent times, the government has sought to develop personal provision (Pillar 3) and the findings reveal that Indians have embraced the need to save for themselves. However, as with other societies with a youthful population profile—the average age in India is just 26—people are more likely to see saving for their children (35 percent) as more important than saving for their retirement (12 percent).[8] As society ages, individuals will be faced with greater financial risks. What is more, the complexity of these risks to health, working life, family life and incomes will become ever greater. Each life event presents new financial challenges. As the state and employers begin to draw back on their pension commitments, it will be for the individual to take action in addressing these challenges. Simply working longer is seen by both individuals and governments as one solution. Indians are as likely to view working longer as a solution to funding their retirement compared with saving more through tax incentivized products: 23 percent supported working longer while 21 percent supported encouragement to save through further tax relief on savings.[9] However, the most popular approach was for the government to increase taxes so as to boost state provision. This preference may reflect the fact that people in India already consider their savings rates to be sufficient. Additionally, as previous reports have shown, people living in countries that historically have not provided wide coverage within the pensions system, tend to accept that they will simply have to keep working to provide for themselves.

Some of the implications coming out of the present scenario are:

1. Raise taxes to pay for better state pensions/social security;
2. Increase retirement age and support people to working longer;
3. Encourage more private savings through tax relief on savings;
4. Encourage more private savings through automatically opting people into workplace schemes; and
5. Mandate compulsory employee pension contributions.

In spite of the relatively low coverage of the pension system, and relatively fewer people seeing saving for retirement as a priority, Indians have a strong feeling of preparedness.[9] Nevertheless, even here over half of people felt unprepared to some degree. Furthermore, the findings reveal that 58 percent of people do not know what their retirement income will look like.[9] The feeling of being unprepared is also driven in part by people's lack of understanding about their long-term finances.

Humanitarian

How can the society face the challenge? The components of the old age care strategy could be an iterative process of policy and strategy formulation; focus on primary health care; age-friendly health systems; strong participation of the older population in society; development of human resources for quality health care; creation and maintenance of multidisciplinary networks to facilitate care of the elderly; research, surveys and studies for the establishment of a database for evidence-based care; and raised awareness of the population to active aging. There are humanitarian and charity organizations in India such as HelpAge India and Age Ventures India that take care of the elderly population.

Study of the Current Health Care and Health Insurance Industries in India

Private and Government Bodies

The magnitude of health care expenditure in India for the year 2008-09 was about 5.9 percent of GDP at current market prices.[1] More than three-fourths of all health spending is private spending and 70 percent of that is from households. It is a matter of concern that less than 15 percent of people in India have some form of health insurance coverage.[5] More than 40 percent of the people hospitalized have had to borrow money or sell assets to cover expenses as a result of which a quarter of those hospitalized fall below the poverty line because of high costs, so much so that medical care is one of the three main causes of impoverishment in the country.[4] Recent research indicates that a large share of consumption expenditure is on health at 13 percent in rural and 10 percent in urban areas.[7]

Health insurance has become the fastest growing segment in the non-life insurance industry in India over the past few years. Commercial health insurance purchased from insurance companies constituted only 0.7 percent of this expenditure in 2001-02 and barely covered 1 percent of the population.[5] By the end of 2008-09, health insurance premiums had grown about ten-fold from a level of $169 million in 2001-02. Health insurance grew 60 percent during 2007-08 to command a market in non-life insurance companies of over $1.275 billion as against $800 million in 2006-07.[5] The annual growth rate of almost 53 percent is experienced in this segment and health insurance has emerged as an increasingly significant line of business for life insurance companies. All the large life insurance companies now have products in the health insurance area, the most conspicuous ones having been launched in the past 12 months.[5] The statistics are summarized below.

$ Millions	**2008-2009**	**2007-2008**	**Growth**
Non Life Insurers (excluding standalone health insurers)	3106.84	2242.63	39%
Standalone health insurers	247.49	44.58	455%
Total	**3354.33**	**2287.21**	**47%**

Source: Insurance Regulatory & Development Authority website.

Further, there is increasing awareness of health insurance, especially in the formal sector and the employed groups. Steeply increasing health care costs have increased the need for health insurance. In some areas, government schemes have also become popular in terms of premiums and lives covered. Detariffing of the general insurance industry, giving freedom to insurers to decide premiums chargeable as against the premiums fixed by the state's Tariff Advisory Committee earlier, has increased emphasis and efforts by insurance companies toward health insurance and other personal lines of business. However, rationalization of premium rates, in line with morbidity experience as opposed to the artificial subsidy incorporated earlier through tariffs, has led to the trend of upward revision in respect to group health policies.

Reach and People Covered

As compared to earlier days, there has been improvement in health insurance coverage. However, overall there still is low coverage for risk protection against major health-related expenditure in India. Insurance and other organized forms of payment for health services including Employees' State Insurance Scheme (ESIS), Central Government Health Scheme (CGHS) and other such plans presently cover less than 15 percent of all people in the country.[3] The membership is about 47 million under ESIS, 4 million under CGHS, and a little above 100 million under government-sponsored, group and individual commercial health insurance, plus coverage under schemes of defense, railways and public sector undertakings (PSUs)—especially steel and coal.[3] From a figure of 25 million people in 2006-07, the present figures rose sharply, largely on account of large-scale government-sponsored health insurance programs, prominent being the Rajiv Aarogyasri scheme in Andhra Pradesh, which covers 18 million households, and the centrally sponsored Rashtriya Swasthya Bima Yojana (RSBY), which covers more than 1 million households corresponding to over 3 million people enrolled as of December 2008.[3] However, insurance currently pays less than one-tenth of all hospitalization expenditure in India.[5]

Trends in Product Variety

In India, health insurance was first introduced in 1986 by non-life insurers as a standardized annual indemnity product, Mediclaim, with an annual limit of indemnity chosen by the insured beforehand,

and the premiums being largely based on the annual limit chosen and the age of the prospect. The product variety available has increased substantially, though the indemnity-based annual contract continues to be the form that predominates. Though the availability of health insurance was limited for those older than 60 until recently, now it is being offered to ages up to 80 and, in some cases, for life, which is a welcome development. However, increased emphasis on consumer understanding of product scope and options is required. Products now available include:

- Individual and group floater indemnity products;
- Critical illness indemnity and benefit products;
- Hospitalization benefit and surgical benefit products;
- Hospitalization daily cash benefit products;
- High deductible and top-up covers;
- Micro health insurance products;
- Overseas travel and international comprehensive coverage products;
- Disease management products;
- Specific disease products, such as for cancer, AIDS or diabetes;
- Products for different age groups, such as senior citizens or children;
- Dental insurance;
- Products with outpatient coverage in some form; and
- Linked and unlinked health savings products.

Regulatory Initiatives for Health Insurance

The Insurance Regulatory & Development Authority (IRDA), the regulator for insurance in India, set up a national health insurance working group in 2003, which has subgroups on data, standalone health insurers and product innovation. Efforts are also being made to create the health data repository. Along with the industry level institutions, it has taken up development of acceptable and reasonable standards of care for common causes of hospitalization as well as taking initiatives on renewability of health insurance policies and health insurance for senior citizens.

Challenges and the Road Ahead

The following are the challenges needing immediate attention.

1. Health system issues
    a. Health care costs
    b. Regulation of providers
    c. Accreditation/grading/quality issues
2. Consumer awareness and empowerment
    a. Decrypting the jargon
    b. Product innovation to match consumer needs
    c. Simplification and standardization of key terms
    d. Process efficiencies
    e. Performance benchmarks for operations and service
    f. Transparency and best practices
    g. Leveraging technology
3. Minimizing moral hazard in the system
4. Increasing reach, access and affordability

Trends for the Near Future

The growth trajectory is likely to continue, and health insurance will be an increasingly important mode of payment for hospital services. But there is a need for product, delivery and distribution innovations as well as increased specialization and professionalization in the system to ensure quality,

standards and cost optimization. There is also a need for providers contributing to sharing risk, that is provider payment mechanisms and new dimensions of provider networks. The need for more comprehensive products to overcome limitations due to health system issues is there as well as the need to bring in savings to linked, differentiated and multitiered products.

Institutions in the Unorganized Sector

There are few institutions in the unorganized sector in India to take care of the issue of the health conditions of the elderly. Examples of such organizations are HelpAge India and Age Ventures India, which take care chiefly of the following:[3]

- Independent living (where physically fit elders can live without worries of housekeeping, cooking and other domestic duties);
- Assisted living (where elders need assistance with activities of daily living/personal care services such as meals, housekeeping, transportation, dressing, toileting and medicating);
- Nursing care facilities (where mostly seniors who have significant health care issues and require a great deal of care and supervision will move in); and
- Short-stay facility for those requiring rehabilitation post surgery, caretakers on vacation or children visiting them from outside.

Other Indigenous and Holistic Systems Specific to India

There are indigenous organizations in India that take care of the elderly and the majority of these are religious in nature. However, these are mostly unregulated.

Remedial Measures

Various remedial measures are being taken in India to counter the situation and to be prepared for the likely state of affairs. Details of a few of these steps are given below.

By Government

Increased human life span, as witnessed in the preceding decades, has not been accompanied by a corresponding increased quality of life for the majority of older Indians. Of the many determinants of the quality of life, such as financial security, emotional security, and health and well-being, the last one occupies the prime position, as all other issues become irrelevant in poor health. Research in social gerontology and geriatrics in India in past decades have provided insight into various aspects of the status of older people. A large volume of authentic data on demographic trends, impact of changes in the family structure and migration, physical and behavioral status, organization and dynamics of health systems exist in Indian literature. However, very little effort has been made to develop a model of health and social care in tune with the changing need and time. As no concrete model for older people's health care exists in India, it may be a challenge as well as an opportunity for innovation in health system development.

This is a major challenge because:

- No clear policy or strategy for development of health care of older people exists;
- There are differences in opinion whether there is a need for such segregation;
- There is a dilemma about the most effective way of satisfying the health needs of the elderly; and
- There is uncertainty regarding knowledge and skills required in the curriculum of health professionals.

To address these issues, the Indian government formulated the National Health Policy (NHP) in 1983, built up a vast health infrastructure and initiated several national health programs in government,

voluntary and private sectors under the guidance and direction of various committees, including the Constitution, Planning Commission and Central Council of Health and Family Welfare, and consultative committees attached to the Ministry of Health and Family Welfare. The period after 1983 witnessed several major developments in the policies impacting the health sector: adoption of the NHP in 1983, 73rd and 74th constitutional amendments in 1992, the National Nutrition Policy in 1993, the NHP in 2002, the National Policy on Indian System of Medicine and Homeopathy in 2002, the Drug Policy in 2002 and introduction of universal health insurance schemes for the poor in 2003. The major policy prescriptions are as follows:[3&4]

- Increase public expenditure from 0.9 percent to 2 percent by 2010;
- Increase allocation of public health investment in the order of 55 percent for the primary health sector, 35 percent and 10 percent to secondary and tertiary sectors respectively;
- Convergence of all health programs, except the ones (such as for tuberculosis, malaria, HIV/AIDS, reproductive and child health care) that need to be continued until moderate levels of prevalence are reached;
- Need to levy user charges for certain secondary and tertiary public health services, for those who can afford to pay;
- Mandatory two-year rural posting before awarding the graduate a medical degree;
- Decentralizing the implementation of health programs to local self-governing bodies by 2005;
- Setting up of a medical grants commission for funding new government medical and dental colleges; and
- Promoting public health discipline.

Further government institutions such as the Centre for Cellular & Molecular Biology and some defense institutions are conducting research to control the problem. For instance, the development of insulin in inhalable and capsule form has been a great achievement in India. The government has systematically nurtured the private health sector. There are approximately 1.13 million doctors in India of which about 1 million are in the private sector.[4] The government offers subsidies, loans, tax waivers and other benefits for the setting up of private practice and hospitals.

At the Society Level

The strategies employed by government must reflect important local differences. In India, greater priority is placed on parents saving for their children as they seek to help the next generation up the social ladder. Put simply, societies with young age profiles must first deal with issues of youth dependency, such as ensuring access to well-funded education systems, before they turn their attention to dealing with elderly dependency. Over time, as the large generations of children enter working age, the society is likely to turn their attention toward saving for old age. The latest study reveals the importance of family as a source of educating the individual about financial matters, which is supported by several studies that show how the financial behavior and attitudes of parents shape their children's financial behavior in later life. It is imperative that more is done to improve financial education within the family.

Insurance and the Financial Institutions

Alongside long-term strategies to raise standards of financial education, there needs to be more attention paid to advising people in the short and medium term. When looking at how people intend to survive the current economic downturn, it is clear many people will turn to others for advice and guidance. Indian culture traditionally emphasizes a philosophy of building personal financial security, placing particular importance on the well-being of one's family. Indians want "well-designed" health insurance plans with reasonably comprehensive coverage without unnecessary gaps.[9]

Studies show that people trust their banks or insurers as a popular primary source of advice with as many as one in four people going this route. The single biggest factor affecting this choice is the extent to which the source of advice is trusted.[6] However, issues such as affordability and accessibility also matter to consumers when searching for professional sources of guidance.[5] Alongside trust, the fact that people choose banks over other sources may be reflective of perceptions about household needs during the current economic climate. The report explores later how many families are looking to use short-term savings to pay off debts and bills, while others are looking to build short-term savings to help smooth any variations in household income during the downturn. Perhaps naturally, people will see savings

institutions as a starting point for advice. However, the fact that families do not yet appear to see insurance as part of the solution suggests that bank advisors could have a major opportunity in the coming years to use their trusted status in helping to broaden their clients' "survival" strategies. Other moves from the insurers that could help the Indian case are:[5]

- Financial incentives. India may consider proposing enhanced tax treatment of insurance costs for individuals. Another path not currently present in India is structuring financing alternatives such as medical savings accounts, which combine higher-deductible insurance coverage with money set aside in tax-favored accounts for future health costs.
- Competitively priced products. To make prudent purchases, consumers should be able to choose among hospitals and other health care providers along with coverage scope and insurers. Not every family situation is the same nor does every person need the same coverage. Likewise, providing for out-patient services encourages smarter buying and fairly priced products will ensure accessibility to the greatest number of people.
- Understandable information. Educating consumers about health insurance will be important. Beyond awareness of insurance coverage, information on diseases, treatment cost and options, and their quality must be available for consumers to make choices.
- Employer-sponsored programs. Health insurance through employer-sponsored programs is likely to improve access to insurance. Employers would have to be motivated.

Insurers must ensure health insurance provides sufficient protection to make it attractive and care must be taken to design coverage that sufficiently involves the consumer in the cost of care, so that individuals are encouraged to behave in a cost-conscious way. A health insurance policy that provides 100 percent coverage for all services removes the patient entirely from the economic consequences of his course or place of treatment. The patient, then, has no incentive to pursue cost-effective treatment options. Defining the "best-case" scenario for the Indian health insurance marketplace is a matter of opinion, but we can suggest that more coverage at more competitive rates comes very close to fitting that definition.

By Individuals: Planning to be Ready for a Healthy Older Age

Not surprisingly, notions of old age are already changing. The old “cliff edge” of retirement in which people stopped working overnight is being replaced by more of a transition. More people wish to remain active for longer, whether it be remaining in their occupation or undertaking voluntary work.[10] One of the biggest challenges faced is the widespread lack of awareness of the increasing risks people face, which translates into a lack of action. There is a gap between men and women with the latter having a lower level of understanding. From this low level of understanding, we find there to be a major preparedness gap as families fail to meet these challenges head on. These challenges have been exacerbated by the economic downturn creating a “perfect storm” combining a retreat in employer and government pensions, falling pension fund values as a result of falling equity values leading to shortfalls in people’s retirement plans, and more people choosing to reduce or put off pension contributions.

Conclusion

The development of an aging population coupled with inadequate health care and insufficient penetration of health insurance is indeed a problem of great magnitude faced by India. Steps are being taken to counter this problem, but their comprehensiveness is debatable. Over the years, the government has launched various schemes and policies to promote the health, well-being and independence of senior citizens. For example, the government came out with the National Policy for Older Persons in 1999 to promote the health and welfare of senior citizens and to encourage individuals to make provision for their own as well as their spouse's old age. It also strives to encourage families to take care of their older family members. The policy enables and supports voluntary and nongovernmental organizations to supplement the care provided by the family and provide care and protection to vulnerable elderly people. Health care, research, creation of awareness and training facilities to geriatric caregivers have also been enumerated under this policy, which resulted in the launch of new schemes such as:

1. Strengthening of the primary health care system to enable it to meet the health care needs of older people;
2. Training and orientation for medical/paramedical personnel in the health care of elderly;
3. Promotion of the concept of healthy aging;
4. Assistance to societies for production and distribution of material on geriatric care;
5. Provision of separate queues and the reservation of beds for elderly patients in hospitals; and
6. Extended coverage under the Antyodaya Scheme with emphasis on provision of food at subsidized rates for the benefit of older people, especially the destitute and marginalized sections.

The Integrated Program for Older Persons is a plan that provides financial assistance of up to 90 percent of the projected cost to nongovernmental organizations (NGOs) effective March 31, 2007.[10] This money is used to establish and maintain old age homes, day care centers and mobile Medicare units, and to provide noninstitutional services to the elderly. The plan also works toward other needs of older people,

such as reinforcing and strengthening the family, generation of awareness on related issues and facilitating productive aging.

Another program is the Scheme of Assistance to Panchayati Raj Institutions, voluntary organizations and self-help groups for construction of old age homes and multi-service centers for older people through a one-time construction grant. CGHS provides pensioners of central government offices the facility to obtain medicines for chronic ailments for up to three months. The National Mental Health Program focuses on the needs of senior citizens with Alzheimer's or Parkinson's diseases, depression and psycho geriatric disorders.

The National Housing Bank has introduced a reverse mortgage plan under which senior citizens owning a house can avail of a monthly stream of income against mortgage of the house. The senior citizen remains the owner and occupies the house throughout his or her lifetime, without repayment or servicing of the loan. An exclusive health insurance scheme for senior citizens is now offered by nationalized insurers. The Maintenance of Parents and Senior Citizens Bill of 2007 has been recently introduced in parliament. It provides for the maintenance of parents, establishment of old homes, provision of medical care, and protection of life and property of senior citizens. These new developments for senior citizens are meant to get them on the path to a better, peaceful and financially sound life.

However, despite all these steps, a lot still needs to be done to ensure that the future of the elderly is taken care of. As existing social security and overall preparedness is low, much depends on these steps and efficient implementation. More funding needs to be provided by the state, financial literacy of the public needs to be improved and more private participation encouraged. Further, foreign countries experience and expertise might help, but care should be taken to see that the society and economy could absorb the changes. New opportunities are many and major players such as AIG, ING and Allianz are waiting to enter the pension and health care market. As India is cautious in accepting foreign players and expertise in sensitive areas, it would have the challenge of gaining acceptance and

building a mutually beneficial relationship. It is safe to conclude that while there is a road map, it is the execution and diligence that shall decide success.

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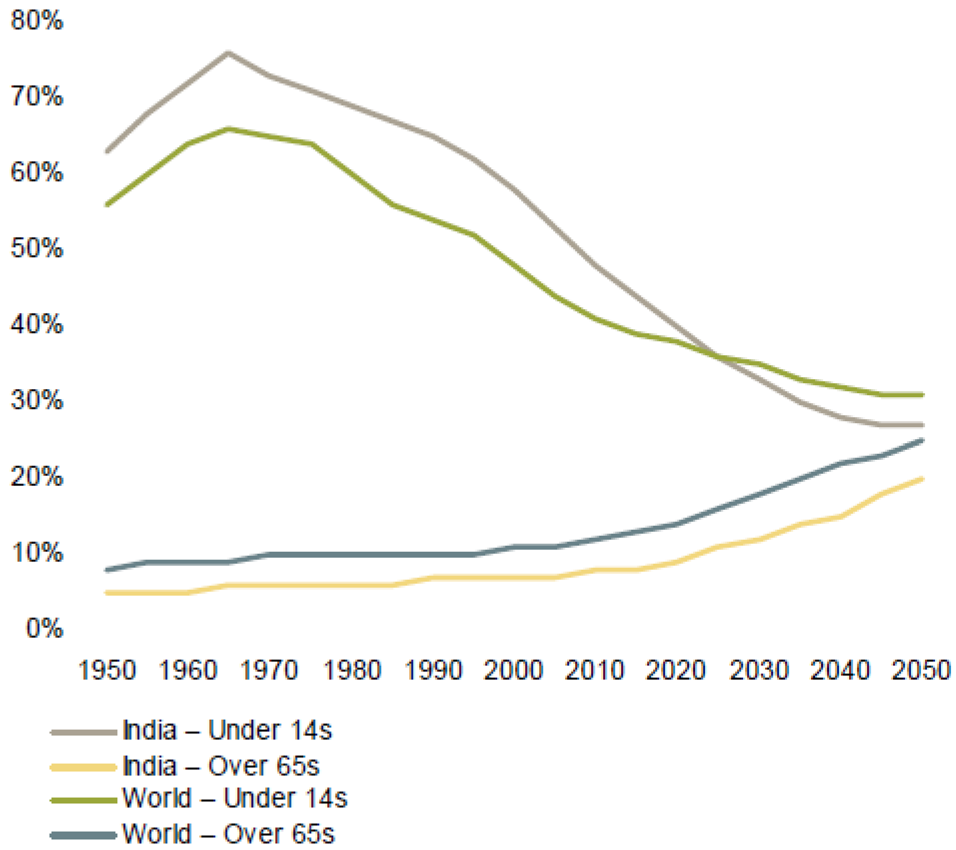
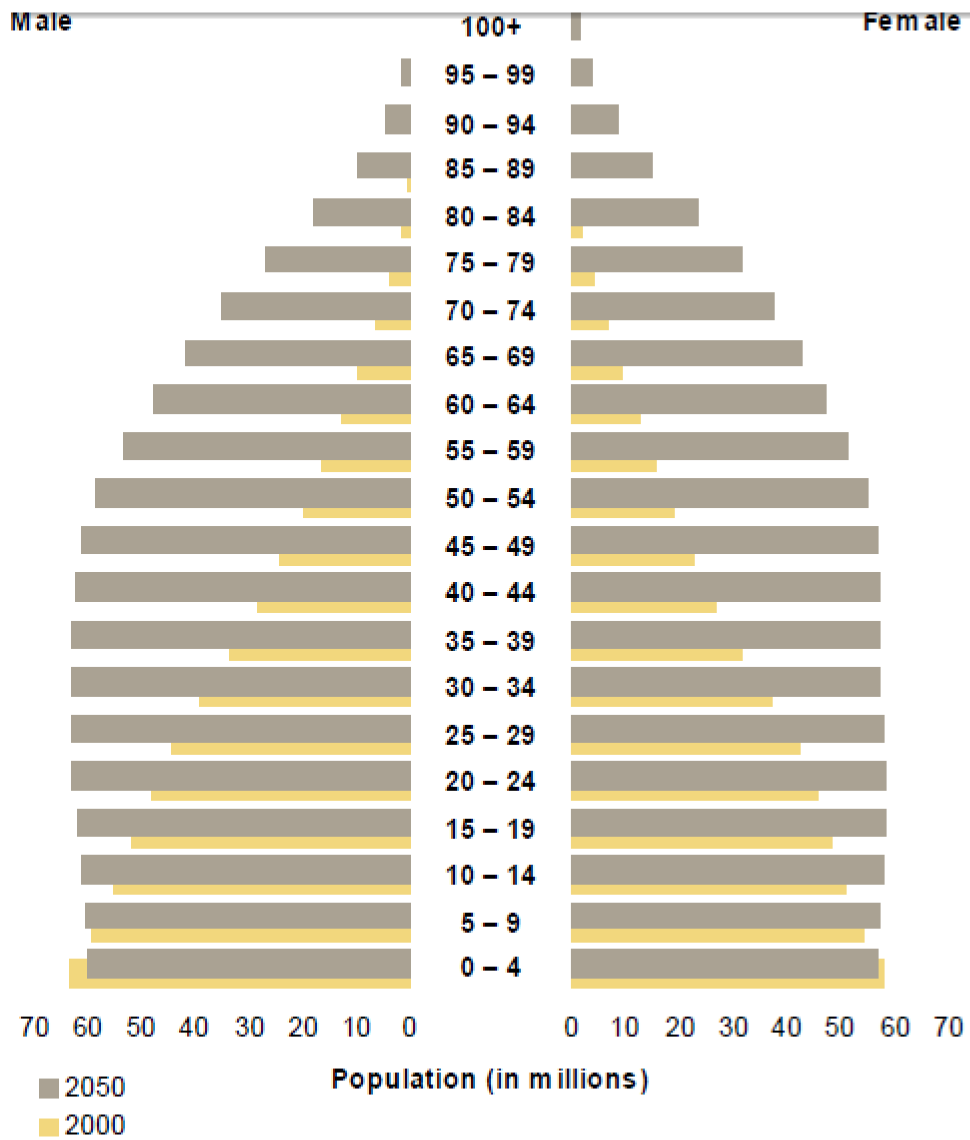
Appendix

The Aging Indian Population (Percent of Total Population)



Source: UN World Population Prospects: The 2008 Revision, Population Database

The Indian Population Pyramid—Changing Demographic Profile



Source: U.S. Census Bureau, Population Division

The Indian Pension Pillars

The Pillars	Pillar 1: the state	Pillar 2: occupational	Pillar 3: the individual
India	Largely pay-as-you-go social model providing retirement benefits at 60 for women and 65 for men.	DB and DC mixed system providing benefits through an employee provident fund which can be cashed at 58. Allows for lump sum payments to be made.	The New Pension System (NPS) sees the introduction of a DC arrangement with tax relief and flexibility at retirement. Will eventually provide benefits for 87% of Indian workers.

Note: **DB** stands for Define Benefit and **DC** for Defined Contribution.