



Quest
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HEALTHCARE IN INDIA
December, 2008



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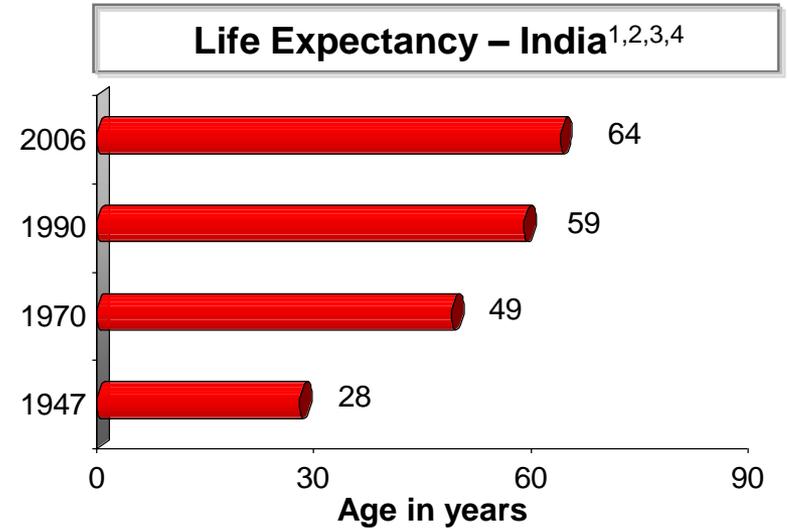
This presentation – ***Healthcare in India*** provides an overview of the key health indicators for India. While life expectancy and infant mortality have shown a steady and consistent improvement, a paradigm shift has occurred in the area of diseases that are responsible for the highest number of deaths in India with lifestyle diseases such as heart disease and diabetes replacing the traditional causes of death namely infectious and diarrheal diseases. Early diagnosis, effective treatment and lifestyle modification are keys to good health.

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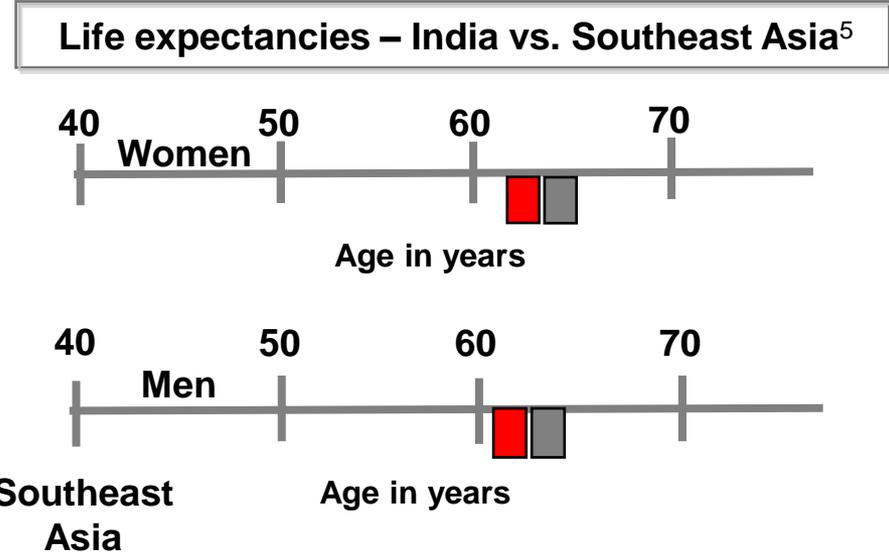
Basic health indicators – Life expectancy

- Increase in life expectancy – from 28 years at the time of independence to an estimated 64 years in 2006
 - Increase in life expectancy is a result of the decline in infectious diseases like diarrheal diseases, malaria and availability of newer medicines, improved healthcare, and eradication of diseases such as small pox for example



- Decline in death rate (*defined as the number of deaths per 1000 population in a year*) – from 40 per 1000 in 1910 – 1920 to 8 per 1000 by 2006

– The increase in life expectancy and decline in deaths has been paralleled by an increase in the incidence of lifestyle diseases such as heart diseases and respiratory diseases



India

Southeast Asia

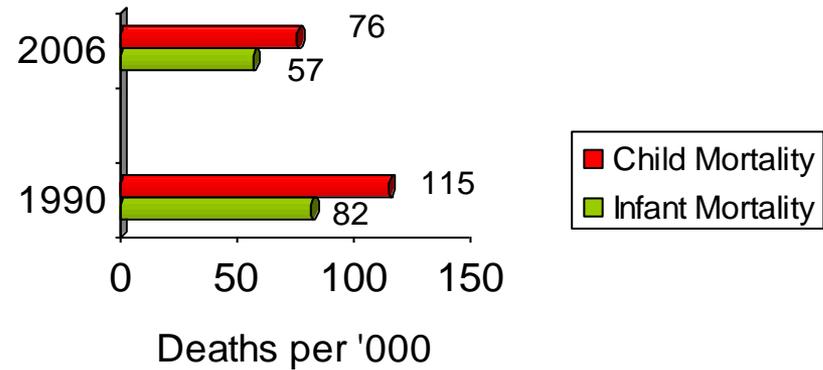


Basic health indicators – Major causes of death; Infant and child mortality

Top 8 causes of death, all ages - India⁴

Cause	%
Ischemic heart disease	15
Lower respiratory infections	11
Cerebrovascular disease	7
Perinatal conditions	7
COPD	5
Diarrheal diseases	4
Tuberculosis	4
HIV/AIDS	3

Infant and child mortality – India¹

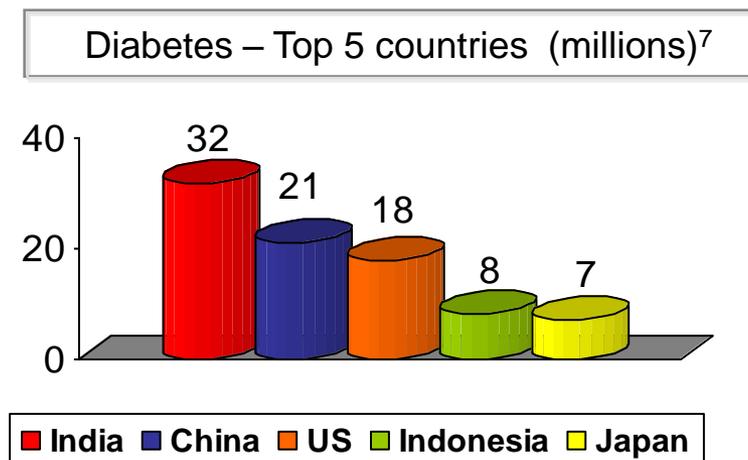
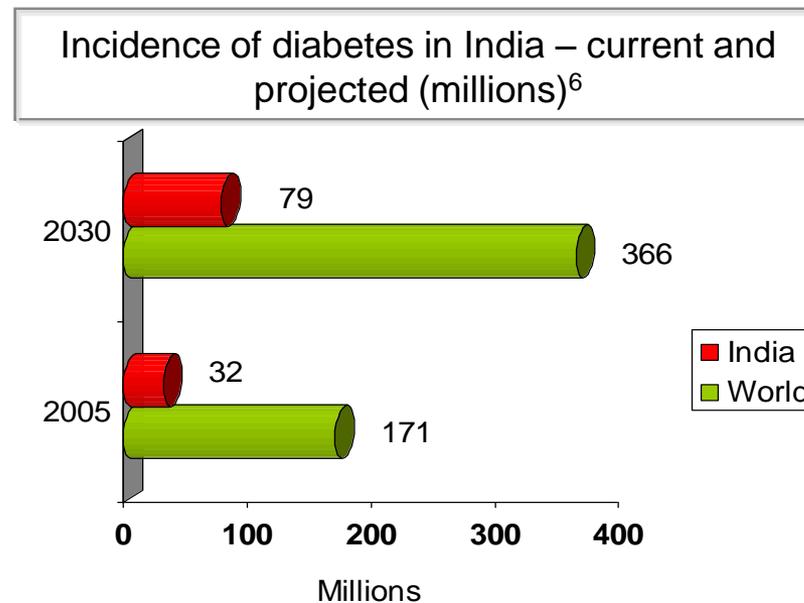


- Heart disease has emerged as the #1 cause of death in India
 - A clear shift from the past 6 decades, when infectious and diarrheal diseases were the main causes of disease in India
 - In India diabetes is often associated with heart disease; in fact heart disease is quite often a complication of diabetes
- Infant and child mortality have declined steadily
 - A result of the concerted efforts of the Indian government and agencies such as the WHO and UNICEF, eradication of diseases such as small pox, and introduction of Oral Rehydration Solution (ORS) for diarrheal diseases (such as cholera)



Diabetes

- Greater than 32 million diabetics in India
 - India is the “diabetes capital” of the world – responsible for 19% of the worldwide incidence in diabetes in 2005; projected to increase to 22% by 2030. Growing urbanization, disposable incomes leading to change in lifestyle and consumption patterns in developing countries like India
- 26% of India’s adult population shows glucose intolerance (inability to digest glucose from food)
 - Indians are particularly at risk because of their propensity for developing central obesity (fat around the abdominal region). Indians are also genetically predisposed to develop diabetes and CVD
- Most often diabetes is not diagnosed till the complications occur
 - Early diagnosis can help prevent complications of diabetes
 - Tests such as Impaired Fasting Glucose (IFG) and Impaired Glucose Test (IGT) help predict the risk of diabetes

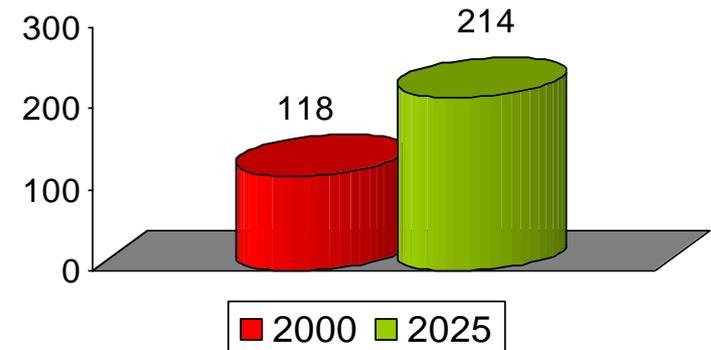




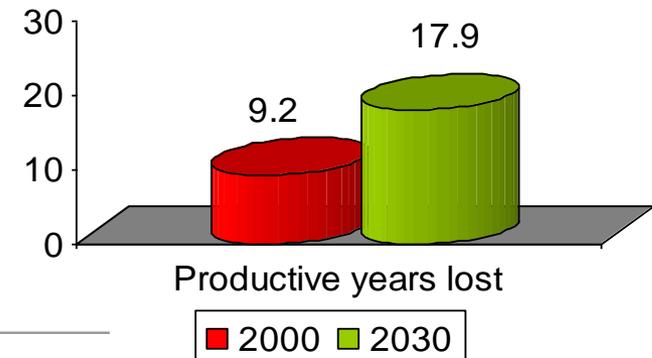
Cardiovascular diseases

- World's leading killer – 16.7 million global deaths in 2003 – 29.2% of all causes of death globally
- India accounts for 60% of global burden – 118 million in 2000, 214 million in 2025 (projected)
 - Physical inactivity, unhealthy diets, diabetes, tobacco (smoking, chewing), blood pressure, and dyslipidemia are the main risk factors among Indians
 - The problem is compounded by late diagnosis
 - early diagnosis can help implement steps aimed at “risk factor modification” such as diet and exercise
- Deaths due to CVD in the age groups of 35 to 64 resulted in 9.2 million potentially productive years lost in 2000
 - Heart disease often occurs at an earlier age among Indians
 - Early diagnosis of risk factors such as high blood pressure, diabetes can go a long way in reducing the productive years lost to heart disease

Hypertensives in India – Current and Projected (millions)^{8,9}



Productive years lost due to early death in India (millions)^{8,9}



CVD = Cardiovascular diseases

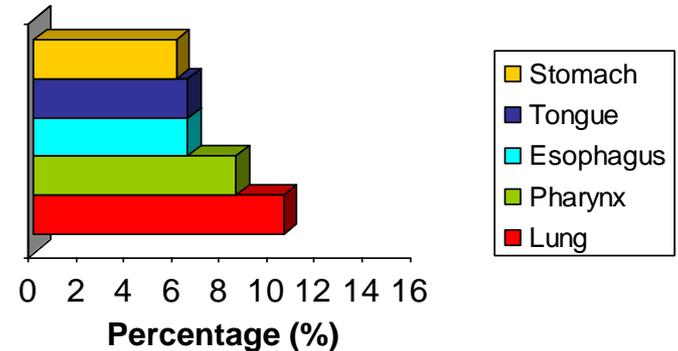
Hypertensive = Any person with hypertension, i.e., high blood pressure



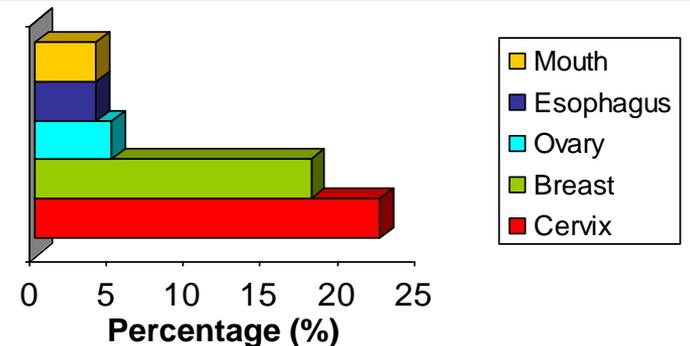
Cancer^{10,11,12}

- 5.5 million new cases seen in developing countries like India:
 - Increase in certain types of cancers such as lung cancer due to tobacco use
- Oral and stomach cancer are the commonest cancers among Indian men
 - Tobacco use (smoking and chewing) is the primary reason for the high incidence of oral cancers
- Cancer of the uterine cervix is still the commonest cancer among Indian women
 - Early age at first intercourse, multiple sexual partners, sexual hygiene, multiple pregnancies are some of the risk factors
 - Regular cervical cytology examination (Pap Test), early screening and referral are important
- Breast cancer is emerging as a leading cause of cancer in Indian women
 - Late age at pregnancy, late menopause are important risk factors
- 70% cases report for diagnosis and treatment in advanced stages
 - Early diagnosis significantly improves survival

Most common male cancers in India¹¹



Most common female cancers in India¹¹



>2.5 million cases
 > 800,000 new cases each year
 > 550,000 deaths each year



HIV/AIDS^{13,14,15,16}

•Estimated prevalence of HIV/AIDS in India ranges from 2.5 to 3.1 million people (end 2005)

- The disease has taken root in the country

•Tests to diagnose HIV are important to prevent spread and transmission of the disease particularly from mother to child

- A blood test called the ELISA (Enzyme-Linked ImmunoSorbent Assay) is used to diagnose HIV. If this test is positive, a second test called the Western Blot test is conducted on the same blood sample to confirm the diagnosis

•Constant and regular monitoring is important to check on the progression and development of AIDS related complications

- Progression of HIV/AIDS is monitored using a number of tests such as the CD4+ cells test and viral load tests

HIV can be transmitted to the newborn from the mother

- Early treatment of newborns is available but can be provided only when diagnostic testing is performed

HIV/AIDS statistics – India

Estimated adult HIV prevalence rate 2005 - 2006	0.41%
Estimated percentage of women infected with HIV	38%
Number of people receiving antiretroviral treatment	142,000
Percent of those HIV infected receiving treatment (estimated)*	<6%

Global Scenario

- 42 million people living with AIDS in 2002
- 20 million deaths since the beginning of the AIDS epidemic

*Number of people receiving antiretroviral treatment DIVIDED BY Estimated prevalence of HIV/AIDS in India: 142,000 / 2.5 MILLION = 5.7%

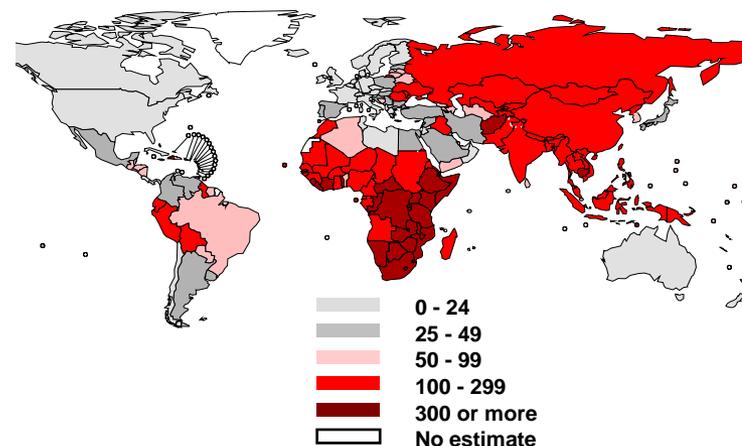


Tuberculosis^{15,16}

- Estimated incidence – India
 - 2 million new cases annually
 - ~350,000 deaths due to TB each year
 - ~1000 deaths a day; Almost 2 deaths every 3 minutes

- Diagnosis and treatment
 - Accurate diagnosis and effective treatment are the keys to the management of TB in India
 - Multi-drug and extended multi-drug resistance is another key challenge
 - The DOTS program initiated by the government of India in association with the WHO is one of the largest public health programs in the world and has been remarkably successful in reducing the incidence of TB in India

Global burden of TB¹⁶



Social and economic burden of TB - India¹⁶

Parameter	Annual burden
Indirect costs to society	\$3 billion
Direct costs to society	\$300 million
Productive work days lost due to TB illness	100 million
Productive work days lost due to TB deaths	1.3 billion

Chronic kidney disease – The silent epidemic¹⁷



- The exact prevalence of chronic kidney disease (CKD) is not clear; however the high incidence of diabetes and heart disease in India indicate that CKD could be a silent epidemic
 - 25 – 40% of all people with diabetes and heart disease develop chronic kidney disease
 - Almost 50% of all CKD diseases occur due to diabetes and heart disease
- In an urban population study of 572,000 people, incidence of End-stage-renal-disease (ESRD) ranged from 151 to 232 cases per million population
 - Diabetic nephropathy was the commonest cause of ESRD – 44%
- One of the key challenges patients face in India is the exorbitant cost of therapy and the availability of renal transplantation centers
 - It is estimated that India has approximately 100 approved centers, most of them in the private sector
 - In the absence of health insurance plans, <10% of all patients have access to renal transplant therapy
- Primary prevention measures focused on public education is critical at the patient and primary physician level. Secondary measures should be aimed at early diagnosis of CKD and aggressive management
 - Screening of all individuals above the age of 40 for blood sugar and hypertension is crucial
 - Screening of all diabetics and heart disease patients for early stage CKD with creatinine and microalbumin tests can save kidneys and prolong life



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