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Novartis:

Building a Sustainable Business at the Bottom of the Pyramid

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This case was written by Amitava Chattopadhyay, the GlaxoSmithKline Chaired Professor of Corporate Innovation at INSEAD, and Reinhard Angelmar, Emeritus Professor of Marketing and the Salmon and Rameau Fellow of Healthcare Management at INSEAD. It is intended to be used as a basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

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In early 2007, Olivier Jarry, recently hired project manager for Novartis's "Social Business" initiative in India, was developing recommendations about its strategy and governance. The goal was to improve access to healthcare for the poor in a way that was financially sustainable for the company, differentiating it from Novartis's traditional philanthropic and corporate social responsibility approaches.

The initiative was inspired by the ideas in "The Fortune at the Bottom of the Pyramid" (2005), in which C.K. Prahalad likened wealth distribution to a pyramid, with a large base made up of the poor in developing countries, representing a potentially huge market. It was possible, he argued, to serve the bottom of the pyramid (BOP) without losing money – and even make a profit.

The opportunity to 'do well in business while doing good' appealed to several key members of the Novartis board. India was selected as the pilot country because of its large population, large numbers of poor people with unmet healthcare needs, and fast-growing pharmaceutical market.

Novartis

Headquartered in Basel, Switzerland, Novartis was structured into four operating divisions. The Pharmaceuticals division focused on patent-protected prescription pharmaceuticals, Sandoz on prescription generics, Consumer Health on non-prescription over-the-counter (OTC) products, with Vaccines and Diagnostics being the fourth division. Each operated with a separate P&L (see Exhibit 1) that drove compensation bonuses.

Novartis India was a 51% subsidiary of Novartis AG, Switzerland, with sales of US$130 million in 2006 and 2,600 employees. Its product portfolio comprised patent-protected and generic prescription pharmaceuticals and OTC products offering a broad range of treatments for a large share of the country's disease burden. In February 2006, Novartis announced that it would set up a global R&D centre for OTC products near Mumbai, which would develop products particularly for cough/cold, allergies, smoking cessation, gastrointestinal disorders, dermal infections and nutritional deficiencies.

Sales and distribution coverage of Novartis India did not extend beyond the district HQ level (with a population around 100,000), unlike domestic Indian players whose distribution reached smaller towns.[1]

India

India had a population of 1.2 billion, growing at 1.6% per year, of which 30% lived in urban areas and 70% in one of 640,000 villages. Urban areas were defined as places with a municipality, Corporation or Cantonment or Notified Town Area, and others which had: (1) a minimum population of 5,000; (2) over 75% of the male working population was non-

1 India is divided into 28 states and 7 union territories, which are further subdivided into 629 districts of differing sizes and population.

agricultural; (3) a density of at least 400 people per square km (1,000 per square mile).[2] The urban population was growing at 2.7% and rural population at 1.1%.

GDP per capita amounted to $817, growing at about 7% a year. 42% of the rural and 26% of the urban population were estimated to live below the poverty line, earning less than 33 rupees (Rs.) per day, equivalent to US$1 at purchasing power parity (PPP).[3] Most of the rural poor were daily wagers.[4]

A report by the McKinsey Global Institute, which segmented rural and urban households into five groups on the basis of household income, anticipated India's rapid economic growth to continue and predicted a significant migration of current BOP households to higher income segments (Exhibit 2).

Cardiovascular diseases were the number one cause of death both among the rural and urban population (Exhibit 3). Although number four in terms of disability-adjusted life years (DALYs),[5] cardiovascular diseases were on the rise, together with other non-communicable diseases. Except for HIV/AIDS, all communicable, maternal, neonatal and nutritional causes of DALYs were on the decline (Exhibit 4).

The Healthcare System in India

Financing Health Care

Expenditure on health accounted for 4.2% of GDP, translating into $34.3 per capita, with 80% of spending going to urban areas and 20% to rural areas.

Patients' out-of-pocket (OOP) payments were the main financing source, accounting for 66% of expenditure. Public payments contributed 26%, private insurance 7%, and foreign payers such as international organizations and NGOs contributed 1%. The poor depended largely on their income and less on savings (many had none) to cover OPP expenses, and might even have to sell their assets.[6] Friends and relatives often helped with loans. Other informal forms of support included free samples given by doctors to poor patients and credit extended by healthcare providers and pharmacists[7] to regular patients. Between 14% and 44% of households were estimated to face catastrophic healthcare expenditure, i.e., so high that they could not afford to buy basic necessities.[8]

Medicines accounted for 77% of OOP expenditure for the rural population and 70% for urbanites. Average monthly per capita expenditure on medicines amounted to Rs. 40.7 for rural

2 National population density was 391 per square km.
3 Current exchange rate was 45 Rs. per 1US$. The poverty line was drawn at a level that covered two "square" meals a day (enough food to stay healthy) and other basic necessities of life.
4 A daily wager is hired on a day-to-day basis.
5 DALYs measure the overall burden of a disease, calculated as the sum of the years of life lost due to premature death and years lost due to disability from disease.
6 Bhandari & Dutta, 2006.
7 In India, pharmacists are called chemists.
8 Percentages based on defining 'catastrophic' health expenditure as occurring when OOP payments equal or exceed 10% of total household expenditure (Raban et al., 2013).

and 62.1 for urban people.[9] The poorer the person, the larger the share of expenditure for medicines: 86% for the lowest rural and 84% for the lowest urban income quintile, compared to 72% and 62% for the highest quintiles.[10]

The Pharmaceutical Market in India, 2006

Prescription Pharmaceuticals

In 2006, sales amounted to $7.3 billion. Antibiotics had the largest share (29%), followed by alimentary tract/metabolism (22%), respiratory (13%), musculoskeletal (12%) and cardiovascular (9%). However, cardiovascular medicines were growing fastest (+14%), with antidiabetics in second place (+11%).[11]

Because India had no product patents until 2005, there were generic versions of all common medicines. The majority of generics were branded and competed with the original brands. Unbranded generics and patent protected innovator drugs had only a small share.[12]

Two categories of medicines existed for purposes of pricing:

- "Scheduled" drugs: vital drugs for which ex-manufacturer prices and trade margins (maximum 8% wholesale and 16% retail) were controlled. The purpose was to ensure that such drugs were affordable. The authorities planned to raise the number of scheduled drugs from 79 to 354.
- "Non-scheduled" drugs: ex-manufacturer prices and margins could be freely determined for these drugs. In some categories, leading innovator brands and branded generics could command enormous price premiums (500% and more); in others only small ones. Ex-manufacturer prices of innovator brands amounted to an average 69% of retail prices.[13] Most of the leading brands had been in the market for a number of years.[14]

Leading brands focused their promotional efforts on doctors. Smaller brands and unbranded generics concentrated on pharmacists offering high margins and free packs. Although pharmacists were not allowed to substitute a brand prescribed by a doctor by another product, or dispense prescription drugs without a prescription, this could happen. Direct-to-consumer (DTC) brand communication was not allowed in India.

Sales to pharmacies accounted for 85% of industry sales, and institutional sales (to the public sector, private hospitals and other institutions) for 15%.[15]

The Indian pharmaceutical industry was highly fragmented: over 10,000 firms accounted for a mere 70% of the market. Pfizer, GSK, Novartis, Sanofi and Merck & Co were the leading foreign companies. The future for the industry looked bright. McKinsey projected that the

9 NSS Report No. 541
10 Sengupta et al., 2006
11 BMI, 2008
12 PwC, 2007
13 Based on Kotwani, 2013.
14 PwC, 2010
15 Sengupta et al., 2006

market would grow from $6.4 billion in 2005 to $20 billion in 2015, given the country's strong economic and income growth. The rural market was expected to be a key part of demand growth, accounting for 24% of sales in 2015 (Exhibit 5).

The Over-the-counter (OTC) Market in 2006

In 2006, OTC sales amounted to $1.7 bn. Vitamins and minerals (38%), cough/cold drugs (23%) and gastrointestinal remedies (18%) were the leading categories. About 80% of OTC products were sold through pharmacies and drugstores. Direct sales and sales through grocers were only allowed in rural areas with fewer than 1,000 inhabitants. [16] OTC brands could be promoted directly to consumers.

A large number of Indian companies manufactured and sold OTC products. Novartis, Pfizer and Johnson & Johnson were the main multinationals with a strong position in the OTC market.[17] McKinsey expected the market to grow at a CAGR of 13.5%.[18]

Health Care Delivery in India

The Health Workforce

There were two main types of doctors in India: allopathic doctors practiced modern or Western medicine; AYUSH[19] doctors practiced traditional and modern medicine. Nurses and midwives, and chemists (pharmacists) were also part of the health workforce.

The number of health workers per 1,000 population was lower in India than comparable countries. The density was 3 to 4 times higher in urban than in rural areas (Exhibit 6). Health workers were also differentiated by education level and medical qualifications (Exhibit 7).

- 31% of allopathic doctors were educated only to high school diploma level, 29% of AYUSH doctors, 67% for nurses and midwives, and 68% for pharmacists. Educational levels for all health workers was higher in urban than rural areas.
- To have a medical qualification, health workers had to have earned a medical diploma or certificate or a degree in a selected discipline. The course of study for allopathic doctors was of similar length and content as medical studies in Europe and the US. (e.g., Doctor of Medicine, MD). Nationwide, 43% of allopathic doctors had medical qualifications, 53% of AYUSH doctors, 10% of nurses and midwives, and 8% of pharmacists.

An Indian Supreme Court ruling in 1996 defined anyone practicing modern medicine without training in the discipline, even if they were trained in alternative medicine such as AYUSH doctors, as "quacks or charlatans" – which applied to 67% of doctors nationally (86% of rural

16 BMI, 2009
17 PwC, 2010
18 McKinsey, 2010
19 AYUSH doctor is a term encompassing practitioners of Ayurveda (traditional Indian medicine), Yoga and naturopathy, Unani (a version of Greco-Arab medicine practiced on the Indian sub-continent), Siddha (traditional medicine from South India), and Homoeopathy.

and 57% of urban doctors). The numbers were so high because there were not enough qualified doctors and most preferred to practice in urban areas. Court orders requiring police to conduct raids were generally not followed, and since there were not enough medical workers available, so-called quacks had strong relationships with their clients.[20] Outside the courtroom and medical councils, the term was rarely used, unqualified doctors being referred to as "informal healthcare providers" or "rural medical practitioners" (RMPs).

Public Sector Health Infrastructure

Full-scale hospitals with specialist doctors, pathological laboratories, operating theatre facilities and the like were limited to cities and towns that served as district headquarters.[21] Rural healthcare infrastructure consisted of community health centres (CHC) located in larger Tehsil[22] towns, primary health centres (PHC) located in block towns,[23] and sub-centres located in villages of over 5,000 people (see Exhibit 8). CHCs were staffed by three specialist doctors as well as general practitioners, a nurse and a pharmacist, and had pathological lab and maternity facilities. One CHC served about 120,000 people. There was one PHC for every 30,000 people, and PHCs were staffed by a full-time general physician, nurse, laboratory technician, and pharmacist. Sub-centres catered to up to 10,000 and were staffed by a full-time auxiliary nurse midwife (ANM) (see Exhibit 9) and a multi-purpose health worker (MPW or MPHW).[24] These sub-centres received scheduled regular doctor visits.

Under the government's National Rural Health Mission to improve healthcare in rural India, local village women were trained by the Ministry of Health and Family Welfare to be health educators and promoters in their communities, as of 2005. The programme was expected to be completed by 2012, with at least one Accredited Social Health Activist (ASHA) in each village in India.

Programmes like polio vaccination, eye check-ups and adolescent nutrition were planned and executed by CHCs and PHCs, which also included 'health camps'. Patients at CHC/PHCs normally came from villages within a 10-15km radius, while sub-centre patients came from three or four villages in the vicinity. At the CHC/PHC/District Hospital, patients were usually referred cases, and often admitted as emergency cases. Most treatment in the public sector was either fully or partially subsidized.

Private Sector Health Care

Towns with CHCs typically had 50-75 private medical doctors as well as registered pharmacies. Smaller towns had doctors who started their own clinics or nursing homes, and were either retired doctors from the PHC/CHC system, or 'moonlighting' from government hospitals. Most clinics had a pharmacy within or supported a medicine store in the neighbourhood. The patients

20 Pulla, 2016

21 There are 629 districts of differing sizes and population. Each district has a district headquarter city/town that acts as the administrative centre for the district, with about 100,000 in population.

22 Districts are subdivided into tehsil towns or county, encompassing 200-600 villages.

23 In some states, tehsils are divided into blocks.

24 MPW or MPHW is a trained male nurse who is involved in health programmes of the government like malaria, tuberculosis, polio, and hepatitis.

came from the small towns and surrounding villages. Charges ranged from Rs.100 to Rs.300, depending on the type of ailment.[25]

There were usually two to three established rural medical practitioners (RMPs) in villages of over 5,000 people, and one or two in smaller ones. Many RMPs had served as assistants to city doctors and started up their own practice, with only basic equipment such as a thermometer, stethoscope and a blood pressure (BP) instrument. When needed, they made house calls. Although only qualified to treat ailments like colds, coughs, fever and diarrhoea, they were often required to treat tuberculosis (TB) or HIV/AIDS.

Most of them also dispensed medicines, acquiring stock on a weekly or bi-weekly basis from nearby towns, typically from wholesalers. Price was an important concern as the bulk of their customers were from the BOP segment. Medicines were trial-tested before being regularly prescribed as providing quick relief was key to building and maintaining a strong practice. They did not charge fees for the consultation but for the treatment. Income thus came from dispensing medicines, hence some RMPs promoted local brands that had bigger margins.

Few villages had a pharmacist unless they were located near a highway. Most pharmacists dispensed on prescription. Some dispensed prescription medicines relying on their experience, even giving out low-level antibiotics. Many village grocery stores stocked OTC products like analgesics, vitamins, paracetamol, diclofenac,[26] and even some antibiotics.

The BOP Patient Journey

Conditions including malnutrition, iron deficiency and diabetes were common, but in the absence of health education in rural communities, people often did not recognize the symptoms. Fever, mother/child nutrition and allergies were widespread but not considered serious. The most serious ailment among men was TB, which made them too weak to work and therefore affected the income of the household.

Seeking medical care from a practitioner was a last resort, used only when the condition became unbearable. Until then, traditional herbal remedies prepared at home, or OTC products obtained from the pharmacist were used.

Men controlled the purse strings as well as decisions about who could be consulted for treatment or when a patient could be taken to a doctor in town.

ANMs (for women) and RMPs were generally the first healthcare touchpoint, as they were inexpensive and there were no doctors in most villages. Villagers found the RMPs accessible, available and affordable. RMPs, AYUSH doctors and qualified doctors were not clearly differentiated in the minds of the BOP population. Going to a qualified doctor out of the village meant losing a day's pay (Rs.100 or more) and covering the cost of transportation (up to Rs.100) plus potentially costly treatment. Leaving the village for treatment often created a social stigma, for which villagers were ostracised.

25 In 2007, the exchange rate of the Indian rupee to the dollar and euro was approximately Rs. 45 and Rs. 62 respectively.

26 Used for body ache and fever.

Treatment in public facilities was free or inexpensive, but as they were short-staffed, suffered from absenteeism, lacked diagnostic equipment and medicines, the effort and expense of getting there was often wasted. For example, the Directly Observed Treatment-Short Course (DOTS) programme, recommended by the WHO and run by the government, offered free treatment for TB, including medicine. But because the program was perceived as inaccessible, non-transparent and inefficient, few BOP patients benefited from it. Moreover, poor patients who tended to be less literate (the literacy rate in in 2007 was about 65%) had difficulty understanding the different types of public healthcare facilities.

RMPs checked the patient for symptoms, and if beyond their ability referred them to a private doctor or clinic with which they had a tie-up, or helped them to get to a PHC. In such cases, villagers paid to transport themselves and the RMP. The RMP was a source of confidence and comfort to the villager in that he could help to get things done, such as tests at a diagnostic centre or pathology laboratory. In most households, men were responsible for the logistics if a patient had to be taken to a clinic or hospital in town, often with the loss of a day's pay.

When treating patients, RMPs rarely sent them for diagnostic tests. A study of RMP decision making found that patient examinations were generally incomplete and treatment often flawed: 58% of patients did not receive appropriate treatment and 71% received unnecessary or harmful medicines. Only 11% of patients were treated appropriately and without any unnecessary or harmful medicines.[27]

Treatment decisions were influenced by people outside the nuclear family.[28] Ailments were a subject of wide discussion and the advice of educated neighbours was valued. Treatments that were of short duration, provided quick relief and were inexpensive were considered 'good'. In general, BOP consumers perceived injections as more effective, providing immediate relief, thus enabling them to resume work. They did not cause upset stomachs, as tablets were perceived to do, and only needed to be taken once a day. Medication in syrup form was preferred for children. However, syrup when recommended for women was considered serious, which made intake more regular. Consequently, in line with patient preferences, tablets were prescribed for adults and syrups for children, with injections being recommended for seriously ill patients.

Patients had little knowledge of the companies that produced the medicines or their brands. At best, they were aware of the largest players like Glaxo, Ranbaxy and Cipla. There was some awareness of Sandoz, the generic arm of Novartis, through the calcium supplement Calcium Sandoz, but virtually no knowledge of Novartis.

Prescription fulfilment and adherence were often problematic. When medicines were purchased at a pharmacy, illiterate patients were unsure whether the medicine bought was the same as the one prescribed. If a medicine was expensive, less than the prescribed dose would be bought as patients could not afford it. Some even returned medicines to the pharmacist once they felt better, even if the prescribed treatment had not been completed.

27 Das et al., 2016

28 Neighbours were usually cousins or extended family members.

If a patient failed to get well under RMP management, s/he might then be referred to a clinic, by which time their health and strength would usually have deteriorated.

Decisions

With a greater understanding of the workings of healthcare in India and the BOP patients' journey, Olivier now had to make recommendations about the strategy and governance of the programme.

The main strategy questions were the following:

Which BOP patients were the best targets for reaching the social and financial goals of the programme?

Should the programme aim at rural or urban BOP patients? If the decision were to enter the rural market, what criteria (e.g., population density, income level, public sector facilities) should be used to determine which of the many districts offered the best opportunities?

Which diseases should the programme cover, and with what types of products (patent-protected, generics, OTC)?

Novartis's broad portfolio covered a broad range of diseases and products. Should the programme's products cover a large share of India's disease burden, or would a more focused approach be better? If focused, which disease(s) and types of products should be selected?

Which stages of the patient journey should the programme address?

Every stage of the patient journey appeared to require improvement in order to raise BOP access to the right medicine and its correct use: disease awareness, earlier consultation, choice of appropriate provider, evaluation/testing/diagnosis, treatment choice, brand choice, fulfilment and adherence. Which stage(s) should the programme address?

Which stakeholders should be targeted?

Potential stakeholders included patients, their family, friends, neighbours and other lay people, and different types of healthcare workers, pharmacists and distributors. As their roles and influence varied across the patient journey, the stakeholder targeting decision depended on the answer to the previous question regarding which stage(s) should be addressed.

What communication channels should be used?

Should the programme use sales reps to visit prescribers and/or pharmacists and distributors? Should staff be hired to engage with patients and other key lay influencers? If so, what would be their role and what profile should they have?

What should be the programme's scale?

Novartis planned to organize the programme around cells with a radius of 35 kilometres, each covering some 150 villages. One sales rep (monthly cost of Rs. 15,000) would be sufficient to

cover the healthcare professionals serving these villages. But how many people (monthly cost of Rs. 3,500-4,000) would be needed to engage with patients and other lay influencers, each able to make a maximum of 480 village visits per year?

In addition to the field sales staff, the programme would also involve marketing and G&A costs, some of which were unrelated to the number of cells. For a pilot programme of 10 cells, the field-force costs would amount to only 5% of the total commercial and G&A costs, increasing to 50%, 70% and 80% for 50, 100 and 500 cells respectively.

Finally, there was the governance issue:

How to fit the social business initiative into the Novartis structure?

It could be part of the Corporate Responsibility group which provided Novartis products free or at cost to low-income patients, or part of one of the Novartis divisions. Or Novartis could create a separate Social Business organization.

Exhibit 1

Novartis: Selected Divisional Financial Highlights, 2006

	Pharmaceuticals		Vaccines and Diagnostics		Sandoz		Consumer Health	
	USD m	% of	USD m	% of	USD m	% of	USD m	% of
Sales of Divisions	22738	100%	965	100%	6107	100%	6579	100%
Other revenues	424	2%	231	24%	24	0%	39	1%
Cost of Goods Sold	-3826	-17%	-795	-82%	-3420	-56%	-2642	-40%
Gross profit	19336	85%	401	42%	2711	44%	3976	60%
Marketing & Sales	-7069	-31%	-124	-13%	-1061	-17%	-2200	-33%
Research & Development	-4265	-19%	-148	-15%	-477	-8%	-288	-4%
General & Administration	-703	-3%	-92	-10%	-311	-5%	-435	-7%
Other income & expense	-596	-3%	-63	-7%	-126	-2%	15	0%
Operating income	6703	29%	-26	-3%	736	12%	1068	16%

Source: Novartis financial reports

Pharmaceuticals: mainly patent-protected products

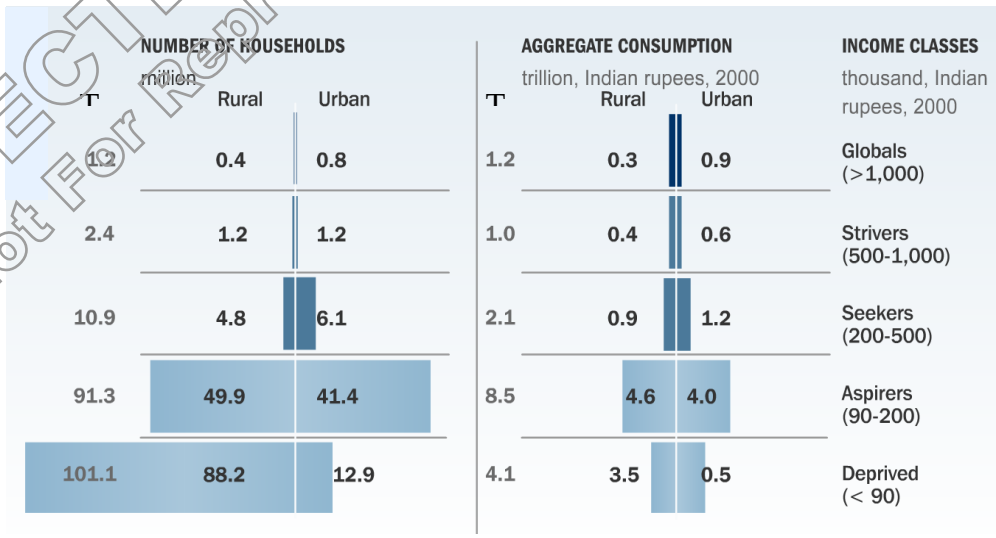
Sandoz: generic products

Consumer Health: OTC products

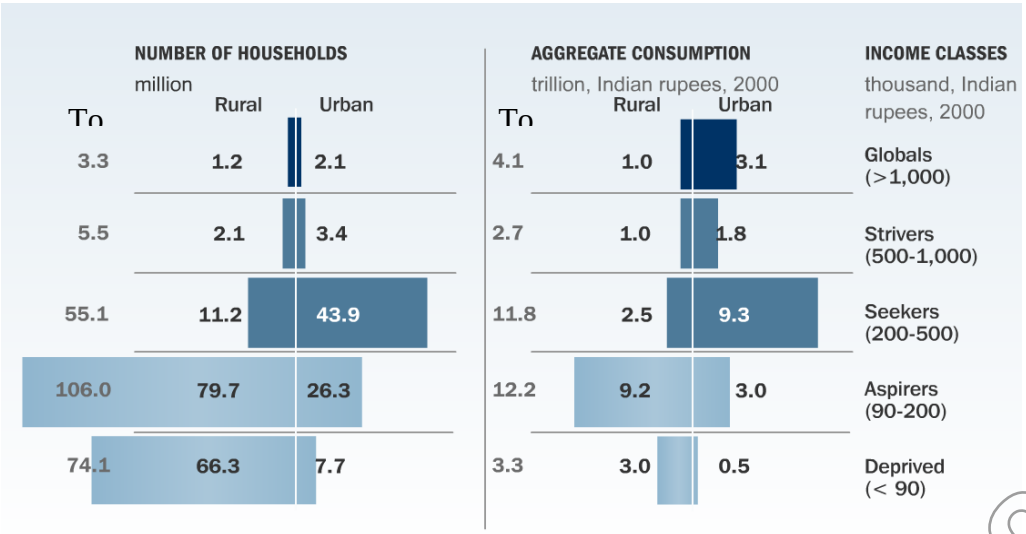
Exhibit 2

Rural and Urban Annual Household Income Classes:
Number of Households and Aggregate Consumption, 2005 and 2015 Forecast

2005



2015 Forecast

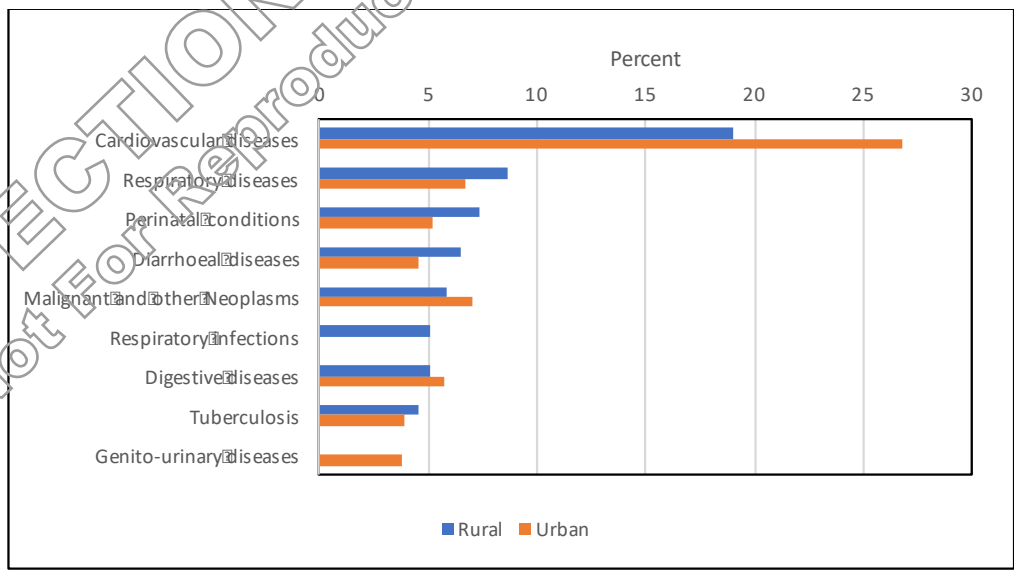


Source: McKinsey Global Institute

1. Average household was 4.8 people for rural and 4.3 for urban households.
2. Aggregate consumption is the amount of money households spend to buy goods and services. The higher the disposable income, the greater the consumption.
3. Disposable income is the amount of money that households have available for spending and saving after paying income tax.

Exhibit 3

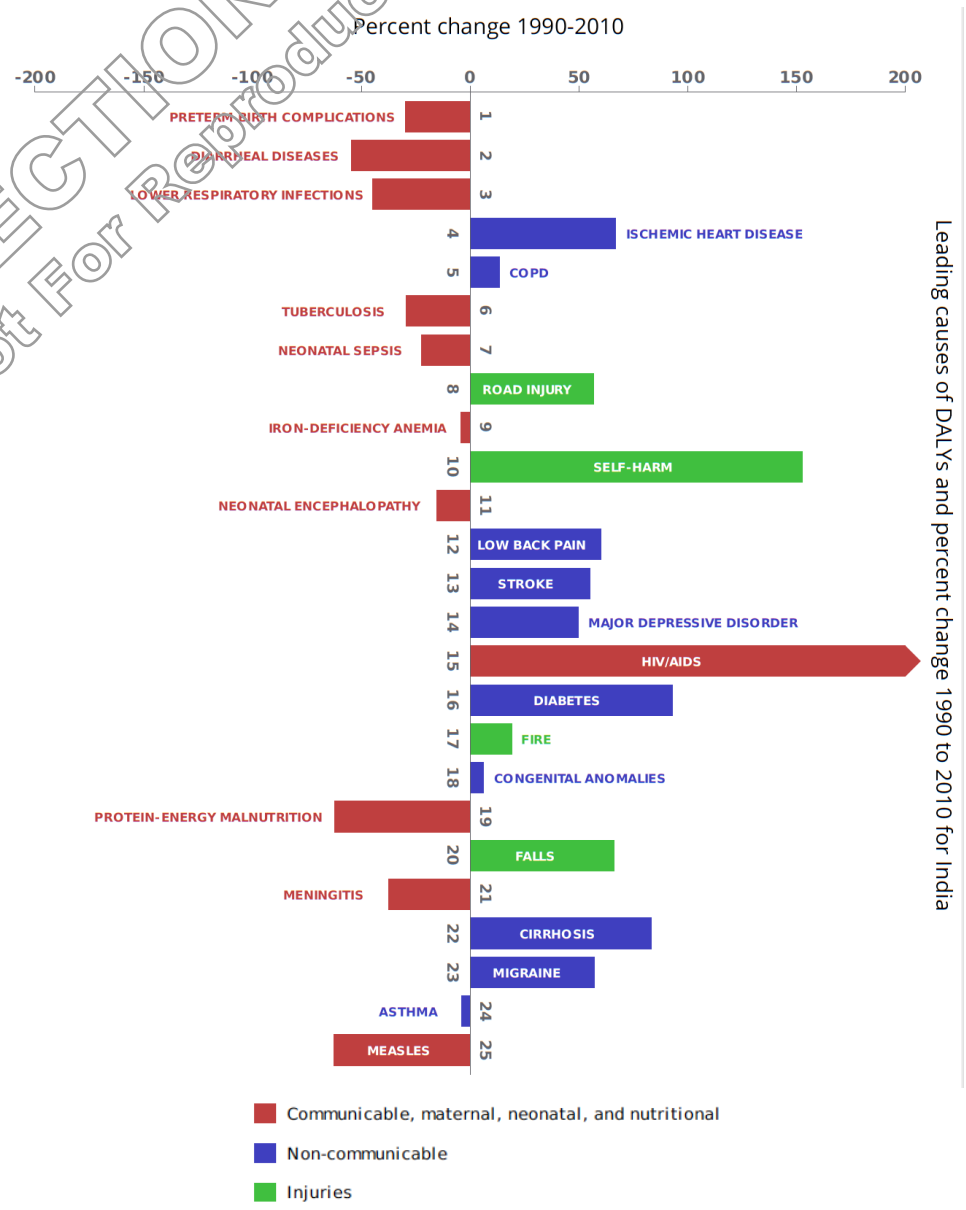
Causes of Death in India, 2007-2009



Source: http://www.censusindia.gov.in/vital_statistics/COD-Statistics_2007-09.pdf

Exhibit 4

Disability-Adjusted Life Years (DALYs)

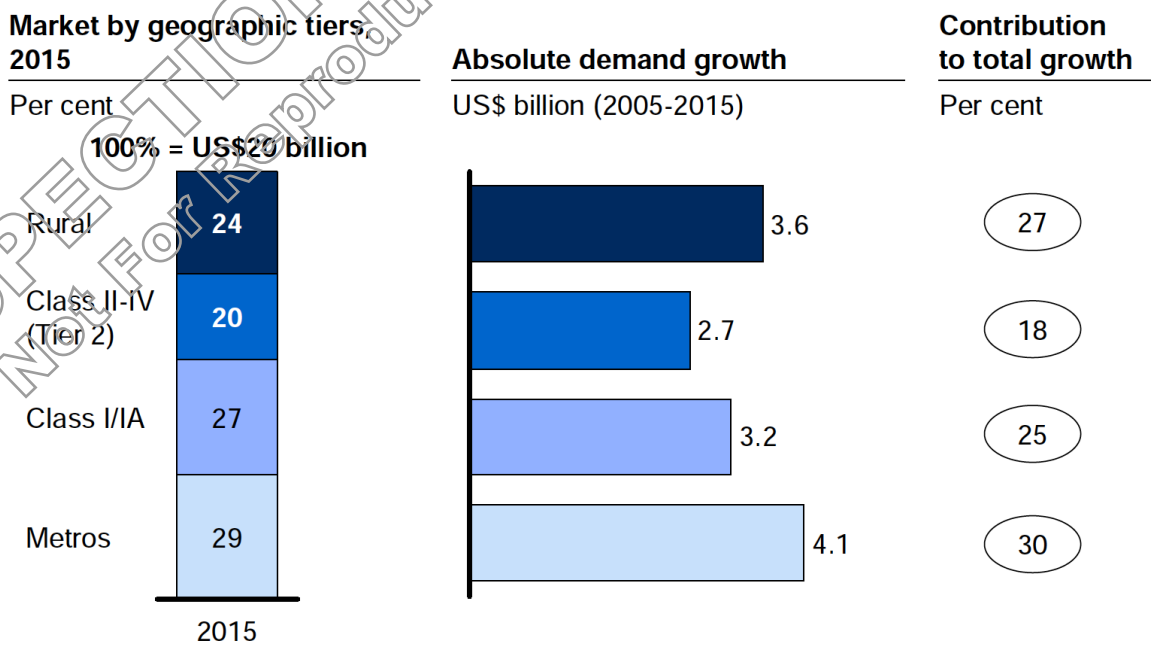


Source: GDB Profile India

Note: The top 25 factors in DALYs are ranked from top to bottom in order of the number of DALYs they contributed in 2010. Bars show the percentage change in DALYs since 1990 (those to the left show percentage decrease, those to the right percentage increase).

Exhibit 5

Geographic Tiers: 2015 Share and Absolute Demand Growth



Note: Metro: >1 million population, Class 1 towns: 0.1 – 1 mn; Class 2-4: 5k-0.1 mn; Rural: < 5k

Source: McKinsey India Pharmaceutical Demand Model

Exhibit 6

Density of Health Workers: National, Rural, Urban

	Density: per 1,000 population		
	National	Rural	Urban
Allopathic doctors	0.6	0.3	1.3
AYUSH doctors	0.2	0.1	0.3
Nurses and midwives	0.6	0.3	1.3
Pharmacists	0.2	0.1	0.4

Source: WHO, 2016, based on 2001 Census

Exhibit 7

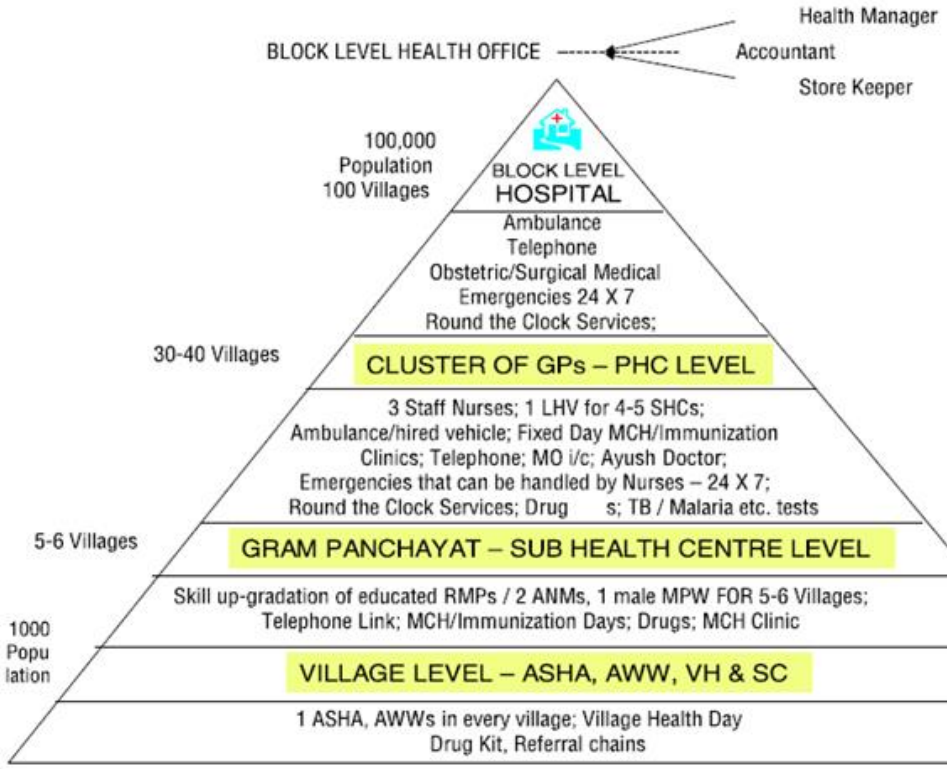
Medical Qualifications and Education Level of Health Workers

	Percent with a medical qualification			Percent with high school diploma or less		
	National	Rural	Urban	National	Rural	Urban
Allopathic doctors	43%	19%	55%	31%	54%	17%
AYUSH doctors	53%	43%	60%	29%	39%	21%
Nurses and midwives	10%	11%	9%	67%	67%	67%
Pharmacists	8%	8%	9%	68%	72%	65%

Source: WHO, 2016, based on 2001 Census

Exhibit 8

Public Health Infrastructure



Source: National Rural Health Mission (NRHM)

NB: CHC= Community Health Centre; PHC= Primary Health Centre; SHC= Sub Health Centre; MPHW= Multi-purpose Health Worker; Dais = traditional midwife; TBAs= traditional birth attendant; Panchayat/Gram Panchayat (GP) = village council; LHV= Lady Health Visitor; MCH= Mother & Child services; MO= Medical Officer; RMPs= Rural Medical Practitioner; ANM= Auxiliary Nurse Midwife; AWW= Anganwandi Worker; VH&SC= Village Health & Sanitation Committee