Health Inequalities in India: The Axes of Stratification

S.V. Subramanian
Leland K. Ackerson
Malavika A. Subramanyam
Kavita Sivaramakrishnan

On 25 January 2008, India’s first female president, Pratibha Patel, voiced an appeal on the eve of the country’s 59th Republic Day, echoing concerns about the need to reconcile economic growth with social inclusion in society. India’s impressive economic growth, she noted, was not yet allowing the underprivileged and disadvantaged sections of Indian society to find a place to enjoy “the sunshine of the country’s growth and development.”¹ India’s galloping economic growth therefore clearly and urgently needs to be tempered by policies created to address concerns of equity and inclusiveness. Some of this disquiet is reflected in the low status of health achievements in India. Nobel Laureate Amartya Sen has convincingly argued that the health achievements of a given society are a better signal of social well being than any conventional macroeconomic measure.² In addition to overall health achievements, how fairly health is distributed also provides considerable insight into understanding the extent of social justice in a given society.³

India’s performance in health and well being underscores this disparity. India is ranked low in terms of overall health status compared to other countries. India’s health and primary education system was ranked 101th out of 131 countries and economies by the World Economic Forum (WEF) in 2007 and 2008.⁴ On the Human Development Index (HDI), India finds itself at 128th place of 177 countries.⁵ This low ranking in HDI is largely due to India’s low ranking in life expectancy at birth, which is 63.7 years.⁶ Data from the United Nations places India at 148th out of 194 on the number of tuberculosis cases per 100,000 persons, 48th out of 89 on infant mortality rate, and

S. V. Subramanian is an associate professor in the Department of Society, Human Development, and Health at the Harvard School of Public Health. Leland K. Ackerson is a research fellow and Malavika A. Subramanyam is a doctoral candidate in the Department of Society, Human Development, and Health. Kavita Sivaramakrishnan is a senior program manager in the Public Health Foundation of India.

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62nd out of 108 on percentage of undernourished people. In short, what India does to improve the health of its population, and more importantly how it does this in a fair and equitable manner, will be critical from the intrinsic perspective of enhancing human development as well as from an instrumental perspective of sustaining its progress in economic growth.

Assessing health inequalities, however, raises a fundamental question: should inequalities in health be seen in relation to the socioeconomic circumstances of the population? Assessing health inequalities with respect to a priori social groupings assumes the existence and identification (partial or complete) of meaningful social groupings, and that any such social groupings reflect the unequal (and implicitly, unjust) distribution of resources and life opportunities between the different social groupings. These problems can be avoided by simply measuring the distribution of health status across individuals in a population (e.g., life expectancy or mortality) and not incorporating any information on social grouping. Such a method would avoid normative questions as to whether inequalities are unjust. Yet, an evaluation of health inequalities can rarely be devoid of normative content, and thus priority must be given to analyzing inequalities between groups constituted under social and historical criteria. Ignoring social memberships and relations can likely lead to disregarding many hidden causes of health inequalities.

There is a growing volume of research that posits social factors outside the health domain as the root of much of the inequalities in health that we observe within and between countries. For instance, in the United States, health care is shown to account for only 10 percent of the variation in premature death. Behavioral risk factors such as tobacco and alcohol consumption, diet, and physical activity seem to account for some 40 percent of the variation in premature death, with social circumstances (e.g., housing conditions, poverty) and environmental exposures (e.g., air pollution) accounting for 15 percent and 5 percent, respectively. In fact, considerable evidence exist that one’s social circumstances are likely to predict the factors that account for 70 percent of the variation in premature mortality. For instance, belonging to a minority racial or ethnic group or having lower socioeconomic status is likely to predict the probability of having health coverage, engaging in risky behaviors, or being exposed to harmful housing and environmental conditions. Social stratification (manifested via gender, race, class, economic status, etc.) is therefore a serious facilitator or inhibitor to realizing optimal health. For policies to have a sustainable and equitable impact on health, interventions need to focus on such social components as gender, race, ethnicity, social class, education, and income.
In this article, we investigate the nature of health inequalities in India using groupings that have historical as well as social significance. Specifically, we examine the extent to which health in India gets stratified along gender, caste, religion, education, wealth, and urban–rural dimensions. The study is based on the nationally representative 1998–1999 Indian National Family Health Survey (INFHS) data. The assessment of independent and relative contribution is important both for understanding the etiology of the distribution of health in a population and for shaping policy. For example, in a society stratified by caste as opposed to wealth or education, attempts to reduce inequalities in health by manipulating the distribution of wealth or education may be less successful than attempts to increase access to opportunities for lower caste groups.

The variables used for assessing social inequalities in health in India were gender, caste, religion, education, wealth, and urban–rural residence. Caste, which is unique to Indian society, merits an explanation. Caste was based on the respondent’s self-identification as belonging to scheduled caste, scheduled tribe, other backward class, and other caste. Scheduled tribe and scheduled caste are the most socially disadvantaged groups.

Scheduled caste includes “untouchables” or dalits—a group that is socially segregated and economically disadvantaged by their lower status in the traditional Hindu caste hierarchy. Social exclusion is considered as the general characteristic of the scheduled castes. Occupationally, most scheduled castes are landless agricultural laborers or engaged in what were traditionally considered to be ritually polluting occupations. These communities historically have been segregated and denied access to education; public places such as temples, drinking water wells, restaurants; and many other civic facilities. The members of scheduled castes are hierarchically interdependent with the upper caste population, which is what makes them distinct from the schedule tribes.

Scheduled tribes consists of over 400 different tribes who tend to be geographically isolated (often in the hills, forest areas, or islands) with limited economic and social interaction with the rest of the population. While ethnically distinct, their physical isolation has been the main criterion used to identify communities as scheduled tribes and treat them as beneficiaries of affirmative action.

Other backward class is a diverse collection of intermediate castes that were considered low in the traditional caste hierarchy but somewhat above the boundary of the scheduled castes. The motivation is to include those groups who were fortunate enough to escape the extreme discriminatory practices of social exclusion imposed on the scheduled castes, but were subject to marginalization in terms of access to economic and educational opportunities in society.

Other caste is a residual category of people having Hindu caste status who are not scheduled caste or tribe or other backward class. Thus, they comprise the upper castes.
is important to note that the above caste groupings represent a very broad classification with substantial degree of heterogeneity within each of the categories. However, these categories tend to be routinely used for population based monitoring.

**SOCIAL INEQUALITIES AND HEALTH INEQUALITIES**

We analyzed patterns of social inequalities in health inequalities across the following outcomes.

*Mortality*
In each of the households, the survey recorded the number of living members and the number who had died in the two years (1997–1998) preceding the survey. The total number of household members who were alive at the time of the survey was 517,313 and the number of deaths reported for the previous two years was 11,782. There was a strong graded relationship between standard of living and all-cause mortality, such that those in the lowest quintile of standard of living were 86 percent more likely to die as compared to those in the highest quintile of standard of living. Crucially, as standard of living goes down, mortality goes up in a systematic manner, suggesting the presence of a mortality gradient. An independent relationship was observed between social caste and mortality, with scheduled tribes having considerably higher odds of mortality as compared to the other caste. Scheduled castes also tend to have higher odds of mortality compared to the better-off caste. Gender differentials were observed, with men more likely to die than women. Religious grouping, as well as groupings based on urban–rural residence was not related to mortality.

*Morbidity*
Morbidity was measured in the survey based on whether any household members suffered from asthma, tuberculosis, malaria, or jaundice. Morbidity was strongly related to standard of living, and education. Individuals belonging to the lowest quintile of standard of living were 80 percent more likely to be reported for morbidities as compared to those in the highest quintile of standard of living. Similarly, those with no formal education were 61 percent more likely to be reported for morbidities as compared to those with 13 or more years of education. Importantly, the relationship of education and standard of living to reported morbidities followed a strong gradient. Men were more likely to report morbidities than women. Caste, religious affiliation, and urban–rural difference were not related to morbidity variation.
Poor Health Behaviors

Poor health behaviors include smoking and chewing tobacco or drinking alcohol. Standard of living, education, and caste were strongly related to consumption of tobacco or alcohol. Individuals in the lowest quintile of standard of living or having no formal education were three times more likely to consume tobacco or alcohol. Important differences were also observed by caste. Scheduled tribes were considerably more likely to consume tobacco or alcohol as compared to other castes. The odds of consuming tobacco or alcohol were also higher among scheduled caste, compared to other castes. Marked gender differences were observed with men being substantially more likely to consume tobacco or alcohol as compared to women. Religious affiliation and urban–rural difference were not related to the probability of tobacco or alcohol consumption.

Nutritional Status and Anemia

The survey recorded weight and height for women and children. Children who were especially short for their height were defined as stunted. Those that were especially light for their height were defined as wasted. Those who were especially light for their age were defined as underweight.\(^{20}\) Anemia was defined based on levels of blood hemoglobin. For women, anemia and severe anemia was based on a blood hemoglobin level of less than 12.00 g/dL and 7.00 g/dL, respectively.\(^{21}\) For children, the analogous cut-off levels for anemia and severe anemia were less than 11.00 g/dL and less than 7.00 g/dL, respectively.\(^{22}\)

The strongest predictors of having anemia and being underweight among women were standard of living and education. Women in the lowest quintile of standard of living or with no formal education had substantially higher odds of having anemia or being underweight. The odds of having anemia or being underweight increases in graded manner as levels of educational attainment or standard of living comes down. There are no marked patterns of malnutrition among women in relation to caste. Women in rural areas are considerably more likely to be underweight than those in urban areas. No such pattern was observed for anemia.

Standard of living and maternal education are independent and strong predictors of child malnutrition. A child born in the lowest quintile of standard of living is almost 2.5 times more likely to be stunted; more than 3 times more likely to wasted; 1.8 times more likely to be underweight; and 1.4 times more likely to be anemic as compared to a child born in the highest quintile of standard of living. Almost identical effects are observed independently for mother’s education with lower educational attainment of the mother associated with higher odds of the child being malnourished. While lower castes are more likely to be stunted or wasted, no such pattern is observed for underweight or anemic cases. Boys were more likely to be anemic as well as malnourished compared
to girls. Religion and urban–rural differentials in child’s anthropometric measures and anemia were not substantial and statistically insignificant.

Standard of living and maternal education are independent predictors of child mortality. A child born to a mother who has no education is 2.6 times more likely to die as compared to those with 13 or more years of education, with a systematic gradient in the relationship. Similarly, a child born in the lowest quintile of standard of living has substantially increased odds of not living to age three as compared to those in the highest quintile of standard of living. Urban–rural, gender, religion, and social caste differentials in mortality were neither substantial nor statistically significant.

**WEALTH, EDUCATION, AND THE SOCIAL GRADIENT**

Our study shows substantial inequalities in mortality, morbidities, and health behaviors in India. The dimensions along which health inequalities are patterned are mainly wealth and education. Two observations are pertinent regarding the robust associations of health with wealth and education.

First, both wealth and education are independent predictors of health outcomes in India, such that education and wealth are not proxy for one another and therefore cannot be used interchangeably. This evidence is consistent with recent commentaries and data on the need to consider the distinctive nature of the specific components that comprise what is commonly referred to as socioeconomic status or social class.23 Second, as has been observed in the context of developed countries, there is a social gradient in health observed for India.24 The gradient is observed regardless of whether we consider wealth or education.

This social gradient in health has been consistently observed in developed countries and is increasingly being noticed in other low-income and middle-income countries as well.25 The evidence from India shows that the lower an individual’s socioeconomic position, the worse their health. There is a social gradient in health that runs from top to bottom of the socioeconomic range, such that people second from the bottom have worse health than those above them but better health than those below. The social gradient in health means that an exclusive focus on certain groups will not be enough to close the gap in health inequalities and that the entire spectrum of the socioeconomic distribution needs to be considered.

Another notable finding is the considerably weaker or null effects of caste, once we take account of an individual’s socioeconomic status measured through wealth and education. Caste affiliation, traditionally, reflects the status within a hierarchical social structure, but it is also clear that the public legitimacy of caste has been diminishing; caste status is changing from being a marker of vertical relative rank to representing
some sort of horizontal cultural distinctiveness.²⁶ Caste-based pollution and segregation no doubt persist in practice and affect access, but they are also less uniform and rigid relative to earlier. More significantly, the distance between castes—upper, intermediate and lower castes—is increasingly less and more fluid. Caste, therefore, tells us less and less about income, occupation or education, since its distinctiveness both in ritual status and occupational identity has now lost its earlier unity and coherence.²⁷

Other notable findings include the lack of gender, religion, and urban–rural differentials in health, once we adjust for individual wealth and education. This would suggest that differentials along gender, religion, and urban–rural dimensions largely reflect the differential distribution of wealth and education, and as such no independent effect of gender, religion, and urban–rural residence was observed. The lack of gender effect is worth noting. There is extensive literature that has emphasized that females tend to have worse health outcomes.²⁷ We do not find robust evidence for female disadvantage in our analysis. Quite contrary, for children under age three, we find that boys are more likely to have anemia and anthropometric failures. We do not wish to undermine the importance of female disadvantage, which is considerable in a patriarchal society like India. Indeed, there is evidence to suggest that much of the female disadvantage now occurs prior to birth rather than after birth.²⁹ However, the evidence of male disadvantage for children, at least in terms of body measurements, requires further consideration before firm conclusions can be drawn.

Differences versus Inequalities in Indian Society

What do socioeconomic inequalities in health in India imply? Specifically, do they represent simply differences or also deeper inequities? Inequality in health is simply a measurable quantity, but inequity often expresses a moral value and reflects commitment to social justice. To illustrate this point, imagine individual A, who dies at age 40 during a sky-diving accident, while his identical twin, B, who does not enjoy this hobby, lives to age 80. The unequal life spans of A and B (and for that matter, the unequal life expectancies of recreational sky-divers and non-divers) reflects a personal choice that would not necessarily evoke moral concern.³⁰ Besides such voluntarily assumed risks, other examples of health inequality that one may not normally consider unjust include pure chance (e.g., a random genetic mutation—unlucky, but not unjust) or life stage differences (e.g., a 20-year-old having better health than a 60-year-old, but expected to succumb to the same slings and arrows of infirmity 40 years on). Health inequity refers to those inequalities in health that are deemed to be unfair or stemming from

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some form of injustice. The crux of the distinction between inequality and inequity is that the identification of health inequities involves normative judgment premised upon one’s theories of justice, theories of society, and reasoning underlying the genesis of health inequalities. Because identifying health inequities involves normative judgment, science alone cannot determine which inequalities are also inequitable, nor what proportion of an observed inequality is unjust or unfair.

So do the observed health inequalities by social axes of stratification imply some form of health inequity? At one level, a functionalist’s defense of social stratification would view health inequalities as a necessary and inevitable consequence of maintaining a market economy. In that vein, most of the health inequalities across social groups are unjust because they reflect an unfair distribution of the underlying social determinants of health (e.g., access to educational opportunities, safe jobs, health care, and the social bases of self-respect). The prevailing view in much of public health in India (and elsewhere), however, is the counterview that emphasizes individual responsibility and views health inequalities as the outcome of differences in how people make choices (e.g., the decision to start smoking or take up a risky hobby). Personal responsibility for health is therefore perceived as having an empowering role as in representing free choice. Yet, actions influencing perceptions and knowledge of health and access to health services, and more broadly, living conditions and social choices and obligations are rarely voluntary or spontaneous. From a social determinants perspective, therefore, the same choices can be seen as arising out of constrained and unfair circumstances (e.g., targeting of tobacco advertising to low-income children).

The weight of the empirical evidence in the health inequalities literature supports the social determinants perspective. That is, the decision to invest in personal health is not freely chosen to the extent that (a) there are early life course influences on adult health (when, presumably, most individuals are not competent to make informed choices) and (b) one’s life chances depend upon contextual factors (i.e., ambient risks that are imposed on individuals through their micro and macro environment or the behavior of others). The conditions that need to be met for regarding health inequalities as fair are, in fact, extremely stringent. Thus, many genetic differences, exposure to different childhood conditions, differences in most health behaviors, and most environmental exposures are unfair.

Despite high economic growth rates, India is still highly unequal in terms of the distribution of socioeconomic resources. Despite high economic growth rates, India is still highly unequal in terms of the distribution of socioeconomic resources. The findings in this article suggest the urgent need for policies that address the social causes of health inequalities: income, education, gender, social access, etc. Policies must also address the processes of social
development that increase participation and capacity building. Clearly, India’s economic growth needs to come with, rather than be followed by, transition toward a country with greater equality.

**India’s Welfare Policies: A Step in the Right Direction?**

Over the past decades, Indian welfare priorities in general and health policies and programs in particular have attempted to redress social disparities. Social inclusion has been a critical focus of constitutional, political, economic, and social agendas since India’s independence in 1947, and has become common currency in contemporary political and civil society debates on welfare policies and priorities. Constitutional provisions and development priorities have therefore been marked by a strong redistributive focus. India’s constitutional provisions through the enactment of affirmative action address the concerns of equality based both on need and merit. Welfare policies, including health policies, demonstrated a preoccupation with both material and social inequality.

After the liberalization and initiation of structural reforms in India in 1993, there has no doubt been a greater understanding of inequalities in health and their social context. Despite a promising performance on macroeconomic variables, the slow rate of reduction in poverty, the low quality of employment generation, growing rural-urban disparities, and low health indicators such as slow progress on the Millennium Development Goals with regard to infant and maternal mortality rate have been a source of concern.

The Common Minimum Program of the Indian government has put emphasis on inclusive growth with emphasis, among others, on ambitious programs for public health services provision. India’s apex planning body has dedicated two recent five-year plans to strengthen redistribution policies to address inequalities in the society. The recent five-year plan framed by the Indian government, for instance, aimed to provide essential primary health care to reach underserved and underprivileged populations and also to devolve funds and implement decentralized planning. But progress has clearly been slow and recent policy documents have restated the need to strengthen further these measures towards a “new vision of growth.”

Part of the problem lies in the understanding of the issues and challenges at hand. Social policy and programs in India, including in public health, have traditionally been driven by development priorities set by the poverty debate, with a focus on the poorest and most marginalized. Welfare policies in India have tended to focus on instruments of affirmative action and have aimed overwhelmingly at initiating social programs to redistribute jobs and housing or intermediate inputs such as education and health. The government’s flagship anti-poverty programs since the 1970s—such as job creation plans
for the rural landless, food security, training of rural youth, and micro credit schemes through self-help groups—have been aimed at poor households and have been often limited by poor local governance and limited coverage.

These priorities have shaped not only the momentum of policies and programs but also the content and direction of research and evidence building on health status and outcomes. Data and research frameworks on health have also been shaped by these priorities and data reference frames. This article therefore also makes a case for improved methodological dimensions and data availability in India to build wider evidence across the social gradient and at various levels, so as to shape policies oriented toward addressing society and health, in particular inequalities. There is a need not only for national-level studies but also for comparative research across rural and urban areas, states, and districts along with cross-sectional and longitudinal comparisons to enable us to map these dimensions with greater accuracy.

Many of the health inequalities in India are not inevitable or immutable and can be amenable to public policy via improving living standards and boarding educational opportunities in a fair and equitable manner. Yet, the pathways to redress these challenges need serious consideration. There is need to target programs and interventions that are simultaneously oriented both to the poorest and most marginalized and also across populations to address a range of socioeconomic measures across society. The full implications of the social gradient and its role in mediating relationships between economic development and health in India needs therefore still to be fully reflected in the changes and choices made in health policies.

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NOTES

6. Ibid.
7. Globalis, (Global Virtual University, United Nations University), http://globalis.gvu.unu.edu/ (see
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14. Ibid.

15. International Institute for Population Sciences and ORC Macro, National Family Health Survey 1998-1999 (Mumbai: IIPS, 2000). Three types of data were extracted from the INFHS. The first data set related to all members of the household, including those who died in the two years preceding the survey, the second was on ever-married women aged 15 to 49 living in the sampled households, and the third was on children aged less than three years born to ever-married women aged 15 to 49 years.


18. Galanter.


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32. Ichiro Kawachi, S.V. Subramanian, and Naomar Almeida-Filho.


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