



How many, Who and Where? Using Multiple Sources of Information to Estimate the Health Workforce in India.

Krishna D. RAO; Aarushi BHATNAGAR; Peter BERMAN

kd.rao@phfi.org

Public Health Foundation of India, New Delhi; Johns Hopkins University;
Bloomberg School of Public Health; World Bank, Washington DC.

Health workers are critical for delivering health care and studies indicate that population health and service utilization is associated with the size, composition and distribution of the health workforce. Information about the health workforce is important for planning and addressing labor market failures which result in the geographic and compositional mal-distribution of health workers. However, 'official' sources of information on India's health workforce is typically inaccurate, fragmented and unreliable.

This study demonstrates how different data sources, commonly available in many developing countries, can be used to produce reliable estimates of the health workforce. Specifically, this work aims to estimate the size, composition and distribution of the health workforce across states in India using different data sources and produces a set of 'best estimates'. In addition, the study estimates the number of unqualified physicians in the workforce. Further, the study evaluates the accuracy, advantages and disadvantages of these different data sources. The study uses data from the 2001 census, the 2004/05 National Sample Survey on Employment and Unemployment, and the Ministry of Health and Family Welfare.

Results indicate that there are substantial differences between officially reported statistics and estimates from the census and household surveys. Importantly, there is better agreement between the latter two sources. The health workforce density in India is below the 2.5/1000 population norm, though there is considerable inter-state variation. Further, doctors, female doctors, and nurses are concentrated in urban areas. Unqualified and traditional practitioners constitute an important share of the workforce. The census and household surveys are not without limitations; workforce information could be biased due to recording of self-reported occupations, ambiguous occupation descriptions, inconsistent classification and sampling issues. Overall, this study shows that a variety of routinely available data sources available in many developing countries can provide useful information on the health workforce and can be used to cross-check the accuracy of the workforce estimates.