



## Welcome to the NDIC Fellows Newsletter!

We bring you a special edition of the work by NDIC Early Career Non-Resident Fellows, where innovation meets impact. This edition highlights the contribution of young scholars who leverage survey and administrative data, using advanced statistical techniques, to address challenges in data quality, measurement accuracy, and policy relevance. From reimagining data collection techniques to adapting global frameworks for local challenges, their work reflects a deep commitment to data-driven development. By addressing inconsistencies in existing datasets and exploring new methodologies, NDIC fellows present transformative solutions that redefine how we measure human development. A collection of measurement briefs developed by NDIC Fellows is highlighted below that delve into critical themes in data collection and analysis, presenting actionable insights into human development domains. The featured briefs are outlined below.

### **Labour utilization and Time-related underemployment: Evidence from labour market experiments in India**

Nishat Anjum

### **Assessing the quality of Data from Medical Certification of the cause of Death (MCCD) in India and its applicability to Sample Registration System (SRS) Data**

Rufi Shaikh

### **Hidden Diabetes in India**

Md. Juel Rana

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# Labour utilization and Time-related underemployment: Evidence from labour market experiments in India

NISHAT ANJUM

Underemployment may be a more effective indicator of labour market slack than unemployment rates alone. It is typically measured as time-related underemployment, referring to individuals who work fewer than the threshold hours in a given reference period. With India experiencing a surge in new labour market entrants, it is essential to report more sensitive labour market indicators. This brief examines the determinants of time-related underemployment and the challenges in measuring it using data from the India Working Survey. Women are significantly less likely to be time-related underemployed than men. The findings indicate that 23% of employed women and 39% of employed men in the sample are time-related underemployed- they work fewer than the weekly threshold hours and are willing and available to work more. On average, men were available to work an additional nine hours per week, while women were available for five extra hours beyond their usual employment.

Individuals reporting underemployment while working less than 40 hours per week are often engaged as unpaid family helpers in their weekly employment status. However, individuals with a secondary education or higher are more likely to be underemployed than those who are illiterate, based on the sub-stratification of weekly hours worked. For both genders, underemployment is significantly underreported by proxies, even after controlling for omitted variables.

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# Assessing the quality of Data from Medical Certification of the cause of Death (MCCD) in India & its applicability to Sample Registration System (SRS) Data

RUFI SHAIKH

Mortality statistics from death certificates are crucial for measuring health quality, setting public health goals, and guiding research. However, in most developing countries, including India, cause of death data is often unavailable or unreliable. To address this, the Government of India introduced the Medical Certificate of Cause of Death (MCCD) under the Civil Registration System, but its implementation remains limited to certain hospitals. Meanwhile, the Sample Registration System (SRS) provides data on major causes of death only at the state level, whereas age, sex, and state-specific cause of death data is available only in MCCD reports. This raises the need to assess whether MCCD data can be integrated with SRS data to generate reliable age- and sex-specific mortality statistics for India and its states. This study analyzes trends in medically certified deaths across India and its states (2011–2020) and assesses whether MCCD proportions can be applied to mortality data from the SRS. Results indicate that only 22.5% of deaths in 2020 were medically certified. The increase in medically certified deaths was statistically significant at the 10% level. From 2010 to 2020, MCCD coverage improved in Andaman & Nicobar Islands, Chhattisgarh, Jharkhand, Mizoram, Punjab, Rajasthan, Sikkim, Tamil Nadu, and West Bengal, while declines were noted in Kerala and Tripura. The applicability of MCCD proportions to SRS data involves a tradeoff between sensitivity and false positives, highlighting the need for improved mortality data collection in India.

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## Hidden Diabetes in India

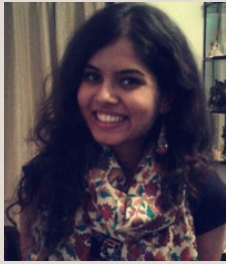
MD. JUEL RANA

In India, an estimated 77 million people above the age of 18 suffer from Type 2 diabetes, yet approximately 50% remain unaware of their condition. This measurement brief estimates the prevalence and burden of 'hidden diabetes' in India and its states. Hidden diabetes refers to a condition where a person has elevated blood glucose levels but is unaware of it and has not been diagnosed by healthcare professionals. The prevalence of hidden diabetes is calculated by dividing the number of hidden diabetic cases by the total projected 2020 population and multiplying by 100, separately for females and males in rural and urban areas. The findings suggest that 8.8% of India's population has hidden diabetes, amounting to 119 million cases. The prevalence is higher among males than females and in urban areas compared to rural areas. Hidden diabetes also increases with age in both sexes. Additionally, large populous states bear the highest burden of cases, while medium and small populous states have the highest prevalence rates. A robust database system on diabetes and its risk factors, including a national registry, can help identify hidden cases and track trends over time.

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Nishat is a Senior Research Fellow at Jawaharlal Nehru University, pursuing her PhD in Economics. Her areas of interest are Gender, Labour and Behavioural Development Economics. Prior to her PhD, Nishat also worked with the Centre for Sustainable Employment, Azim Premji University as a Research Associate, on the India Working Survey. Nishat holds a Masters in Economics from Jawaharlal Nehru University and a Bachelors of Science (Economics) from St. Xavier's College, Kolkata.



## **RUFI SHAIKH**

Rufi Shaikh is a Doctoral scholar at IIPS, Mumbai, researching morbidity, mortality, and health disparities in India. With expertise in public health, biostatistics, and epidemiology, she has published in Scopus-indexed journals and presented at global conferences. She has analyzed demographic and pharmaceutical data for CMIE, Reliance Health Foundation, and Sankhya Analytics. She holds a BSc in Statistics from St. Xavier's College and a postgraduate degree from IIPS Mumbai.



## **MD. JUEL RANA**

Md. Juel Rana is an Assistant Professor at G.B. Pant Social Science Institute, University of Allahabad. He previously held postdoctoral positions at Korea University, and IIPS Mumbai, focusing on policy insights and data quality assessment. With a Ph.D. and M.Phil. from JNU, he has published 40+ research papers, book chapters, and media articles in population health and development, specializing in large-scale data analysis.

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