

Noncommunicable Chronic Disease Prevention in India



RTI International applies expertise in biomarkers, metabolomics and proteomics, systems and translational sciences, epidemiology, health systems research, health economics, communication, and program evaluation to reduce the burden of noncommunicable diseases and eliminate disparities in health outcomes in India.

Our Approach

RTI is focused on improving health outcomes through the translation of scientific discoveries for public health action. Our theory-driven, transdisciplinary studies address individual, community, health system, and policy factors and interventions to advance noncommunicable disease prevention, treatment, and survivorship. Our projects span the care continuum and are conducted in partnership with local communities, state and municipal governments, research institutes, and the private sector.

Projects in India

Understanding Delays in Diagnosis and Treatment of Breast Cancer. India's burden of breast cancer is increasing. However, cases are typically diagnosed and treated late, leading to poor prognoses. Our research identifies strategies focused on the level of the individual, household, community, and health system that promote timely presentation for breast cancer care in India. The study is being conducted in collaboration with the Oncology Centre at the St. John's Medical College Hospital and the Kidwai Memorial Institute of Oncology in Bengaluru and is funded by the United States National Cancer Institute.

Improving Diabetes Medication Understanding and Use Through a Scalable Health Literacy Intervention

Leveraging Health Information Technology in Kerala, India.

Limited health literacy can lead to patients unilaterally stopping medications without communicating concerns to providers first, or simply taking medications in the wrong dose or frequency. This reduces the effectiveness of the medication and can cause other unintended problems. In partnership with the Medical Trust Hospital and Diabetes Care Center, Kulanada, we tested a health literacy intervention called Meducation that provides drug information to patients in a highly tailored, readable, understandable format. Patients taking glucose-control medicines received a Meducation printed handout that provides simple medication information using pictograms; large fonts; simple language; and language translations, including Malayalam.

Identifying Barriers Related to Screening, Diagnosis, and Treatment of Oral Cancers.

Oral cancer is a significant cause of death worldwide. India alone accounts for over 30% of the worldwide incidence of the disease, with 60% to 80% of cases presenting in advanced stages. In addition, even within India, patients with low socioeconomic status bear the brunt of the disease because they have a higher incidence rate. We are working with the Kidwai Memorial Institute of Oncology, Bengaluru, to assess barriers along the cancer care continuum and to use mathematical modelling to identify the most



cost-effective interventions. This will make it possible to identify interventions that can be implemented to improve patient outcomes.

Supporting the Design and Evaluation of a Pilot Program for Cervical Cancer Screening and Treatment. As World Bank consultants, we have supported the Karnataka Health Systems Development and Reform Project to design and evaluate a pilot cervical cancer screening and treatment program in Karnataka. The outcomes of this pilot program will inform the statewide scale-up of this effort and provide the basis for recommendations on the provision of cervical cancer prevention and control across the nation.

Resources Required for Cancer Registration. The availability of high-quality cancer registry data is critical for successful cancer control policies. This project, with funding from the U.S. Centers for Disease Control and Prevention, will accomplish two objectives: (1) catalog registry activities and cost for the most recent annual period to understand registry expenditures and (2) assess resources required to optimally perform registry activities to ensure high-quality data. The findings from this economic assessment will provide a framework to allocate resources to cancer registry data collection activities. This will ensure the compilation of high-quality data to develop actionable policies to reduce cancer mortality in India.

Selected Publications

- Krishnan, S., Madsen, E., Porterfield, D., & Varghese, B. (2013). Advancing cervical cancer prevention in India: implementation science priorities. *The Oncologist*, 18(12): 1285–1297. doi: 10.1634/theoncologist.2013-0292
- Subramanian, S., Sankaranarayanan, R., Esmay, P.O., Thulaseedharan, J. V., Swaminathan, R., & Thomas, S. (2016) Clinical trial to implementation: Cost and effectiveness considerations for scaling up cervical cancer screening in low- and middle-income countries. *Journal of Cancer Policy*, 7, 4–11. doi: 10.1016/j.jcpc.2015.12.006
- Subramanian, S., Sankaranarayanan, R., Bapat, B., Somanathan, T., Thomas, G., Mathew, B., Vinoda, J., & Ramadas, K. (2009). Cost-Effectiveness of screening for oral cancer: Results from a cluster randomized controlled trial in India. *Bulletin of the World Health Organization*, 87(3): 200–206. doi:10.2471/blt.08.053231
- Sankaranarayanan, R., Ramadas, K., Subramanian, S., Amarasinghe, H., & Johnson, N. (2013). Oral Cancer: Prevention, early detection, and treatment. *Cancer: Disease Control Priorities*, 3. Disease Control Priorities Network.
- Subramanian, S. (2013). Cost-effectiveness of screening for and early diagnosis of breast and gynecological cancers in low-income countries. *Breast and Gynecological Cancers: An Integrated Approach for Screening and Early Diagnosis in Developing Countries*, 201–213. doi 10.1007/978-1-4614-1876-4_11

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