



NCD Economics and Financing

RTI assesses the health financing landscape to identify trends, gaps, and opportunities to improve the efficiency and quality of health service delivery and address financial barriers to health services.

Noncommunicable diseases (NCDs) are the leading cause of death and illness worldwide. Each year, about 40 million people die from NCDs such as cancer, heart disease, chronic respiratory disease, and diabetes.¹ In low- and middle-income countries, many people die prematurely due to lack of timely diagnosis and access to care. The effects are dramatic for people's health and for economies. Cumulative economic losses in low- and middle-income countries are estimated to reach nearly \$500 billion per year, or about 4% of these countries' annual output.² Social costs of NCDs are also significant and include prolonged disability, job loss, heavy care-giving demands, and financial insecurity. Failure to prevent and manage NCDs will continue to significantly lower productivity and slow economic growth in low- and middle-income countries.

Noncommunicable diseases are a major challenge to sustainable development. Spurred by the United Nations' 2030 Agenda for Sustainable Development, Heads of State and Governments are committed to developing national responses to address the root causes of NCDs. RTI International has nearly 60 years of expertise in research, policy analysis and development, health economics and financing, and on-the-ground implementation. We work with global partners and country leaders to design, implement, and evaluate interventions and long-term solutions to NCDs in low- and middle-income countries. RTI is an integral partner in successfully assessing and addressing the negative economic and social impacts of NCDs globally. Our clients include the United Nations, Bloomberg Philanthropies, the World Bank, and the U.S. Centers for Disease Control and Prevention (CDC).



» RTI offers decades of experience developing and applying analytical tools and modeling expertise to measure and improve the efficiency and cost-effectiveness of health care.

Health Economics and Analysis

Policy-makers, members of society, and health care industries all grapple with how best to respond to the challenges NCDs pose. Infrastructure constraints, competing priorities, and uncertain financial conditions can be an impediment to addressing pervasive health care problems, even economically burdensome ones. RTI offers decades of experience developing and applying analytical tools and modeling expertise to measure and improve the efficiency and cost-effectiveness of health care. RTI examines each NCD problem in context, analyzing the long-run costs and benefits of varying strategies and interventions before recommending options or optimal solutions. We help policy-makers and health care industry leaders understand the investment considerations behind policy choices, measure cost-effectiveness, and prioritize strategies with high returns on investment. Clients value our expertise in health economics and program implementation in developing countries. RTI offers comprehensive economic and policy evaluation to

- Compare the cost-effectiveness and efficiency of intervention options
- Provide cost-benefit analysis and statistical modeling
- Strengthen health governance and management capacity
- Measure the impacts of policy actions
- Forecast revenue and funding flows
- Design and evaluate insurance, payment, and financing mechanisms

Health Financing

RTI's approach to health financing aligns with our overall approach to health systems strengthening by (1) promoting collaboration among government, civil society, and the private sector to ensure greater government responsiveness and maximize resource utilization; (2) enhancing civil society's role in advocacy and oversight to encourage transparent and effective use of public resources; (3) strengthening

the capacity of government and nongovernmental organizations to improve their performance in delivering key services to citizens; and (4) conducting analysis to allow for data-driven decision-making.

We work closely with governmental and other partners to assess the unique factors in a country's health financing landscape, including analyzing financial barriers to deliver NCD health services. RTI's health financing experts work with clients to increase access to funding mechanisms for NCDs. We offer analysis to promote health financing through

- Public-private partnerships
- Resource mobilization
- Public financial management
- Efficiency analysis
- Demand- and supply-side financial incentives
- Fiscal space analysis
- Financial risk protection
- Performance-based budgeting

RTI's researchers design and evaluate health financing and reimbursement programs, including insurance, payment, and financing systems. RTI conducts both qualitative and quantitative evaluation of health financing and payment programs to analyze costs, financial outcomes, utilization, quality, and efficiency—with particular attention to the role of financial incentives in health care. We design, implement, and evaluate payment methods—including fee schedules, prospective payment systems, pay for performance, shared savings, bundled/episode payment, capitation/global payment, value-based payment, and risk adjustment. This work also includes developing, calibrating, and evaluating risk adjustment models as well as researching patient attribution, shared savings, and cost report data as they relate to payment design and implementation.



Country Partners and Projects

RTI has active partnerships and projects addressing NCDs in more than 19 countries across Asia; Africa; South, Central, and North America; the Caribbean; and South Pacific. RTI's health economists and finance experts have also tackled the U.S. government's most challenging health system issues. We successfully compete for research grants from the U.S. National Institutes of Health and count the multiple U.S. federal health agencies among our largest clients. The following examples illustrate, in part, RTI's versatility and diverse capabilities in meeting the challenges presented by NCDs.

Global NCD Strategy and Planning

NCD and Tobacco Control Investment Cases

The United Nations Interagency Task Force on the Prevention and Control of Noncommunicable Diseases selected RTI as the key technical partner to support its work across the globe on NCD investment cases. We are working to inform priority setting and strategy implementation for interventions that manage diabetes, cardiovascular disease, and tobacco control in those countries. Through this work, RTI provides more than a dozen countries with costs of scaling-up NCD prevention and control interventions, measures the health and economic benefits of NCD interventions, and presents options for traditional and innovative financing approaches to support rollout of NCD services.

Decision Analysis for Tuvalu Chronic Kidney Disease Services

RTI coordinated with the Australian Department of Foreign Affairs and Trade, World Health Organization, the South Pacific Commission, and the government of Tuvalu to conduct decision analysis for Tuvalu to provide care for chronic kidney disease sufferers. Faced with difficult choices between sending kidney patients offshore for care and creating its own capacity to serve a large patient population in need of dialysis, Tuvalu benefited from the decision optimization modeling prepared by RTI. The analysis provided the Tuvalu Ministry of Health with a financial analysis of different care options, along with a risk analysis of non-health sector factors that would affect the sustainability of chronic kidney disease services in Tuvalu.

Health Sector Reform in Nepal

In Nepal, under the Nepal Health Sector Reform Program—funded by the UK Department of International Development (DFID)—RTI used an interactive bilingual resource tool to help Nepal's Ministry of Health and Population track resources and improve reporting for work plan and budgets. Using this software enabled Ministry officials to better analyze resource gaps and address them through more robust planning efforts. The results were increased collaboration and involvement of Ministry officials in the planning process, and improved ability to identify and address budget constraints.

Cost and Cost-Effectiveness Analyses

Costing of NCD Care in Kenya and in Trinidad and Tobago

For the Inter-American Development Bank, RTI completed a comprehensive assessment of the economic burden of NCDs in Trinidad and Tobago by analyzing the cost of cancer, hypertension, and diabetes due to productivity declines from illness. RTI conducted health facility costing for NCD care delivery in Kenya, finding wide variation in the costs of NCD services across public and private facilities. RTI's research also found that in Kenya, NCD diagnoses and treatment pose a substantial economic burden that can result in catastrophic expenditures to households.

ENVISION: USAID's Flagship Program on Neglected Tropical Diseases

RTI is the lead implementer of ENVISION (2012–2019), the U.S. Agency for International Development (USAID)'s flagship neglected tropical diseases (NTD) platform. For ENVISION, RTI conducted a 14-country retrospective costing study of all information, education, and communication (IEC), which was then combined with data from knowledge, attitudes, and practices surveys and coverage surveys to measure the cost-effectiveness of assorted IEC resources and materials. RTI then prepared an IEC Toolkit that helps USAID's country teams to design cost-effective IEC programs.

Cost-Effectiveness Modeling of Diabetes

RTI and the CDC used an RTI-designed model to assess the long-term cost-effectiveness of interventions for preventing type 2 diabetes and managing type 2 and type 1 diabetes. The model showed that screening at-risk individuals for signs of prediabetes and using the National Diabetes Prevention Program lifestyle intervention to treat those who have the condition would improve quality of life and also be cost-effective. Cost-effectiveness evaluations can help clinical and public health policy decision-makers set intervention priorities.

Health Budget and Payment Systems Strengthening

Performance-Based Budgeting in Brunei

RTI worked with the Ministry of Health (MOH) of the Government of Brunei to pilot a performance-based budgeting (PBB) process. The PBB pilot required the MOH to demonstrate program outcomes and impacts (rather than simply to list inputs) when requesting funding for new initiatives; the pilot also allowed planners at higher decision-making levels to set budget priorities and to allocate resources based on the cost-effectiveness of achieving program goals. RTI worked closely with the MOH to (1) define program indicators and set performance targets, (2) estimate the cost of each program, (3) enhance its capacity to implement the PBB process, (4) assist the MOH's transition to a fully developed PBB system, and (5) link the PBB process to strategic planning and the most recently prepared Health Sector Master Plan.

Capacity Building for Health Budgeting in Indonesia

Through the Local Governance Support Program—Indonesia, RTI designed a training program to develop local governments' core skills in budgeting, accounting, and asset management—with a particular focus on performance-based budgeting. The project facilitated the adoption of national and local regulations related to participatory and transparent planning and budgeting, and assisted 85% of partner local governments in producing performance-based budgets, exceeding targets.

Promoting Fiscal Decentralization in Rwanda

RTI, IntraHealth International, and a team of local and international agencies were part of the Rwanda Decentralization and Health Project (Twubakane) from 2006 to 2010. The teams worked to decentralize Rwanda's health care sector, enabling the country's districts to plan for and manage their own health care needs. Twubakane aimed to integrate Rwanda's national and district resources so that local health centers and hospitals could monitor the health requirements of their populations and provide effective services. RTI helped bridge the planning and fiscal gaps separating the MOH, Ministry of Local Government, and district governments. RTI created a joint plan for transferring funds from the central government to the districts and for raising funds within the districts for health care. The Twubakane project strengthened the effectiveness and responsiveness of Rwanda's health care system by promoting fiscal decentralization, helping to improve district government administration, developing grants management capabilities, and implementing monitoring systems.

Impact Evaluation

Diabetes Prevention Impact Toolkit

RTI developed a tool to measure the impact of CDC's National Diabetes Prevention Program (DPP). The toolkit predicts the health and economic effects of the National DPP for populations at risk for diabetes. The toolkit allows users to estimate cost and health outcome measures, including program costs, medical costs related to diabetes, and return on investment.

- ¹ World Health Organization. NCD Mortality & Morbidity; Global Health Observatory Data, 2017, http://www.who.int/gho/ncd/mortality_morbidity/ncd_total/en/. Accessed April 11, 2018.
- ² Bloom, D.E., Cafiero, E.T., Jané-Llopis, E., Abrahams-Gessel, S., Bloom, L.R., Fathima, S., Feigl, A.B., Gaziano, T., Mowafi, M., Pandya, A., Prettner, K., Rosenberg, L., Seligman, B., Stein, A., & Weinstein, C. (2011). *The Global Economic Burden of Non-communicable Diseases*. Geneva: World Economic Forum, <http://apps.who.int/medicinedocs/en/d/Js18806en/>. Accessed April 11, 2018.



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