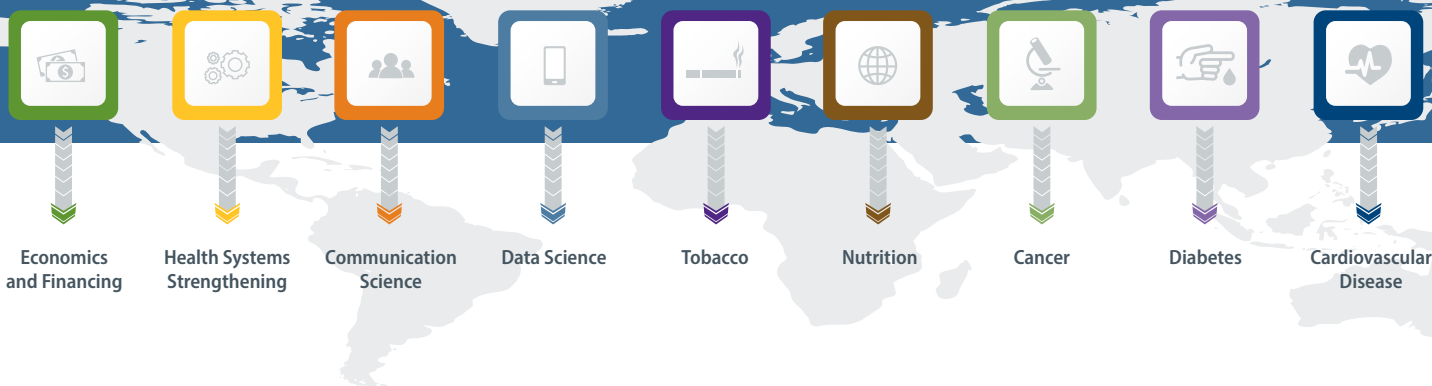




GLOBAL NCD CAPABILITIES

Assessing and Addressing Noncommunicable Diseases Worldwide



Noncommunicable diseases (NCDs) are the leading cause of human death and illness worldwide. Each year 39.5 million people die from an NCD such as cancer, heart disease, chronic respiratory disease, or diabetes. More than 80% of premature deaths from NCDs occur in low- and middle-income countries.

Inaction on this problem has significant economic ramifications for growth, capacity, and productivity. Cumulative economic losses from NCDs in low- and middle-income countries are estimated to have surpassed US\$7 trillion between 2011 and 2025 (nearly US\$500 billion per year), an aggregate average of 4% of annual output.² And the social cost is even more harmful—prolonged disability, diminished resources and financial insecurity in families, weakened businesses due to absenteeism, and increased demands on health systems.

Globally, it is recognized that NCDs are a major challenge to sustainable development. Many heads of state and governments are committed to developing national responses, in alignment with the United Nations 2030 Agenda for Sustainable Development, to address the root causes of NCDs.³



Health Systems Strengthening: Building Better Outcomes

» We have implemented more than 12,000 client-funded research and international development projects in more than 70 countries.

» We strengthen human capacity to implement, support, and use information systems.

» We are leaders in improving access to NCD medicines and products in low- and middle-income countries.

Foundations of Health

RTI has 60 years of expertise in research, policy analysis and development, health economics and financing, and on-the-ground implementation. During that time, RTI has worked to assess and successfully address gaps in health system performance. We manage complex, multicomponent NCD interventions; resolve systemic barriers; and improve access to, and demand for, high-quality health services.

We have implemented more than 12,000 client-funded research and international development projects in more than 70 countries. We prioritize country-owned participatory processes, recognizing that sustainable health outcomes depend on resilient and adaptable local health systems.

Health Information

Our researchers collaborate with partners to develop complementary and innovative tools that strengthen health information systems; improve data collection and analysis; and inform effective interventions in NCD prevention, diagnosis, and treatment. We help governments and other stakeholders to establish eHealth strategies to set priorities, delegate resources efficiently, and integrate best practices and standards. By establishing and institutionalizing training programs in health informatics, we strengthen human capacity to implement, support, and use information systems.

RTI fosters a culture of accountability and transparency by demonstrating the value of collecting, analyzing, disseminating, and using reliable data and information to improve point-of-care services, disease surveillance, and reporting.

Access to Medicines and Technology

Lack of access to essential medicines and technology (EMT) is one of the most challenging impediments to successfully diagnosing and treating NCDs in low- and middle-income countries. RTI develops and applies innovative tools to assess barriers and identify best practices for improved access to EMTs in low- and middle-income countries. RTI is a principal partner in high-level, multi-stakeholder coalitions—bringing state actors, international governments, nongovernmental organizations, philanthropists, and pharmaceutical companies together—to forge sustainable and scalable models for improved access to NCD medicines and technologies. RTI is a leader in the Coalition for Access to NCD Medicines & Products.



Health Systems Strengthening: Infrastructure

Supply Chain and Logistics

RTI International's Global Supply Chain (GSC) professionals work in over 50 countries. They provide exceptional services in strategic sourcing, procurement, operations, and compliance. Additionally, our experienced Logistics Department operates in over 101 countries, working in tandem with GSC to provide centralized shipping/receiving; international air and ocean freight; pharmaceutical-compliant warehousing; in-country cold-chain shipment management; inventory control; cross-border freight management; compliance with all country, client, and company regulations; strategic sourcing and procurement; and import/export activities. Together, RTI's GSC and Logistics teams currently manage approximately 100,000 units each year, valued at US\$352.4 million annually.

Health Governance

RTI works with national and local health decision-makers to make health policies responsive to challenges; invigorate bottom-up health service planning, budgeting, and monitoring; and build trust and credibility in government through public accountability for health programming. Our interventions rely on three core approaches:

- Promoting collaboration among government, civil society, and the private sector to ensure greater government responsiveness and to maximize use of resources;

- Enhancing civil society's role in advocacy and oversight to encourage transparent and effective use of public resources; and
- Strengthening the capacity of local and national governments and nongovernmental organizations to improve performance in delivering services to citizens.

We have developed a number of tools and methodologies aimed at weaving governance concepts into sectoral programs and improving decision making, information management, data analysis, planning, budgeting, resource allocation, and performance management.

Health Financing

With a wide range of analytical and implementation expertise, experience, and tools, RTI improves the health financing landscape for NCDs. Researchers identify trends, gaps, and opportunities to improve the efficiency and quality of health service delivery and address financial barriers to health services. We assist local governments and civil society organizations in advocating, planning, and budgeting for additional health resources to increase coverage and improve the quality of health services. By analyzing the long-run costs and benefits of varying strategies and interventions, we help policy makers, health care industry leaders, and funding partners to monetize policy decisions, measure cost effectiveness, improve health service delivery, and prioritize strategies with high returns on investment.

➤ 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.



Communication Science and Behavior Change

- ▶ Health behaviors and outcomes will respond best to communication strategies that are tailored to the sociocultural and policy context.
- ▶ RTI designs culturally relevant education communication tools to promote care-seeking behavior.
- ▶ RTI designs NCD prevention and communication methods and tools.
- ▶ We apply various tools to educate communities, policy makers, and key stakeholders; to activate NCD interventions; and to evaluate the impact of NCD interventions.

Communication for NCDs

Social and cultural norms—along with individual experiences, perceptions, and attitudes—play a significant role in the choices people make about diet, physical activity, tobacco use, and alcohol use—the four primary behaviors contributing to cancer, diabetes, heart disease, and chronic respiratory disease. Communication interventions grounded in behavior change theories can substantially reduce these risk factors for NCDs and effectively improve population health. In working with health practitioners, policy makers, and local communities, we examine how people seek and share health information; assess how social, cultural, market, and media forces influence decision-making; and analyze the impact of messages and promotional materials in the context of NCD-related health behavior. As NCD risk factors become more prevalent in low- and middle-income countries, health behaviors and outcomes will respond best to communication strategies that are tailored to the sociocultural and policy context. RTI, guided by best practices in communication research, engages communities in assessing and addressing the risk factors influencing their health.

Access to Care

RTI designs and implements communication tools that increase demand for, and access to, high-quality health care. Working with providers and community-based partners, we provide technical assistance and training to lower

clinical barriers to care. RTI designs culturally relevant education communication tools to promote care-seeking behavior.

Prevention

RTI has cultivated an interdisciplinary team of experts in health communication, health services research, psychometrics, literacy, health literacy, policy, cultural competency and clinical medicine. Using those resources, RTI designs NCD prevention and communication methods and tools, such as our Health Literacy Skills instrument. This tool is designed to reflect a range of tasks and skills that adults with NCDs are likely to face in their daily lives when making healthcare-related decisions. Our work can successfully prevent NCDs using a blend of policy measures, education and media campaigns, and provider training.

Behavior Change

RTI applies myriad technological, policy, and communication tools to educate communities, policy makers, and key stakeholders; to activate NCD interventions; and to evaluate the impact of NCD interventions. We tailor initiatives to reach people across social strata, age, income, and cultures. We do this through in-depth analysis, targeted messaging, and proven policy solutions that improve health outcomes. We work with governments, service providers and industry experts, educators, and communities to inform public perception and change the story on NCDs at the country level and globally.



Communication Science and Behavior Change

Digital Toolkits and Technology

New technologies offer new opportunities to educate audiences about NCD symptoms, behaviors that increase their risk of developing an NCD, and ways to actively engage in treatment and self-management practices. Social media platforms provide a vehicle for reaching broader and younger audiences with targeted messaging. We also use these methods to encourage health behaviors and influence social norms across diverse social strata. While focusing specifically on low- and middle-income countries, where 70% of all NCD deaths occur, RTI has successfully designed and implemented technological tools to educate, activate, and evaluate the impact of communication tools in changing public perceptions on NCDs.

Health Literacy Tools

Health literacy refers to the degree to which individuals understand the health information they need to make informed decisions. Lower health literacy is linked to poorer health status and higher risk of diminished health and death from NCDs. Improved health literacy for people in low- and middle-income countries is a critical component of lowering NCD risk factors, influencing individual behaviors, and incentivizing treatment. RTI implements programs that are customized for specific communities in these countries.

Research and Evaluation

RTI's Center for Communication Science applies science-based communication interventions aimed at impacting the global NCD burden. Promoting healthy behaviors—smoking cessation, physical activity, healthy diet, and limited alcohol consumption—is essential in preventing NCDs. The Center for Communication Science develops innovative, culturally astute communication campaigns to effectively improve treatment, reduce risk, and prevent NCDs in low- and middle-income countries and worldwide. Further, RTI critically assesses and evaluates the impact of behavior change communication projects on the health and behavioral trends of communities where communication interventions are conducted, with a specific focus on impacts to at-risk and underserved communities.

➤ RTI has successfully designed and implemented technological tools to educate, activate, and evaluate the impact of communication tools in changing public perceptions on NCDs.

➤ RTI implements programs that are customized for specific communities in these countries.

➤ The Center for Communication Science develops innovative, culturally astute communication campaigns to effectively improve treatment, reduce risk, and prevent NCDs.



Nutrition: Obesity and Food Systems

Obesity and overweight have nearly tripled since 1975. Some 39% of adults aged 18 years and older were overweight, and approximately 13% of the world's adult population was obese in 2016.⁴

The tools and interventions we design provide access to, and incentives for, making healthy choices in nutrition and physical activity.

Global Malnutrition

Diet, physical activity, and health are intrinsically linked to lifestyle and socioeconomic production. Globally, a pronounced move away from agriculture and toward manufacturing and service employment—coupled with increased urbanization and changes in food sourcing and processing—is driving a rapid increase in obesity and increased body mass. Obesity and overweight have nearly tripled since 1975. Some 39% of adults aged 18 years and older were overweight, and approximately 13% of the world's adult population was obese in 2016.⁴

In low- and middle-income countries, changes in dietary and physical activity patterns are often the result of environmental and societal changes associated with development. These environmental and societal changes are also tied to a lack of supportive policies in sectors such as health, agriculture, and education.

The Dual Burden

Overweight and obesity are major risk factors for some of the most prevalent NCDs, including cardiovascular disease, diabetes, and cancer. People in low- and middle-income countries now face a dual burden of malnutrition and a rapid upsurge in NCD risk factors associated with obesity and overweight, particularly in urban settings. Unborn children, infants, and young children in low- and middle-income countries are more vulnerable than adults to inadequate nutrition. These children are being

exposed more frequently to high-fat, high-sugar, high-salt, energy-dense, and micronutrient-poor foods—which tend to be lower in cost but also lower in nutrient quality.⁴ Globally, the number of overweight or obese infants and young children (aged 0 to 5 years) increased 78% between 1990 and 2016.⁵ Simultaneously, 32% of children were malnourished, and 23% were stunted in 2016.⁶ These dietary patterns, in conjunction with lower levels of physical activity, result in sharp increases in childhood obesity while undernutrition issues remain unsolved.

Impact Innovation

At RTI, our experts understand that societal and individual behavior change requires supportive, evidence-based policy environments. The tools and interventions we design provide access to, and incentives for, making healthy choices in nutrition and physical activity. We leverage extensive expertise in data collection and analysis, food systems and policy, health behavior change, economics, and public health to foster sustainable solutions. RTI engages policy makers, public health practitioners, food industry leaders, and communities to reduce the risk of overweight and obesity, and to decrease incidents of concurrent NCDs.



Diabetes: Prevention, Diagnosis, and Treatment

The Global Impact

Diabetes is a serious public health problem. Both the number of cases and the prevalence of diabetes have been steadily increasing over the past few decades. Globally, the number of adults living with diabetes increased 76% from 1980 to 2014, to 422 million.⁷ The prevalence of diabetes in the adult population has nearly doubled, rising from 4.7% to 8.5%, during the same period. And, if left unaddressed, diabetes is projected to rise to a global rate of 9.9% by 2045.⁸

Diabetes is steadily increasing everywhere, markedly in the world's low- and middle-income countries, where 82% of diabetes-related deaths occur.⁷ Changes in lifestyle, food production and trade, and nutrition have dramatically increased incidence and risk of overweight and obesity in low- and middle-income countries. These social and economic trends are often occurring in contexts where country-level policies and health systems infrastructure cannot adequately meet the rising demand for diabetes prevention, detection, and treatment.

Sustainable Solutions

People with diabetes who depend on life-saving insulin pay the ultimate price when they have no access to affordable insulin. In an effort to address this growing health challenge, world leaders have committed to reducing the burden of diabetes as one of four priority NCDs. As part of the 2030 Agenda for

Sustainable Development, member states have set ambitious targets to increase access to NCD medicines and essential products by 2030.³

RTI has 6 decades of expertise in health research, critical programmatic and policy development, and health economics. Using that knowledge, we provide evidence-based solutions to improve health outcomes. We work with partners worldwide to co-create cost-effective national strategies, programs, and interventions for the prevention, diagnosis, and treatment of diabetes.

Access and Economics

RTI is a leader in conducting cost-effective modeling and analysis for country-level diabetes programs. First, we carry out in-depth assessments of healthcare utilization and medical costs associated with diabetes. Then we design interventions to increase health system capacity and healthcare savings for nations contending with substantial economic impacts associated with diabetes-related losses. Our evidence-based approach engages stakeholders across multiple sectors, health industries, governments, and communities to develop programmatic and policy solutions.

We leverage on-the-ground, community-based partnerships and international alliances across governmental and industry networks to improve health outcomes and implement solutions at scale. We have become leaders in health economics, and analysis of payment systems to enable health systems strengthening, increased access, and cost efficiency.

- ▶▶ Diabetes is steadily increasing everywhere, markedly in the world's low- and middle-income countries, where 82% of diabetes-related deaths occur.⁷
- ▶▶ We work with partners worldwide to co-create cost-effective national strategies, programs, and interventions for the prevention, diagnosis, and treatment of diabetes.
- ▶▶ We design interventions to increase health system capacity and healthcare savings for nations contending with substantial economic impacts associated with diabetes-related losses.

RTI is working with global partners and country leaders to design, implement, and evaluate policy, prevention, and treatment interventions and long-term solutions.

RTI and NCDs

RTI is working with global partners and country leaders to design, implement, and evaluate policy, prevention, and treatment interventions and long-term solutions. Together, we are helping country-level partners to reduce premature mortality from NCDs, supporting the achievement of universal health coverage, strengthening health systems and responses to reduce harmful use of alcohol and tobacco, and improving access to essential medicines and treatments.

RTI has accumulated 60 years of expertise in research, policy analysis and development, health economics and financing, on-the-ground project implementation, and health systems strengthening. Along the way, RTI has become

an integral partner in both assessing and successfully addressing the negative health, economic, and social impacts of NCDs.

RTI has active partnerships and projects addressing NCDs in more than 19 countries across Asia; Africa; South, Central, and North America; the Caribbean; and the South Pacific Islands. With more than 4,000 employees working worldwide, we strive to improve the human condition by turning knowledge into practice. In concert with the World Health Organization's health systems framework, we focus on health systems strengthening, improvements to health information systems, access to essential medicines, health financing, and leadership and governance to reduce NCD burden.

References

1. World Health Organization (WHO). (2017). Global Health Observatory (GHO) data: NCD mortality and morbidity, 2017 [Interactive database]. Retrieved 22 Oct 2017 from http://www.who.int/gho/ncd/mortality_morbidity/ncd_total/en/
2. World Economic Forum (WEF). (2011). *From burden to "best buys": Reducing the economic impact of non-communicable diseases in low- and middle-income countries*. Geneva: WEF. Retrieved 11 Jun 2018 from World Health Organization Essential Medicines and Health Products Portal, <http://apps.who.int/medicinedocs/en/d/Js18806en/>
3. United Nations General Assembly. (2011). Third plenary meeting, 19 September 2011; Sixty-Sixth Session, Agenda Item 117. Annex: Political Declaration of the High-Level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases. Retrieved 18 Mar 2018 from http://www.who.int/nmh/events/un_ncd_summit2011/political_declaration_en.pdf
4. WHO. (2018). *Obesity and overweight* [Fact sheet]. Retrieved 27 Feb 2018 from <http://www.who.int/mediacentre/factsheets/fs311/en/>
5. WHO, Commission on Ending Childhood Obesity. (2016). *Facts and figures on childhood obesity* [Fact sheet]. Retrieved 6 Mar 2018 from: <http://www.who.int/end-childhood-obesity/facts/en/>
6. WHO. (2016). Global Health Observatory (GHO) data: Child malnutrition [Interactive database]. Retrieved 6 Mar 2018 from <http://www.who.int/gho/child-malnutrition/en/>
7. WHO. (2016). *Global report on diabetes*, p. 6. Geneva: WHO. Retrieved 15 Mar 2018 from http://apps.who.int/iris/bitstream/10665/204871/1/9789241565257_eng.pdf
8. Statista. (2018). Percentage of diabetics in the global adult population in 2017 and 2045 [Interactive database]. Retrieved 17 Mar 2018 from <https://www.statista.com/statistics/271464/percentage-of-diabetics-worldwide/>

More Information

Rachel Nugent
+1.206.268.3612
rnugent@rti.org
Follow on Twitter: @RachelNugent
RTI International
119 South Main Street, Suite 220
Seattle, WA 98104 USA
ncd@rti.org

RTI 12068 0918



RTI International is an independent, nonprofit research institute dedicated to improving the human condition. Clients rely on us to answer questions that demand an objective and multidisciplinary approach—one that integrates expertise across the social and laboratory sciences, engineering, and international development. We believe in the promise of science, and we are inspired every day to deliver on that promise for the good of people, communities, and businesses around the world.

For more information, visit www.rti.org.

RTI International is a registered trademark and a trade name of Research Triangle Institute. The RTI logo is a registered trademark of Research Triangle Institute.