

Improving Public Health



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DR. WAYNE HOLDEN,
RTI PRESIDENT AND CEO





MESSAGE FROM RTI INTERNATIONAL'S **PRESIDENT & CEO**

Over the course of RTI International's more than 55-year history as a leading research institute, we have looked for opportunities to help government and private-sector clients address the most complex social and scientific challenges. All of our research—whether in the social sciences, laboratory and life sciences, or engineering—is driven by our mission to improve the human condition.

One of the most rewarding aspects of my role as president and CEO of RTI is to see the continued expansion of our work to regions of the world whose nations are committed to that very mission. The United Arab Emirates is one such nation, where leaders are focused on creating a better future.

RTI's work with partners in the United Arab Emirates is particularly important in a time marked by rapid advancements in science and a growing need for multidisciplinary and collaborative effort. Together, we can make a difference and have a positive impact on people, on society, and on the world.



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DR. JAN MITCHELL,
RTI SENIOR VICE PRESIDENT,
*Social Policy, Health, and
Economics Research*

RTI is committed to partnering with researchers, providers, and policymakers to build a better future for the United Arab Emirates and its people. Since opening our first office in the United Arab Emirates 10 years ago, we have strived to assist local efforts to improve health; support the efficient use of available resources; capture, manage, and process information; and enhance communication.

As part of our commitment to the United Arab Emirates, we partnered with the Emirates Center for Strategic Studies and Research to organize the First Arabian Gulf Public Health Research Conference, held in January 2014. The conference provided a forum for regional and global leaders, scientists, experts, and public health practitioners to gather and discuss strategies for addressing regional health concerns. It also served as an opportunity for several of RTI's executive and technical leaders to make new connections in the United Arab Emirates and experience Emirati culture.



TIM GABEL,
RTI EXECUTIVE VICE PRESIDENT,
*Social, Statistical, and
Environmental Sciences*

We are dedicated to nurturing and growing our presence in the United Arab Emirates and throughout the Arabian Gulf region. We prepared this booklet to highlight services and capabilities we provide, with a particular focus on public health.

Since 1959, RTI has worked on projects in more than 75 countries—adapting our approach to suit specific cultural contexts and developing creative, evidence-based solutions to the world’s most critical social and scientific problems. We understand the unique challenges the United Arab Emirates faces, and we are committed to helping this great nation shape a better future for its people.

Many RTI staff members from the United States and our Abu Dhabi office participated in the First Arabian Gulf Health Research Conference, organized by RTI International and the Emirates Center for Strategic Studies and Research. Taking time to learn about the local culture, Dr. Holden (preceding pages) received an up-close lesson on falconry, while Mr. Gabel and Dr. Mitchell enjoyed a traditional Emirati meal.



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RTI IN THE UNITED ARAB EMIRATES

RTI has collaborated extensively with partners such as the Environment Agency–Abu Dhabi, the Executive Affairs Authority, Emirates Wildlife Society, Center of Waste Management, and the Emirates Nuclear Energy Corporation. We recently partnered with local experts to study the cost-effectiveness of implementing a diabetes prevention program in Abu Dhabi, and we are forging new relationships to help advance implementation of e-health strategies in the United Arab Emirates.

We opened our first office in the United Arab Emirates more than 10 years ago. In January 2014, we moved into a new office at the Centre of Excellence for Applied Research and Training (CERT)—the commercial, research, and training arm of the Higher Colleges of Technology (HCT), the largest institute of higher education in the United Arab Emirates.

This new and larger office space on the CERT campus reflects our commitment to the region and strengthens our relationship with HCT/CERT. As our operational hub in the Arabian Gulf region, the Abu Dhabi office enables us to provide local support for projects and establish new strategic partnerships.



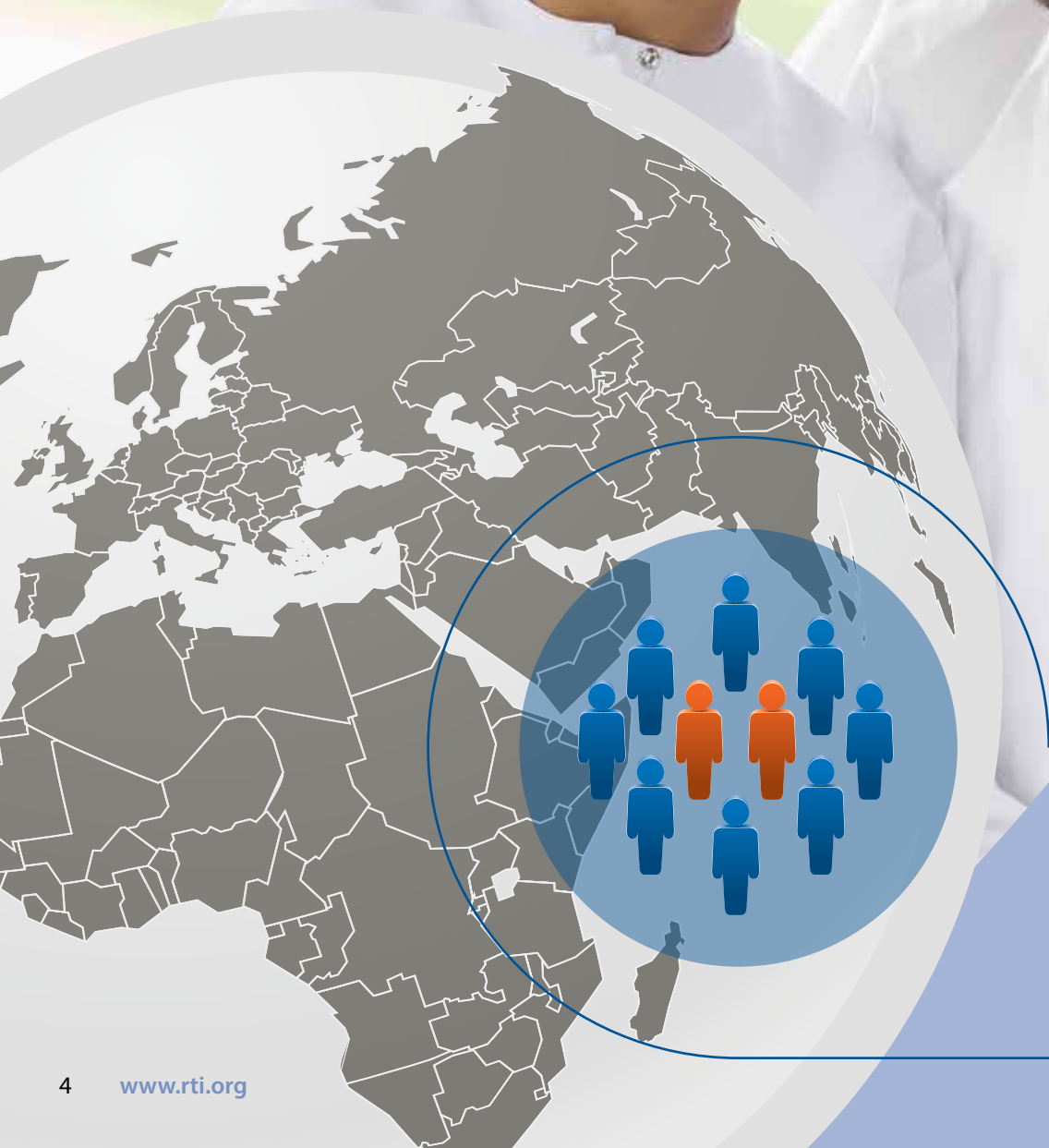


Tim Gabel and Dr. Tayeb Kamali, HCT vice chancellor and CERT group chief executive, ceremonially opened the new RTI office in Abu Dhabi.



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health



Estimated prevalence of obesity in children and adolescents in the Emirate of Abu Dhabi (ages 6–19) is 19.8%. Another 14.2% are overweight (International Journal of Obesity, 2013).

CHILD

HEALTH & WELLBEING

RTI's dedication to improving the human condition begins with the health and wellbeing of children. Using our foundation in research, education, and public health, we study the pressing issues that influence the physical, social, and emotional wellbeing of children and their families.

Genetic Screening for Heritable Disorders

Screening and early intervention for specific heritable disorders can improve children's lives. Our researchers help clients develop policy on newborn screening and carrier testing for these heritable disorders. We also support the development of web-based tools that screen for genetic risks and educate patients and providers, and we assess changes in families resulting from early intervention programs for children with heritable disorders.

Developing Communication & Parenting Skills

Preparing families to face the challenges of the future involves development of key skills. Joint goal-setting, communication, and conflict resolution are at the core of successful families and contribute to positive interactions within and outside the household. Specific interventions to improve couple relationships have also been shown to improve children's lives. Our researchers have evaluated 50 different tools and approaches to family strengthening, including curricula to develop good financial habits as a family.

Guidelines for Fitness & Nutrition

A healthy diet and exercise can help reduce future health problems. We collaborate with various agencies to support the development of guidelines, standards, and tools to improve nutrition and fitness. For example, we evaluate nutrition education strategies to determine whether they influence users to consume more fruits and vegetables, and we study obesity interventions to determine how to replicate successful programs in other communities.



OBESITY & DIABETES

The United Arab Emirates faces an increasing prevalence of obesity and diabetes. RTI conducts statistical and epidemiological research on these chronic diseases and creates interventions for clinical, community, family, and school settings. With our extensive experience adapting our approach to specific cultural contexts, we are prepared to help the United Arab Emirates reverse this trend.

A Trusted Partner in Obesity & Diabetes Intervention

We recognize the burden that obesity and diabetes can place on individuals, families, health care systems, and communities, so we evaluate programs and policies to determine whether they are performing as intended. When there is room for improvement, we design and implement strategies that make better use of resources and support better outcomes.

For example, we developed childhood obesity prevention programs that are implemented at the school level and in other community programs for children. Through these child-focused programs, we are helping to build healthy environments—encouraging children to make healthier choices about foods and beverages and inspiring them to be more active.

We have also conducted numerous cross-site evaluations of diabetes self-management programs. Through this research, we have identified promising approaches for supporting individuals to manage and control their diabetes using both clinical and community-based programs.

In response to the growing prevalence of diabetes in the United Arab Emirates, we recently estimated the cost-effectiveness of a potential diabetes prevention program in Abu Dhabi. Applying our mathematical model, we weighed factors such as the cost of the program and future health care costs, and we considered the improvement in quality of life from preventing diabetes. Based on World Health Organization guidelines to assess the cost-effectiveness of interventions, we determined that preventing diabetes is likely to be highly cost-effective in Abu Dhabi.



An estimated 1 in 10 adults in the United Arab Emirates has diabetes (IDF Diabetes Atlas, 6th ed., 2013).

CANCER

CONTROL & PREVENTION

Through surveys and research, RTI explores how health systems, societal factors, medical technologies, health care policies, and personal behaviors affect the entire continuum of cancer care. Armed with this knowledge, we help agencies and providers develop, employ, and promote effective strategies to reduce cancer's burden.



Cancer is responsible for an estimated 9.86% of deaths in the United Arab Emirates (UAE Ministry of Health 2012 Media Report, 2013).

Prevention & Detection

Creating awareness of cancer's risks and the benefits of early detection are key to lowering prevalence and improving survival rates. Our epidemiologists research cancer causes, risk factors, and prevalence, and we use this information to support public health initiatives targeting at-risk populations—such as screening programs for breast, cervical, and colorectal cancers. We also perform cost and cost-effectiveness evaluations of prevention and detection efforts to identify lessons for future program development.

Diagnosis & Treatment

To improve cancer diagnosis and ensure delivery of high-quality care, we create tools for collecting, processing, and sharing diagnostic and treatment information; evaluate existing practices; and design strategies for improvement. For example, we developed a clinical decision support tool for gene-based tests on breast cancer susceptibility and treatment. This web-based tool features both patient and physician interfaces that help assess risk and support dialog between patients and providers. To gauge quality of care, we measure patient-centered communication to determine whether patients are receiving the information and support they need, and we conduct surveys to identify disparities between patient-reported symptoms and symptom management.

Survivorship

With advances in early detection and treatment, there comes a growing number of cancer survivors. Cancer survivors often face various emotional and psychological challenges following diagnosis and treatment. We evaluate existing survivorship initiatives and help design, improve, and implement strategies to address survivors' long-term needs, including continued testing and treatment, preventive measures, emotional support, and palliative care.

TOBACCO

USE

RTI's approach to developing tobacco prevention and cessation programs begins with understanding users. Where do they look for information, and how will they react to specific types of messages?



Tobacco is responsible for about 1 in every 10 adult deaths worldwide. In the United Arab Emirates, more than 21% of young males (ages 13–15) and 28% of adult males (ages 18+) use tobacco (World Health Organization, 2013).

Adapting to Your Audience

Much of the evidence for effective tobacco education campaigns comes from the United States, Australia, and Europe. Too often, messages destined for other parts of the world are simply translated into the local language and implemented with little adaptation.

We recognize that it is crucial to assess the messages and strategies that will be more salient and effective with users in the United Arab Emirates. We study audiences to determine leverage points, such as personal health or concern for children in the home, and examine population data to better understand their receptivity to different messages. Applying our expertise in evaluating tobacco campaigns, we use this information to gain insight into how people perceive the problem of tobacco use and what topics or approaches are most appropriate.

Combining our expertise in economics, program evaluation, and survey research, we plan and implement a range of tobacco prevention and control strategies:

- Conduct research to identify target audiences and develop and pretest message delivery
- Examine the influence of organizational, community, and policy factors on health behavior
- Design evaluations
- Perform quantitative analyses, including survey development and implementation, multivariate modeling, and secondary data analyses
- Perform qualitative analyses, such as ethnographic research, observation, focus groups, in-depth interviews, and case studies.

SUBSTANCE ABUSE

RTI is a leader in expanding knowledge about the consequences of substance abuse and the efficacy of programs that combat it. Our interdisciplinary approach to substance abuse research encompasses epidemiology, economics, psychology, health services, biology, pharmacology, clinical medicine, statistics, and survey methods.

Appropriate, Acceptable, & Feasible Solutions for Substance Abuse

The foundation of our engagement with substance abuse issues is researching and monitoring the extent and effects of drug and alcohol abuse among different populations. For example, we've conducted the National Survey on Drug Use and Health in the United States since 1988—establishing standards for sample selection and weighting, questionnaire development and testing, data collection and processing, methodological investigations, analysis, and reporting. Our service to the client has consistently earned us exceptional ratings on annual evaluations.

Reaching beyond surveillance, we conduct multisite, multidisciplinary research to develop, implement, and evaluate evidence-based interventions. Because our experience includes working with at-risk populations around the world, we are sensitive to the need to establish programs that are appropriate for a given community and culture. Early identification and intervention programs—such as screenings, brief interventions, and referrals to treatment—offer an excellent opportunity to reduce and improve the problems of substance abuse.

The United Arab Emirates faces a unique challenge to addressing substance abuse because of the nation's diverse population, with non-nationals comprising the bulk of its residents. Using proven techniques and tools, we assess who may be at risk for substance abuse, evaluate the efficacy of prevention and intervention programs, and determine strategies for program improvement that are culturally appropriate and feasible.





resources

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The United Arab Emirates Ministry of Health estimates government spending on health care will increase from AED 36 billion in 2011 to AED 40 billion in 2015 (The National, June 2013).

FINANCING

HEALTH CARE

Providing quality health care is a complex and expensive venture. RTI helps clients make fiscally sound decisions along the entire continuum of care by researching policy issues, payment methods, the underlying causes of high costs, and resource allocation.

Improved Policy & Payment Methods Lead to Better Care

Our research on health care financing and reimbursement policy includes examining the design and evaluation of health care insurance, payment, and financing systems. Paying particular attention to the role of financial incentives, we analyze costs, financial outcomes, quality, and efficiency.

We design, implement, and evaluate innovative payment methods. We consider fee schedules, prospective payment systems, pay-for-performance mechanisms, shared savings, bundled payment, capitation, selective contracting, tiered payment, and risk adjustment. To determine the appropriate payment methods for our clients' needs, we study the behavior of providers, insurers, pharmaceutical firms, and institutions and analyze the decisions made by patients.

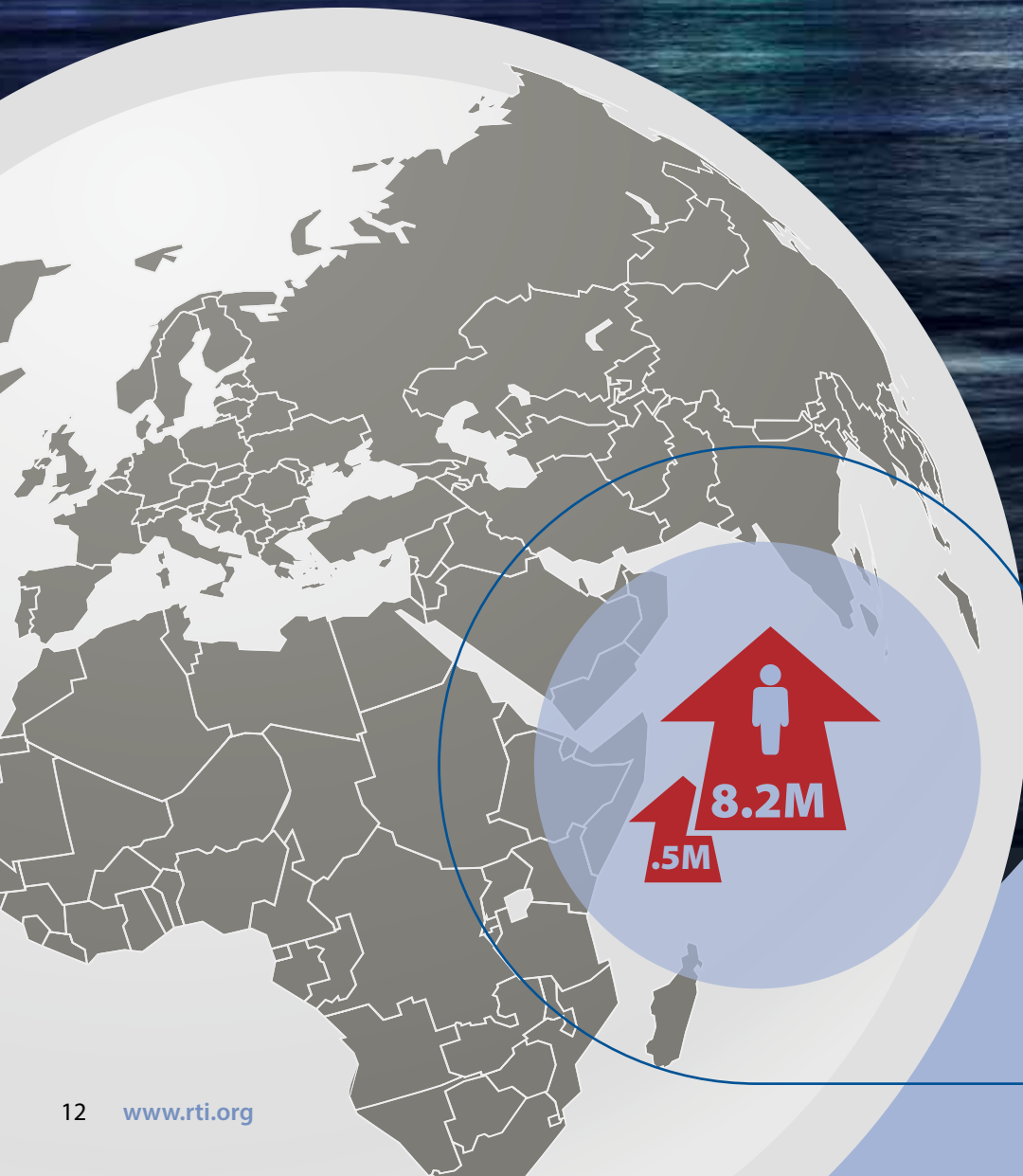
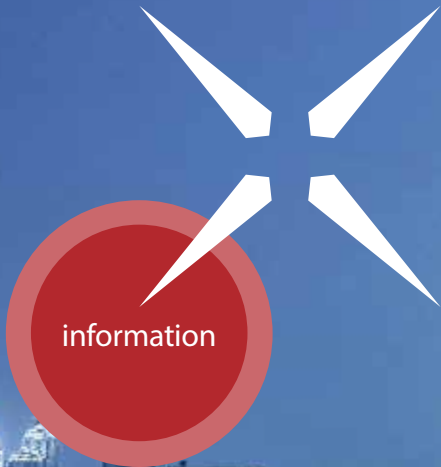
Your Complete Health Care Financing Partner

The United Arab Emirates depends heavily on government funding for health care, making it vital that those funds be spent efficiently. As a result, there has been increased emphasis on promoting preventive care both to improve overall health and to reduce the financial burden of curative care. Our approach to this initiative is an interdisciplinary enterprise that combines expertise in economics, health care policy and administration, sociology, epidemiology, public health, social psychology, statistics, and survey methods. This wide-ranging expertise enables us to provide comprehensive health care financing services:

- Cost/benefit analyses of interventions and treatments
- Cost-effectiveness studies
- Economic modeling
- Evaluation of large medical claims and prescription drug data sets
- Payment and delivery models for government health programs
- Program evaluations
- Rate-setting and simulation analysis
- Risk adjustment methodologies.



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Population in the United Arab Emirates has soared from about 0.5M people in 1975 to an estimated 8.2M in 2010, mostly due to immigration (United Arab Emirates National Bureau of Statistics, 2005, 2010).

POPULATION REGISTRIES & SURVEILLANCE SYSTEMS

RTI's population registries and surveillance systems help inform decision-making on a multitude of real-world issues. For example, we designed a registry to track long-term physical and mental health effects experienced by disaster survivors, and we created a surveillance system to provide ongoing population-based pregnancy risk assessment.

Creating Knowledge for Better Decisions

Using population registries, we track and estimate outcomes in individuals with specific disease conditions, environmental exposures, or health events so clients can develop more effective policies and focus resources where they are needed most. For example, to help agencies respond to large-scale emergencies more quickly and more effectively, we designed a rapid response registry that creates registries of persons involved in emergency events (e.g., chemical, biological, natural disaster) within 12 to 24 hours after the event.

Surveillance systems allow us to conduct long-term systematic collection, management, analysis, interpretation, and dissemination of data related to public health or safety. The Global Adult Tobacco Survey, for example, uses mobile data capture to collect country-specific surveys. Hundreds of thousands of surveys have been conducted since its inception in 2007, and we continue to provide data management, training, and technical support for this long-term study.

In our experience, we have found that the more you know, the better prepared you are to make important decisions. Our wide range of substantive and survey research expertise, experience working in many cultures around the world, and capabilities in every mode of survey design and data capture enable us to construct tailored surveillance systems and registries that drive informed decision-making.



DATA COLLECTION

RTI offers a range of data collection services and tools to improve efficiency, ensure privacy, and generate accurate results.

Resources for Every Mode of Data Collection

Our web survey tools are particularly effective for collecting data from larger or more widespread populations. For example, we created web-based applications for electronic data capture to collect and organize various types of data from multiple sources and geographic information systems (GIS) to map large surveys. We also offer a variety of applications to facilitate connections with the vast number of mobile users in the United Arab Emirates.

We designed our computer-assisted telephone interviewing systems to handle all the key operational components of a telephone survey—including case management, call scheduling, tracing, and reporting. Our Research Operations Center connects remote interviewers to a secure calling center, providing unlimited data collection capacity.

To streamline face-to-face surveys, we created computer-assisted personal interviewing systems that support data flow and communication between field staff and data collection managers. We also designed audio computer-assisted self-interviewing tools to ensure privacy for studies involving information of a sensitive nature. Respondents use headphones to listen to digitally recorded questions and key in their responses. Our telephone audio computer-assisted self-interviewing systems provide similar enhanced privacy for telephone interview respondents.

To improve the quality and authenticity of telephone and in-person interviews, we developed a computer audio-recorded interviewing application that creates a digital record of the exchanges between interviewer and respondent.

From in-person surveys to telephone interviewing to the latest in online and mobile technologies, we have a 55-year history of pioneering the science of data collection.



RESEARCH OPERATIONS CENTER

RTI's Research Operations Center serves as the hub of our research data collection and data management services. From this state-of-the-art, access-controlled facility, we deploy sophisticated systems and processes for interviewing, quality monitoring, respondent locating, sample mapping, data capture, and fulfillment.

Data Collection Resources for Any Project

Our data collection capabilities include computer-assisted telephone interviewing, institutional contacting, inbound call handling (helpdesks and hotlines), and sophisticated respondent tracing and locating services. The 50,000-square-foot center houses the staff and infrastructure for telephone, field, and mail surveys—including 450 data collection specialists who conduct data collection in seven languages and more than 40 supervisors who provide training and monitor performance. The facility features 240 networked telephone interview stations operating multiple shifts, 7 days a week.

The Research Operations Center's innovative culture has recently led to the acquisition and implementation of a new data collection system called Voxco. This advanced data collection system features an enhanced workflow process, preview and predictive dialing, fast data file preparation, and support for multiple languages, including Arabic.

Voxco, along with advanced telecommunication systems that facilitate international dialing, identification of time zone differences, and intelligent automated call distribution, strengthen our ability to support international projects. The Research Operations Center also uses Voice over Internet Protocol technology, which integrates telephone and data networks to provide sophisticated recording, web-based reporting and management tools, and the flexibility to establish interviewing and tracing capabilities on RTI's data network.



450

RTI's survey data collection capabilities include a 50,000-square-foot Research Operations Center, state-of-the-art electronic data capture systems, and 450 data collection specialists.



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communication



196.7



There are 196.7 mobile subscriptions per 100 people in the United Arab Emirates (United Arab Emirates Telecommunications Regulatory Authority, January 2014).

COMMUNICATION SCIENCE

RTI's communication science professionals promote consumer engagement, patient-provider communication, and informed decision-making by developing, implementing, and evaluating strategic communications, interventions, and campaigns. Our goal is to improve communications about scientific knowledge to help people make evidence-based decisions regarding individual and community-level behavior, social policy, and resource investment.

Promoting Effective Communications & Informed Decisions

To help clients get the most out of their communications initiatives, we examine how people seek, use, and process information and how they make decisions by exploring personal, social-cultural, market, and media influences. We know that people look to family and friends, news media, advertising, and digital media sources such as social media and websites when they need to make important decisions.

Using the audience's go-to information resources, we help guide them toward desired outcomes such as engaging in health-promoting behaviors. We design messages and communication products that convey information to users in a way they can understand and act on and apply social marketing principles and techniques to promote behavior change and create social impact. Our messages, interventions, and campaigns are theoretically grounded and disseminated using a variety of innovative digital and social media as well as traditional communication channels.

Conducting comprehensive evaluations to determine the effectiveness of various communication strategies is a core part of our work. We also conduct in-depth formative research and partner with others to ensure that our work is sensitive to cultural considerations. By bringing together communication researchers with design strategists, we help clients understand how to more effectively reach, engage, and mobilize people.

Our communication scientists focus on a range of topics, from health promotion to financial and environmental literacy to energy awareness and knowledge.



e-HEALTH

& HEALTH INFORMATION TECHNOLOGY



RTI strives to help agencies and health care organizations make the most of new technologies by advancing the safe, effective, and efficient use of electronic health information (e-health).

Transforming Care Delivery & Improving Population Health

Effective e-health strategies are central to new models of care delivery in which care is designed around patients, delivered in a range of settings, and managed across populations. To harness the potential of e-health, we identify best practices for implementation, develop resources that help providers communicate with patients, and work on measures to keep information private and secure. We also research barriers to the meaningful use of these systems and how e-health affects clinical workflow and coordination of care.

One of the many benefits of e-health is the wealth of new data being generated, which can be used to measure prevention and treatment of chronic illnesses and to characterize and respond to disease threats. To help assess disease or health threats in the United States, we are leading the redesign and rollout of a nationwide, secure syndromic surveillance platform that shares electronic health data. In communities that already have advanced e-health systems, we are studying how sharing e-health improves population health.

We strive to apply our diverse experience in e-health to advance the use of these technologies in the United Arab Emirates and support enhanced research, improved practice, and a better health care experience.

MOBILE TECHNOLOGIES

RTI identifies, develops, and implements custom mobile technologies that expand and improve scientific communication. We provide tools for surveys, interventions, education assessments, and training.

Mobile Technology Solutions for Every Need

Mobile devices present a wealth of opportunities to deploy advanced research and education technologies anywhere in the world. The mobile applications we create feature passive global positioning system (GPS) capture, computer-assisted self-interviewing, computer audio-recorded interviewing, support for multiple languages, case management and status recording, and integration with statistical software. For example, we designed a tool to collect self-reported data through survey-style assessments or personal diaries. This tool also captures physiologic data through wireless sensors to track measurements such as heart rate or sleep disturbances, and then analyzes the data to identify potential problems and deliver personalized content.

We also engineered a data collection and management tool that meets the challenge of intermittent Internet access by storing data locally and automatically synchronizing with a remote database when a network connection becomes available. Another application we developed records students' responses in oral reading and mathematics assessments and features group import and upload, subtest randomization, test resuming, and custom validation for open text questions. To capitalize on the popularity of text messaging, we help researchers and care providers use it to support intervention and prevention efforts, chronic disease management, and program evaluation.



Our mobile technologies make it easier than ever to deliver, collect, and manage relevant and timely information and influence data-driven policy decisions that improve lives.

SOCIAL MEDIA

RTI's social media approach combines expertise in technology, content, and design. We analyze the role of social media in science communication and use this knowledge to help clients plan, design, implement, and evaluate more effective strategies.

Harnessing the Impact of Social Media

The social media universe is rich with data. We collect and analyze these data to better understand and refine research questions. We help clients identify how users access and process information, how social networks share knowledge, and how this information exchange promotes changes in attitudes or behaviors. This knowledge leads to more strategic communications and program design.

We know that social media plays an increasingly important role for people seeking information and making decisions. By integrating social media strategies into a multimedia approach, we can engage users and promote their participation. We filter through the various channels to find the right fit for any given program. Our social media strategists also provide training, technical assistance, workshops, and guides to help clients understand the dynamics of social media so they can inspire change and advance their programs' social impact.

The social media domain is a world of followers, likes, and views. We use these features to identify stories of impact. With any social media effort—whether offering a sustained presence or a customized campaign—we gauge message effectiveness through process- and outcome-based metrics. Combining our expertise in social media planning, execution, and evaluation with experience adapting our approach to specific cultural contexts, we help clients harness social media as a tool for collecting data, increasing knowledge, influencing attitudes, and inspiring change.



Social media: 41.7% Facebook and 4.89% Twitter user penetration in the United Arab Emirates (Dubai School of Government Arab Social Media Report, May 2013).

DISSEMINATION & IMPLEMENTATION

RTI translates research into action using the science of dissemination and implementation. Our dissemination and implementation experience spans a range of issues that are important to the United Arab Emirates, including child health and wellbeing, chronic and communicable diseases, substance abuse, tobacco, nutrition and food safety, and mental health services.



Evaluating & Enhancing Dissemination Strategies

We help clients strengthen dissemination strategies by studying the methods used to deliver information and products to target audiences, how audiences access and process these resources, and how the resources influence audience behavior. Going beyond research, we help establish partnerships, manage public affairs and media relations strategies, develop dissemination products, and plan communications campaigns that are appropriate for the target audience.

Using Implementation Science to Improve Outcomes

In many cases, dissemination is necessary but not sufficient for widespread adoption of evidence-based interventions. Using implementation science, we help clients achieve better results by examining how research findings are implemented and sustained by target audiences. Implementation science can be applied to interventions in health care, public health, community, education, and policy contexts. Our implementation team includes specialists in organizational behavior, sociology, leadership and management, improvement science, policy analysis, and stakeholder engagement.



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Improving Public Health



RTI International is one of the world's leading research institutes, dedicated to improving the human condition by turning knowledge into practice. Our staff of more than 3,700 provides research and technical services to governments and businesses in more than 75 countries in the areas of health and pharmaceuticals, education and training, surveys and statistics, advanced technology, international development, economic and social policy, energy and the environment, and laboratory testing and chemical analysis. For more information, visit www.rti.org.

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