

COLLABORATING TO IMPROVE GLOBAL HEALTH ACCESS



The solution to advancing global health access — accessibility, quality, and affordability of care — for more equitable outcomes is not simple. Medtronic is partnering with stakeholders around the world to create new healthcare models based on value, efficiency, and outcomes to reduce barriers to care and narrow the gap between access and affordability. Increasing access to lifesaving medical technology requires us to collaborate in new ways, investing in infrastructure development, therapy awareness, and specialized physician training. It also requires co-creating and testing approaches that advance clinical and economic outcomes and build care pathways for more efficient health systems.

Despite the unprecedented advances being made in healthcare, the benefits of progress are not being shared equally among all populations. Many treatments and services that have become the standard of care in some areas remain inaccessible to others. In 2017, between one-third and half the world's population (33%-49%) had access to essential health services. The result is inequality in diagnosis and treatment — and most importantly, in health outcomes — for the most prevalent diseases.

Improving clinical outcomes, expanding access to quality care, and optimizing cost and efficiency are essential goals for all healthcare systems. While the type, frequency, and impact of barriers to quality, affordable, and accessible healthcare vary by region, distinct types of barriers have emerged, including:

- Lack of quality medical services and appropriate training
- Shortage of doctors, nurses, clinicians, and community health workers

- Absence of, or limited access to, modern medical technology
- Poorly formulated regulatory environments that hinder access to advanced medical technology
- Scarcity of sustainable resources needed to use, maintain, and upgrade equipment and facilities effectively
- Insufficient patient awareness of diseases and available treatment options
- Reimbursement issues, particularly in the case of public-payer systems
- Cultural, political, and socioeconomic factors

Medtronic recognizes that access to quality, affordable healthcare is a fundamental right of all people. As a global company with a presence in more than 150 countries, we empower our 90,000+ employees to partner with communities and health systems to help remove barriers to affordable treatment. This is at the core of the Medtronic Mission: to contribute to human welfare by alleviating pain, restoring health, and extending life.



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TECHNOLOGY, COLLABORATION, AND VALUE: KEY DRIVERS OF HEALTHCARE SUSTAINABILITY

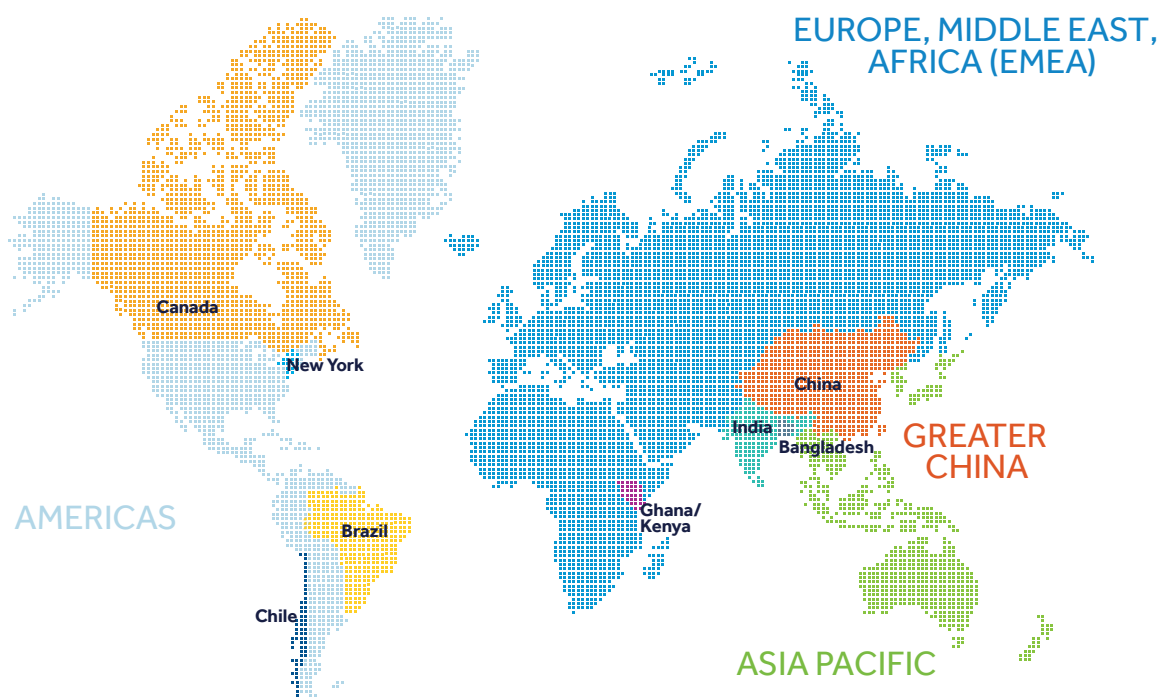
Most healthcare systems today are based on a fee for a product or service. This often translates to no financial accountability for health outcomes, potentially leading to billions of dollars in waste. If payment models are not based on shared accountability for outcomes, access to healthcare will remain a problem for communities around the world.

At Medtronic, we believe that the technologies we create and the solutions we offer can play an important role in helping care organizations align value, share accountability, and propel healthcare past the fragmented state that exists today. By engaging in highly collaborative partnerships across the global healthcare ecosystem — for private and public sectors alike — we are bringing unique resources and ideas that allow our partners to leverage diverse thinking and global perspectives that are not possible by one group alone.

Healthy global populations are critical to economic growth, international security, and job creation around the world. A 2017 report by the National Academies of Sciences, Engineering and Medicine recommended that the United States continue to invest in global health over the next 20 years to save the lives of millions of children and adults worldwide. One way to do that, the report concludes, is to catalyze innovation through the accelerated development of medical products and integrated health infrastructure.

Medtronic and its public partners are already working tirelessly to expand access to our lifesaving technologies. Some of our successful strategies include: uncovering gaps in healthcare access, creating and deploying innovative patient care models, advocating for better policy, and addressing reimbursement barriers. While our work is far from complete, we are already having a significant global impact — Medtronic therapies improved the lives of more than 75 million people in 2019.

Hover over the map to see where Medtronic is partnering with stakeholders to create new healthcare models based on value, efficiency, and outcomes. Click on each location to learn more.



INNOVATION AND PARTNERSHIPS DRIVING GLOBAL IMPACT

Developing our innovative, lifesaving technologies requires a substantial financial investment. That's why, in fiscal year 2019, we invested \$2.3 billion in research and development (R&D) and launched 55 clinical studies. By bringing medical technology with proven clinical and economic outcomes and innovative healthcare business models to our partners around the world, we are working together to improve access for patients with conditions ranging from diabetes and heart disease to Parkinson's disease and dystonia. Innovation and collaboration are also supporting clinical and other medical education and training initiatives in communities where they are needed most.

Contributing to Clinical Training in China

Education and training for doctors, nurses, and clinicians are expanding health access and raising the standard of care for populations around the globe, particularly in rural and underdeveloped regions. Lack of clinical training for healthcare professionals is a greater barrier to access in rural China than in more developed countries. In 2020, Medtronic, in collaboration with partners in China, will open an Innovation Center in Chengdu. The center is part of our global \$139 million investment in capacity-building and training for over 89,000 medical professionals. As an education and training hub for physicians, the center aims to improve local healthcare in rural Central China and Western China, which has half the number of training facilities than in the country's eastern regions.

"From vision to action, setting up the Medtronic Innovation Center in Chengdu is one of the approaches to fulfill our Mission and go further in China."

*Alex Gu,
president, Medtronic Greater China*

"From vision to action, setting up the Medtronic Innovation Center in Chengdu is one of the approaches to fulfill our Mission and go further in China," said Alex Gu, president, Medtronic Greater China. "The 'Healthy China 2030' blueprint has been established as a national strategy and sets a goal of enabling quality care nationwide. We are proactively working with partners

who share the same value to improve the access to advanced medical technologies and quality healthcare services in China."

Raising Awareness Across India for Stroke, Heart Attack, and Sudden Cardiac Arrest Patients

Medtronic is partnering with the Stroke India Hospital Initiative to address one of the leading causes of disability and death in the country. Developed in 2018, the initiative focuses on therapy awareness among physicians and the general public about acute ischemic stroke (AIS) and the importance of quick response — within the first several hours after identifying the symptoms — often referred to as the "golden hour." Using training programs, tools, and awareness campaigns dedicated to AIS response, more than 3,500 physicians, nursing home staff, and key hospital stakeholders have received training. Patients are now being identified sooner and reaching 20 comprehensive care centers with less delay for the best possible treatment and outcomes. Based on initial success, Medtronic plans to bring the program to more centers in India to help enhance stroke care access.

**MORE THAN
3,500
PHYSICIANS,
NURSING HOME
STAFF, AND
KEY HOSPITAL
STAKEHOLDERS**

**HAVE
RECEIVED
ACUTE
ISCHEMIC
STROKE
TRAINING**



Supported by the Medtronic Foundation, and in partnership with M.S. Ramaiah Medical College in India and the University of Illinois at Chicago in the United States, HeartRescue India (HRI) is a public-private partnership model designed to strengthen an integrated system of care for acute cardiovascular events. Public and private sectors actively collaborate to minimize the three critical time delays: recognition of the signs and symptoms of a heart attack; reaching the right hospital in time; and receiving quality treatment by trained and experienced professionals. HRI works closely with the community, with providers in both secondary and tertiary care hospitals, and with premiere institutions of cardiac care — extending the reach of time-critical services to patients who would not otherwise get to care fast enough. A well-designed and dynamic information system developed for HRI by a private firm provides the real-time movement of data for decision-making across the continuum of care.

HRI is also working on engaging school children and community health workers to promote community awareness and ensure better care for the patient suffering from heart attacks and associated cardiac arrests. To date, the project has enrolled 569 ST-Elevation Myocardial Infarction (STEMI) patients, trained more than 500 physicians and hospital staff, and signed 10 memoranda of understandings (MoU) with community schools to provide CPR trainings to schoolchildren.

Better Healthcare Access for Canadian Patients

Many communities worldwide are challenged by improving timely, efficient access to care while also improving the patient experience. In response, programs are being developed to reduce waste in the system and change the process of delivering care so that the patient is at the center of the process.

In Canada, lengthy wait times to access the catheterization (cath) lab at Eastern Health in Newfoundland and Labrador were creating stress for patients and care providers alike. In the past, patients needed to travel long distances to access Eastern Health's cardiac catheterization lab, which is the only cath lab in the area. Challenges with scheduling and staffing often led to lengthy wait times for patients and uncertainty over when procedures would be performed. As a result of implementing the recommendations developed in collaboration with Eastern Health and Medtronic Integrated Health Solutions, the cardiac cath lab outpatient waitlist decreased by 15 percent, the inpatient wait time decreased by 56 percent, and use of the cath lab grew by 37 percent. In addition, use of the clinic rooms has been maximized, an on-call team has been created, and overtime has been reduced, resulting in better retention of nursing staff.

Relief for Diabetes Patients in Brazil

In Brazil, the federal healthcare system offers limited coverage for medical technology used in diabetes management. Currently, the cost of insulin pump therapies and continuous glucose monitors is not reimbursable. In the city of Goiânia, located in south-central Brazil, Medtronic is partnering with the municipal government in a T1DM (Type-1 diabetes management) program. The program opens access to diabetes therapies to the most severe patient cases, which include child and adolescent cases. It also provides Goiânia's Type-1 diabetes patients with new care pathways, as well as awareness and treatment education that improve knowledge of insulin-pump therapy.

In 2019, more than 200 Type-1 diabetes patients received access to lifesaving therapies and services through this novel partnership. The program's clinical and economic outcomes — including patients' decreased risk of acute and chronic complications through more effectively controlled glycemic levels — received a positive response from the international business community. The head of Goiânia's Municipal Health Department was invited to present the case in July 2019 at the G20 Summit in Japan.

"Over the past five years, there has been consistent improvement in health access across Latin America, largely due to clinical and economic data that support the value of new patient treatments, more vocal and engaged patients, patient advocacy associations and media, and progress in public- and private-payer dynamics," said Hugo Villegas, president Latin America, Medtronic. "Although additional strides remain to be made in achieving a standard of care for all Latin America populations, Medtronic and its collaborative partners are continuing to make progress toward quality care for all."

Deep Brain Stimulation Treatment Reimagined in Chile

In Chile, medical technology access for patients with Parkinson's disease and dystonia has been limited due to ineligibility for short- or long-term insurance reimbursement. Since 2016, Medtronic has partnered with stakeholders in Chile to develop an awareness-raising campaign and financial support program for patients to expand access to deep brain stimulation (DBS) — a technology that sends electronic signals to an area in the brain that controls movement.

Patient access is being improved through many initiatives, including Medtronic Patient Access Acceleration (PAA). The PAA approach, built on stakeholder partnerships, identifies local access barriers and quantifies treatment needs, then formulates strategies to overcome barriers. In the case of DBS, access strategies in partnership with key stakeholders include financial support for the therapy, continuing education for healthcare providers, clinical and economic evidence to support the treatment value proposition, and patient awareness activities. Efforts have translated into DBS treatment for more than 100 Parkinson's and dystonia patients and have paved the way for financial reimbursement for thousands of patients awaiting access to DBS treatment.

Empowering Community Health Workers

Community health workers help people with chronic diseases living in rural or underdeveloped communities navigate the healthcare system. As trusted liaisons, they also help patients maintain healthy lifestyles and connect with local health and wellness services.

A recent five-year global health program funded by the Medtronic Foundation was dedicated to expanding access to care for those with cardiovascular disease and diabetes in underdeveloped communities in Brazil, India, South Africa, and the United States. A significant component of the program supports training and education for community health workers.

The program, which involved partners working across nine locations, trained 3,637 community health workers in diabetes and hypertension topics and screened

BETWEEN 2013-2018:

3,600+
COMMUNITY HEALTH WORKERS TRAINED

65,000
PREVIOUSLY UNDIAGNOSED PEOPLE SCREENED FOR HYPERTENSION

9,000+
CASES IDENTIFIED OF PREVIOUSLY UNDETECTED HIGH BLOOD PRESSURE AND/OR HIGH BLOOD SUGAR

nearly 65,000 previously undiagnosed people for hypertension and/or diabetes between 2013, when the program was created, and 2018, when it concluded. The program also identified 9,004 cases of previously undetected high blood pressure and/or high blood sugar and helped 3,139 patients achieve blood-pressure control and 1,034 patients achieve blood-sugar control. Visit the Medtronic Foundation [impact page](#) to download the full Healthrise Final Report.

“The Medtronic Foundation is committed to improving the health of people living in underdeveloped regions worldwide and supporting health initiatives where Medtronic employees live and give,” said Paurvi Bhatt, vice president Philanthropy, Medtronic, and president, Medtronic Foundation. “Pairing strategic financing and the skills of our employees with local partners and their communities is essential to ensure durable health outcomes.”

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vice president Philanthropy, Medtronic,
and president, Medtronic Foundation*

Medtronic Labs' Innovation to Improve Health Equity

Healthcare needs are complex for people living with chronic conditions such as hypertension and diabetes. Limited access to appropriate care compounds these challenges.

[Medtronic Labs](#) works to expand access to healthcare for underserved patients, families, and communities across the world, with a focus on financially sustainable solutions that maximize social impact. Launched in 2016, Medtronic Labs designs healthcare delivery models with and for communities, integrating digital and product technologies across the care continuum.

Partnerships — with local technology entrepreneurs, healthcare providers, NGOs, governments, and other stakeholders — amplify impact and scale.

“A revolution in point-of-care diagnostics technologies and digital health solutions combined with increasing adoption of smart phones in underserved communities is creating new opportunities to address global health access in a scalable and sustainable manner,” said Ruchika Singhal, vice president, Medtronic, leading the Medtronic Labs effort. “Medtronic has the expertise and scale to build end-to-end solutions that combine technology with local field operations to provide a complete cost-effective care ecosystem delivering improved clinical outcomes for patients and providers.”

Empower Health

One program within Medtronic Labs, Empower Health, provides a technology-enabled model of care that allows clinicians and providers to manage a cohort of hypertensive or diabetic patients remotely in Ghana and Kenya. The Empower Health model consists of a mobile tablet, an automated blood pressure (BP) machine, a glucometer, and a novel proprietary software application — combined in a unique platform for efficient screening and longitudinal management of a patient cohort. Leveraging the model, physicians provide patients with a tailored hypertension and/or diabetes management plan. Patients can access regular BP and blood glucose checks at community-partner locations where they receive real-time feedback on their measurement. On the mobile application, clinicians can view patient data, provide direct patient feedback on their condition via SMS, and write electronic prescriptions — accessible through participating pharmacies.



Shruti

Another Medtronic Labs program, Shruti, addresses the critical need for affordable and accessible treatment for ear diseases and hearing loss in underserved populations in India and Bangladesh. The community health worker-based service model is enabled by point-of-care diagnostics, hearing implants, and digital tools. Shruti-trained community health workers (CHWs) use their screening kit to identify and diagnose patients directly. The kit includes a proprietary mobile otoscope and low-cost hearing aids integrated with an intuitive mobile application. CHWs collect patient history, take a photograph of the patient's eardrum, and conduct a test for hearing loss to provide a preliminary diagnosis. Based on the preliminary diagnosis, CHWs refer patients to appropriate care at Shruti partner clinics. Shruti telecounselors

MEDTRONIC LABS:

500+
HCPs AND
CHWs TRAINED
AT 65+ SITES

700,000+
INDIVIDUALS
SCREENED

17,000+
PATIENTS HAD
IMPROVED CLINICAL
AND SOCIAL
OUTCOMES

follow up with patients to ensure that they have the information and support they need. The Shruti partner clinics support Shruti patients with discounted treatments or therapies, including surgeries, medicine, hearing aids, and more.

To date, through Empower Health, Shruti, and two additional pipeline ventures in Kenya and India, Medtronic Labs has trained more than 500 healthcare providers (HCPs) and community health workers at more than 65 operational sites, screened more than 700,000 individuals, and improved the clinical and social outcomes for more than 17,000 patients. To facilitate continued growth and flexibility, Medtronic incorporated Medtronic Labs as a public benefits corporation in 2019. Currently, the Medtronic Foundation is the sole shareholder and primary funding source for Medtronic Labs.

Global Health Leadership Panel at the United Nations General Assembly

In 2019, Medtronic played an important role at the 74th U.N. General Assembly where world leaders adopted a landmark declaration on universal health coverage. At the U.N. high-level meeting, Medtronic Chairman and CEO Omar Ishrak was invited to speak as the only representative from the private sector. Medtronic also collaborated with the Business Council for International Understanding to convene a side panel of distinguished stakeholders. Panelists — representing government, finance, and the public and private sectors — discussed how partnerships between the public and private sectors can assist countries developing health systems guided by the core principles of affordability, effectiveness, and equity.

Medtronic leadership brought the concept of value-based healthcare to the fore during the U.N. event. Approximately 80 stakeholders from around the world, including health ministries, NGOs, patient advocacy organizations, and private-sector partners, engaged in the conversation and returned home with new thinking and approaches to consider as they build healthcare systems.

“Medtronic is making the shift toward value-based care and delivering on its promise of better patient outcomes at lower costs to the healthcare system,” said Trevor Gunn, vice president, International Relations, Medtronic. “Through innovative collaboration, Medtronic can partner to help the public sector meet its healthcare aspirations to improve access, efficiency, and outcomes — with a standard of care that would otherwise be difficult to achieve.”

STEADFAST COMMITMENT TO SOLVE FUTURE CHALLENGES

Improving global healthcare access to quality, affordable care requires more than simple, one-dimensional approaches. Through ongoing innovation that combines the strengths of disruptive technology, embedded value, and stakeholder partnerships, Medtronic is demonstrating its commitment to health access for global populations and continuing to advance healthcare further, together. ■

Learn more at [Medtronic.com/TransformingHealthcare](https://www.medtronic.com/TransformingHealthcare)

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