A century ago, the leading causes of death were infectious diseases, such as the flu, pneumonia and gastrointestinal infections. During the ensuing decades, the development of vaccines, improved sanitation, greater public health awareness, and modern medicine helped reduce overall mortality by more than 50 percent while boosting life expectancy by 30 years.¹

Today, we face new healthcare challenges. As we as a society live longer, thanks to earlier detection of infectious diseases, we struggle to contain the current leading causes of mortality globally — non-communicable diseases. These ailments, such as heart disease, stroke, cancer, chronic respiratory diseases, and diabetes, are projected to account for 87 percent of all deaths in high-income countries.² Around the world, many health systems are struggling to stem the growth of chronic disease rates, since they are designed largely around treating acute needs rather than long-term interactions with patients. The healthcare community needs to work together to find new ways to improve patient outcomes and reduce costs — while continuing to spur and reward innovations that help achieve these aims.

Chronic conditions bring patients into contact with the healthcare system repeatedly for years — not just for their main condition but also for other associated ailments — and the nature of the care they receive is often complex. Given that many people have multiple chronic conditions, and that they use a variety of public and private funding to pay for the services they receive at the many specialists, hospitals, and care centers they visit, the amount of waste and overlap has added unnecessary cost. At Medtronic, we believe that better patient care coordination throughout the continuum of care can help reduce these excess costs, as well as improve outcomes.

**EFFICIENCY IN AND OUT OF THE HOSPITAL**

In the United States, a recent study showed administrative costs accounted for more than a quarter of total hospital expenditures, and that number is increasing. The U.S. figure outpaced other countries, with the Netherlands (19.8 percent) and England (15.5 percent) ranking second and third highest. According to the report, published in *Health Affairs*, reducing the amount of waste in the U.S. to the levels of Canada or Scotland, which have some of the lower levels of waste, could reduce spending by $150 billion.³

Holistically, healthcare costs around the world are increasing. In 2013, the total global healthcare spend was $7.2 trillion, or about 11 percent of the world’s gross domestic product. This figure is set to climb more than 5 percent a year for the next few years.⁴ In the U.S., costs are expected to rise from $2.6 trillion in 2010 to $4.8 trillion by 2021⁵ — a startling increase that will account for almost 20 percent of the U.S. gross domestic product. On average, other wealthy countries spend about half as much per person on health as the U.S. spends.⁶

One way to reduce costs is to radically rethink how and where we provide care.

“The best hospital bed is an empty one,” Don Berwick, former administrator of the U.S. Medicare and Medicaid programs, has said on many occasions.⁷ He argues that in a fee-for-service model, hospitals aim for volume of care, as this is how they stay profitable. But new rules and regulations are shifting payments toward a patient’s overall health. In this scenario, keeping a patient out of the hospital, through preventative
screenings, wellness plans, at-home care, and other measures, is better suited for an environment where chronic conditions are on the rise.

Another benefit of keeping people out of hospitals is increased productivity. Poor health costs the U.S. economy about $576 billion annually, according to the Integrated Benefits Institute, an organization that represents major U.S. employers. About 40 percent of that amount is due to lost productivity on account of worker absences due to illness and because of employees who come to work sick and therefore are less productive.⁸

VALUE THROUGH INTEGRATED, MORE EFFICIENT CARE

All of these factors have led governments, health insurance companies, employers, and hospital systems to struggle with a near-universal, overarching challenge — to address unmet healthcare needs without impeding economic growth. Many of these issues can be addressed by matching up the values and goals of the stakeholders in the system.

As a global organization working with stakeholders and professionals across the healthcare system, Medtronic is stepping forward to put the full power of our technologies, services, resources — and our people — to work with new partners, in new ways, to usher in a new era in healthcare. We are working with the global healthcare community to take our technology, services, and insights and fashion them into solutions that either drive operational efficiency within the healthcare system or augment the delivery of care through better patient care management. We are forging new types of relationships with healthcare providers and payers who are committed to building models that improve patient outcomes and reduce costs.

A good example of this type of cross-industry partnership has been forged in the United Kingdom, where the National Health Service has committed to bring together local authorities, care and support providers, housing services, public health, and others to make steps toward better integrated care. The goals of the partnership, laid out in 2013, look to shift from episodic care toward a holistic approach that puts the needs and experiences of the patient first and foremost.⁹

This shift is important, as chronic diseases are projected to account for 85 percent of all deaths in the UK. It is estimated that the country stands to lose $33 billion during the next 10 years due to premature deaths associated with heart disease, stroke, and diabetes.¹⁰

Medtronic is working along similar lines in the UK with our own partnerships. Through Medtronic’s Integrated Health Solutions business, we are finding new ways to work with and within hospitals to reduce the cost of care within a risk-sharing arrangement.

A program was recently conducted with the Imperial College Healthcare NHS Trust in the UK, a major teaching hospital recognized as a center of excellence in cardiology and cardiothoracic surgery that treats more than 20,000 patients annually. By renewing aging cath lab equipment with the most innovative medical technology available and by optimizing daily operations, Medtronic was able to show significant value creation — including efficiency savings — estimated at £840,000 in the first year. The partnership did this through improving capacity, reducing waiting lists, and allowing more focus on core clinical activities. Based on the success of this program and others like it, we’ve taken key learnings and are now expanding this program into other regions around the world. We currently run cath labs in 50 hospitals, efficiently managing $1 billion in cardiac care.

These programs are not just happening in the highly-specialized cath lab setting. By applying our therapy and disease state expertise across the entire hospital while supervising operations, we have been able to create efficiencies, address costs, and improve patient access and outcomes for a broader set of hospital
customers. In a pilot program conducted at Maastricht University Medical Center in the Netherlands, Medtronic provided on-site program management to help with hospital staff training. We worked with Maastricht leaders to embed a performance improvement culture and drive improvements in efficiency, quality, clinical outcomes, and patient experience. Through our work in this area, Medtronic helped the hospital’s Heart + Vascular Center save about $2.5 million in one year through improved operational efficiencies.

We also work with patients outside of the hospital, keeping in mind Don Berwick’s idea that the best hospital beds are empty ones. We do this principally through our patient care management services, which, in partnership with providers, better manages patients outside of the hospital setting — especially in the areas of cardiology and diabetes.

For example, the U.S. Veterans Health Administration (VA) — the largest integrated healthcare system in the U.S. — is using Medtronic’s Care Management Service to provide optimal care for certain patient subsets within its 23 million veteran population. To date, the VA’s telehealth program has delivered a 20 percent reduction in expensive hospital admissions and a 25 percent reduction in hospital bed days.\(^\text{11}\)

In addition, Medtronic recently acquired the Netherlands-based company Diabeter — which uses high-tech and high-touch solutions to manage people living with diabetes outside of the hospital setting.

**FOCUSING ON VALUE-BASED HEALTHCARE**

While Medtronic remains focused on developing technologies and services that can drive more value into existing health systems, we are also actively leading and participating in efforts around the globe aimed at re-architecting healthcare delivery and payment systems to better reward patient outcomes in the future. Many around the world refer to this movement as “value-based healthcare.” These efforts are in their earliest beginnings and will be defined and evolve over time. Medtronic’s goal is to ensure that the power of technology is considered and leveraged within healthcare systems as a means by which to deliver better patient-centered outcomes. We seek to be an engaged and collaborative industry leader committed to seeing that value-based healthcare efforts are successful for patients and caregivers.

Michael Porter, a Harvard Business School professor and leading expert on value-based healthcare, describes what this shift means:

“This ideological shift means moving from a long-established system that rewards volume of visits, hospitalizations, procedures, and tests to a system that focuses on improving patient outcomes while lowering costs. Value, versus cost-shifting or restricting services, is a solution that can unite the interests of all system participants — and improve care.”

At Medtronic, we define value-based healthcare as an effort to develop and deploy products, services, and integrated solutions that improve patient outcomes per dollar spent by the healthcare system by improving the quality of care and/or reducing the associated expense. Solutions that fit into value-based care typically are characterized by business models in which payment is based on the value created by the solution (e.g., gain-sharing arrangements), or in which payment is contingent upon improved outcomes (e.g., services provided with a guarantee or reduced payment for poor quality).

We are aggressively working with our partners to implement value-based healthcare principles and frameworks into our partnerships. We stand willing to partner with public and private payers, governments, and hospital systems interested in working together to shape and deploy value-based business models.
These value-based efforts are starting to gain traction around the world. The U.S. Health and Human Services secretary has set a goal of linking 85 percent of traditional Medicare provider payments to quality or value outcomes by the end of 2016, and 90 percent by the end of 2018. A recent study indicates that, as of the end of 2013, 42 percent of provider payments in traditional Medicare are tied to the value of care.\textsuperscript{12}

In addition, the International Consortium of Health Measurement Outcomes has been working to better define outcome measurements in certain disease conditions or episodes of care. These measures look beyond a procedure’s immediate success toward longer-term measurements that include quality of life aspects of concern to patients. By 2017, they’re working to publish 50 standardized sets of outcomes across more than 50 percent of the global disease burden.\textsuperscript{13}

These moves are vital if healthcare costs, which now stand at $948 per person a year globally, are to be contained.\textsuperscript{14} For countries in the Organization for Economic Co-operation and Development, average public healthcare expenditure is projected to increase from 5.5 percent of GDP in 2010 to 8 percent in 2060; whereas public long-term care expenditure is projected to increase from 0.8 percent to 1.6 percent of GDP in 2060.\textsuperscript{15}

Technology can and will play an important role in the drive toward value-based healthcare. While the role of technology in these approaches is only beginning to be defined, our recently announced collaborations with IBM is an example how — through partnership and technology — we can seek out new information and practices to help people with diabetes.\textsuperscript{16} By combining IBM’s powerful Watson Health Cloud analytics and cognitive computing with our diabetes medical devices and health data, we can develop a new generation of personalized diabetes management solutions. The aim is to develop near real-time, dynamic personalized care plans that give patients and their healthcare providers advice on how they can improve their outcomes efficiently.

**GREATER VALUE IN PARTNERSHIP**

While we firmly believe Medtronic has a unique role to play in the move toward aligned, value-based care, we know we can do more. We have the ability to create powerful new technologies and services to achieve better outcomes for patients at a reduced cost. And, we fundamentally recognize that no one single entity can completely move the health system in this direction. Only through collaboration and partnership can we all achieve the benefits of value-based healthcare.

Our commitment to driving new forms of value in partnership with others is one more example of how Medtronic is prepared to go Further, Together.


