Increasing community prosperity by improving health and wellness
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Executive summary
Global urbanization is upon us. For the first time ever, more than half of the world’s population lives in cities. That number will continue to grow as more than 5 million people move to cities every month. By 2030, it is estimated that 60 percent of all people will live in cities, compared to 1950 when just 30 percent of the population was urban.¹

This shift is changing our global economy and increasing competition between regions to attract the businesses, jobs and workers that will increase prosperity and create other social and economic advantages. Some cities and communities are already implementing new strategies for growth, laying the groundwork for transformation, and redefining what it means to be smarter. They are focused on implementing programs and services to improve individual and population health and productivity, to make their community a more desirable place to live and work, and to reduce the cost of doing business.

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In its simplest form, individual health is determined by four factors: genetic makeup, behavior, environment and access to high-quality medical care. Life sciences companies and research organizations are actively pursuing genetic research and the development of new products and services that affect the first factor.

The actions of cities, communities, regions and local stakeholders can influence and improve the last three factors. Those that establish the necessary infrastructure, programs and services that place citizens at their center; innovate across regions to promote healthier behavior and environments; and improve access to high quality healthcare, social programs and citizen services can improve quality of life and support economic sustainability.

This paper describes the steps cities, communities or regions of all sizes and stages of development can take to begin this transformation, and it offers examples of communities that are already on their way forward.

**Characteristics of healthier, smarter cities, communities and regions**

Smarter cities, communities and regions that are committed to ensuring healthier individuals and populations have much in common. Their leaders understand the financial and social burdens that aging populations and increasing chronic disease rates are placing on them, and they are taking action to contain costs and improve quality of life. They realize that healthier populations require much more than a few good hospitals and that what is needed is a holistic approach and a commitment to developing the infrastructure required to support change.

These leaders are forming coalitions of business, education, healthcare, government and community stakeholders to work together to create prosperous and sustainable communities that are truly great places to live. These coalitions are collaborating to develop innovative programs and strategies to help keep healthy people well and productive, and to ensure that those who are ill or challenged can easily access integrated, high-quality services.
Increasing community prosperity by improving health and wellness

How can cities and regions get started on making healthier people and populations a cornerstone of their future success? By focusing on the following six areas:

• Fostering government leadership, business and community collaboration
• Improving environmental factors
• Encouraging healthier behaviors
• Providing easy and convenient access to healthcare and social programs
• Sharing data to support holistic program and care delivery
• Measuring the success and impact of new programs and services

Some cities, communities and regions have already started to act on these areas to improve the quality of life of their citizens and to attract and retain the businesses, educational and research institutions, and talent needed for growth.

The programs that cities are putting into place include:

• Integrating health and social program agencies so that authorized service providers can view complete citizen information from multiple locations and easily determine eligibility and coordinate care needs
• Making it easy for citizens to access social programs and health services at the most convenient place—from home to hospitals, retail and other locations
• Facilitating wellness and nutrition programs in the community
• Implementing convenient transportation and park systems that contribute to healthier lifestyles
• Investing in educational and research centers that focus on the healthcare and life sciences ecosystem to help develop talent, foster innovation and create jobs.

As part of their overall prosperity and sustainability strategy, these regions are also addressing the need for affordable housing and education, clean air and water, public safety and protection, crime prevention, and emergency response capabilities for natural disasters and pandemics.
Fostering government leadership and community collaboration

City or regional governments that commit to making healthier citizens and populations a cornerstone of their future economic development can lead a number of efforts. These efforts can include creating the optimal model for change; instituting tax, grant or funding incentives; forming collaborative teams of business and community leaders; and providing necessary governance and measurement.

Members of the collaborative team could include:

- Companies that want to promote wellness and behavioral and environmental changes to improve employee health, decrease absenteeism, reduce costs and attract and retain high-quality workers
- Government agencies that need to streamline systems and organizations to provide citizens with better coordinated care and services
- Hospitals that can digitize their front offices, integrate their acute and ambulatory care operations and share data to improve care quality and measurement capabilities
- Health payers that will make improved care quality and outcomes-based payments a priority and require providers to report on program effectiveness.
- New care delivery organizations, such as retailers, community-based clinics and home health providers, that help to improve care coordination and management and make it easier for citizens to access services
- Educational institutions that are committed to developing a skilled population, putting the right kind of research capabilities in place and investing in the healthcare and life sciences ecosystem

How cities, communities or regions begin their journeys will vary based on their goals, priorities and resources. However, after they get started, they can begin to realize the economic and quality of life benefits these changes can deliver.
Rochester, New York: A revitalization success story

Having lost many corporate headquarters and jobs over the last few decades, Rochester has reinvented and revitalized itself since 2005. In January 2012, the Brookings Institution ranked Rochester the third best metro economy in the US, 46th in the world. The area has some of the lowest healthcare and health insurance costs in the country because of a commitment to health as a pillar of its economic development, along with the support and collaboration of healthcare, business, university and government leaders. These leaders provided the resources needed to create integrated healthcare delivery systems; wellness and nutrition programs; and research, behavior and environmental programs that enhance individual and population health.

Improving environmental factors

Implementing a range of environmental improvements can help cities and communities improve the quality of life and health of their citizens. Developing cities and regions often focus on meeting baseline public health requirements with programs that provide clean air and water, proper wastewater treatment facilities and a minimal public safety infrastructure. All communities can help to ensure the long-term health and wellness of residents by allocating enough parks, recreation facilities, walking trails and cycling paths for current and future populations, and they should locate these outdoor spaces in areas that make it convenient for people to exercise. In addition, communities can provide public transit systems, pedestrian walkways and bike lanes that reduce traffic, make commuting less stressful, and provide easy access to preventative health services and recreation facilities.

Toronto, which has 1,500 parks, more than 20,000 acres of parkland and 116 miles of bike paths, has reduced diabetes in those areas of the city that are accessible to parks and other spaces for physical activity. In China, the Nationwide Physical Fitness Program was created in 1995 with a goal of having 40 percent of the population exercising regularly by 2010. To help achieve this goal, since 2000, tens of thousands of fitness centers have been installed in public parks, squares, schoolyards and other convenient urban locations and are used by people of all ages, including China’s rapidly growing elderly population.
Encouraging healthier behavior

Cities and communities and local stakeholders can offer new programs and services to motivate citizens to engage in healthier behavior. They can also use social media and other online collaboration methods to help residents connect with their personal networks of friends and family that help support positive changes. For example, cities, communities or regions can implement citizen portals that provide easy access to information about health and wellness. These portals enable individuals to track their weight loss and exercise results and offer contests and games to encourage citizens to lose weight, exercise and adopt other healthy behavior. Cities, communities and regions can also host community and school events such as runs, walks, exercise programs and health fairs, and they can provide accessible public transportation so more individuals can participate.

To encourage healthier behavior further, other stakeholders can introduce their own programs. Healthy lunch programs in schools, healthy menu options in restaurants and healthy recipe and eating campaigns in grocery stores can improve nutrition. Businesses can help to improve the health of employees and their families by promoting community health events and services and implementing programs that encourage employee fitness and weight loss. Health providers and payers can introduce programs and services to bring people with chronic diseases together to better manage their conditions; these could include exercise and walking programs, nutrition services, disease management programs and information on the services that individuals are qualified to receive.

Dubuque, Iowa, focused on encouraging healthy behavior and has become a model for the Live Healthy Iowa and America programs. The city has programs such as the Live Healthy Dubuque 100-Day Challenge, a team-based weight loss and physical activity program for adults and children; the Exercise Your Character Day that teaches students about character, exercise and healthy eating; and the Grandview Gallop, an annual 4-mile run through town that is open to any age or exercise level.

In Bogota, Colombia, city officials are encouraging more citizens to walk and cycle by shutting down more than 97 km of city streets to motorized traffic on Sundays and most public holidays. Although the program costs the city $1.7 million each year, for every dollar invested, it saves between $3.23 and $4.26 per citizen in healthcare costs.
Providing easy and convenient access to healthcare and social programs

Cities, communities and regions can work with their coalitions to help ensure that citizens receive the social program and healthcare assistance they need at the right time and place. Services can be coordinated around an individual’s social context that takes into account their clinical health, educational background, income, relative job satisfaction, safety, shelter, and food and nutrition. Gaps in all of these dimensions can be assessed to develop a plan that treats a person’s overall wellness.

Removing barriers between healthcare providers, social programs and other government agencies can help ensure that eligible citizens receive the services they qualify for and that individuals with special needs or chronic diseases get better coordinated care and services. The ultimate goal is to create communities that are more desirable places to live by reducing healthcare and social program costs, by improving care quality, by increasing citizen and economic productivity and by making it more cost effective to conduct business.

Citizens with chronic diseases who are elderly or poor usually have the highest healthcare and social program costs. By enabling integrated and better-coordinated care, cities, communities and regions can reduce overall costs, improve the economic health of the community and increase the quality of life for these individuals. For example, elderly citizens with chronic diseases or individuals with disabilities living on fixed incomes may need help with filling their prescriptions, shopping for and cooking nutritious meals, monitoring and reporting their conditions, getting to and from the doctor or physical therapist, or paying their heating or cooling bills. Receiving such assistance can help keep them stable, in their home and out of expensive acute care facilities.

Japan and Korea have had integrated health and social program organizations for decades. In Queensland, Australia, most of the disabled population have mild conditions and use a tool to assess their own needs and get referrals to appropriate social and health services and resources. The rest of the disabled population, those with the most chronic and challenging conditions, is assessed by professionals who examine their entire social context and identify the barriers and challenges of each person. They then develop a coordinated care plan specific to that individual. Based on the plan, a care team is created that is made up of a broad range of professionals such as physicians, nurses, teachers, occupational therapists and more. Those providers work together to support the individual’s care plan and to ensure that their needs are met.
Sharing data to support holistic program and care delivery

Cities, communities and regions that enable authorized service providers to share citizen information through private and secure channels have tremendous opportunities. By implementing an infrastructure that integrates healthcare and social program data from numerous agencies and providers, all authorized case workers and healthcare providers can access a complete view of each individual and their social context.

In general, about 20 percent of individuals consume 80 percent or more of all health resources. Many of these individuals suffer from one or more chronic diseases, and the cause of their high cost of care is often hospitalizations that could have been prevented with better-managed care. Today, organizations do not share data with others and, as a result, most case workers and care providers do not know which services a person might need or is already receiving. When authorized health and social program providers are able to share information, they can more easily determine if additional care and services are needed and significantly improve the health and overall quality of life of individuals and families.

A complete, secure view of citizen data can help providers determine eligibility, detect fraud, predict and avoid potential problems and evaluate the effectiveness of programs and procedures. These improvements can produce better outcomes at the right cost.

Singapore has implemented a national electronic health record (EHR) program that enables authorized clinicians and healthcare providers to access information securely in real time to improve care coordination and enable more informed decisions. Caseworkers in Alameda County, California, use a new system to access a complete view of each person they serve, to identify the relationships between those individuals and their families, to easily detect gaps in services and to better determine how they can efficiently provide services.

In Bolzano, Italy, elderly citizens living in their own homes can be monitored to improve their safety and quality of life. Remote technologies, such as telemonitoring, telecare and mobile teleassistance services and air quality, water consumption and environment systems, are used to monitor participants. They also provide medical advice and access to medical professionals remotely and alert designated family members or friends if there is a potential problem.
Measuring the success and impact of programs and services

The ability to measure and report on the success of programs, and analyze and learn from data can be critical for cities, communities and regions. Metrics are especially important today because governments face declining revenue and rising expenses and often must clearly demonstrate the success of their efforts to secure further investments.

Integrated data that can be easily accessed and analyzed makes it easy to report on the impact of programs on the local economy and quality of life. Data can also be used to develop predictive and prescriptive analysis that can help advance care coordination and improve individual and population health and wellness.

For example, in 2007 Oklahoma City was designated America’s 15th fattest city. To address the city’s growing obesity problem, the mayor challenged citizens to lose one million pounds and created the This City is Going on a Diet program. The program included fitness events, wellness educational activities and a portal where citizens registered, tracked their weight and accessed information about healthy eating, fitness and more. The portal also measured the program’s results: 1 million pounds lost, more than 8,000 waist inches lost and over 11 million calories burned.9

Since its revitalization effort began, Rochester has relied on statistics to help with its achievements and to attract new employers and workers. The city has collected a range of statistics to demonstrate its successes, including some of the lowest healthcare costs in the US. These successes include:

- 30 percent lower commercial insurance costs
- 21 percent lower Medicare costs
- Savings of more than $490 million over five years from its generic drugs initiative
- Expected savings of $150 million over four years from a community initiative to reduce emergency room use and to avoid preventable hospital admissions
- An award of one of the largest US government grants ever received: $26 million to save $48 million with preventive care measures

Cities, communities and regions can gain significantly from making health and wellness of individuals and the population a cornerstone of their economic development. Getting started can be as easy as instituting some or all of the programs and services that are presented in this paper. All of these initiatives can help improve the overall health and productivity of citizens, attract new businesses and workers, increase employment and achieve other economic and social advantages.
IBM: Your partner for smarter, healthier cities, communities and regions

The transformation to smarter, healthier communities begins with the vision, leadership and governance of city and community leaders. To improve individual health, population health and overall productivity, these leaders should provide a technology infrastructure that has societal impact and enables economic prosperity and financial sustainability. The transformation can be successful with the support and collaboration of regional business, education, health and government stakeholders who are also committed to the journey to becoming smarter and healthier.

IBM solutions and services can help cities more easily determine which programs might impact the health of their citizens most (environmental, behavioral, access to health and social program services), so they can better focus their strategy and investments to achieve outcomes that matter.

The technology infrastructures that cities and communities can use to create smarter healthier cities include:

- Flexible, secure information-sharing infrastructure that provides the right information at the right time
- Complete views of individual health and social context information to ensure the service provider ecosystem can efficiently connect services to needs
- Protection for data privacy, security and integrity
- Social business applications that enable the creation of information portals and community sites, wellness competitions, games to enhance fitness, interactive guides to parks and recreation and more
- Big data technologies that support large volumes, wide varieties and high velocities
- Advanced analytics that enable real-time predictions and insight for better decision making

IBM has the expertise and technology to help communities with their journey. With insights gained from more than 2,000 Smarter Cities and 3,000 healthcare transformation projects worldwide, IBM can help cities and communities of all sizes become smarter and healthier.

For more information
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