Reducing Chronic Disease with Better Informed and Coordinated Care

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Chronic Disease: Overview of Current Situation

There is an urgent need for countries to reduce healthcare costs, especially the costs to treat chronic diseases, which contribute more than half of all healthcare costs. Chronic diseases are responsible for more deaths globally than all other diseases combined, according to a recent report from the World Health Organization. As each country's population ages, the incidence of chronic illnesses will continue to rise, resulting in an even greater percentage of governments' overall budgets and patients' personal expenses going to chronic disease management.

One way for governments to stem the rapidly rising costs of healthcare is to create programs that provide well-managed and coordinated care for chronic disease patients close to their home, which is the most efficient and least costly treatment approach. By enabling more efficient and effective treatment of chronic diseases, the use of expensive acute care facilities can be significantly reduced, and both the quality of patient care and patient and family satisfaction will increase.

If community-based treatment of chronic diseases is the answer, why is it not more pervasive? One main obstacle has been the complexity of coordinating care. Although community-based care provides lower cost services, it requires integrated and timely communication between health and community services to ensure that patients and their families receive proper treatment and support.

Another major obstacle has been the lack of targeted investment for community-based care. Most governments have traditionally invested in the bricks and mortar of expensive acute care, but have not consistently invested in programs to treat more patients at home and in their communities where the most dramatic cost savings can be achieved today and in the future.

Care Scenario of a Diabetic Patient Living at Home

A diabetic patient, who lives at home, needs the skills and equipment to monitor blood sugar daily to ensure that her levels are being managed appropriately. If blood sugar levels are not within the recommended range, then she must visit her primary care physician to determine the next steps.

During her visit, the primary care physician may decide to refer her to a dietician or to a specialist, if she is experiencing any of the complications that are common even for diabetic patients whose disease is well controlled. For example, she may be referred to an endocrinologist because her blood sugar levels aren't being maintained well, despite adjustments in treatment, or to a nephrologist because of concerns about renal function. In-home or community-based physical therapy may also be required to ensure she is ambulating enough to ensure proper circulation. In addition, patients may utilize telemonitoring technologies to ensure that glucose readings are being taken at prescribed intervals and reported automatically to the physicians or care managers.

With diabetic patients, the large number of multi-disciplinary healthcare teams and the variety of social and community services required for quality care make care coordination imperative.

Improving Community-Based Chronic Care

In most cases, community-based chronic disease management is highly inefficient. One of the main reasons for this is the lack of comprehensive, complete and up-to-date patient information that is accessible by care providers. Countries and other jurisdictions that want to institute successful, well-managed community-based chronic disease management programs must ensure that up-to-date and comprehensive patient information is available to multi-disciplinary teams, and the patient, at all points of service.

Today, most care coordination is fragmented with little interoperability between healthcare systems. Some community-based systems already have electronic health records (EHRs), but care management information is often incomplete and out of date. In many cases, paper-based silos are simply being replaced with electronic silos that do not provide the interoperability capabilities that enable care providers to easily share or exchange data with community-based providers or with patients and their families.

One of the most important steps a government can take to reduce healthcare expenditures is to implement technology solutions that provide a complete, real-time view of patient and provider information across public and private healthcare settings. These solutions must also support sharing of authorized information with the social and community agencies that provide the required supplemental services to properly care for patients in their communities.

As the case scenario of the diabetic patient highlights, with chronic disease patients there are usually several care providers involved and they all need an accurate, complete and real-time view of the patient's health history. Information is vital to enhancing care in hospitals and at home in a community setting.

Complete Health Information at the Point of Care Delivers Big Benefits

Care delivery teams and organizations responsible for coordinating care and services will be able to provide better care delivery, eliminate duplicate services and reduce costs if an infrastructure that provides a complete view of a patient's information is in place at an enterprise, regional or jurisdictional level. Countries that solve these interoperability issues across geographic areas and various systems can achieve the following benefits:

- **Improved Care Management**
  Chronic disease patients often have a complex care regimen that involves many providers. When complete patient and provider information is readily and consistently available, providers can more efficiently plan schedules, verify that orders and treatment plans are up to date, and ensure that patients are receiving proper treatment with the shortest possible wait times. In addition, these systems make it easier to link up resources, provide better care coordination, and assemble a virtual and ongoing care team for chronic disease management.
- **Increased Accuracy of Patient Care**
  Providers who can access a complete view of patient information, along with clinical decision support information, will know exactly what procedures they need to perform and will be able to make informed treatment decisions. Paper-based or fragmented systems often have incomplete information, resulting in missed treatment steps and unnecessary duplicate tests and treatments.
- **Better Compliance with Medication Requirements**
  Ensuring that patients take their medication appropriately is critical to effective chronic disease management. The ability to remotely monitor patients and send automated phone and mobile reminders can increase patient compliance and lower the risk of disease complications.

- **Enhanced Transportation Services**
  Many chronic disease patients who live at home require the services of transportation providers in order to receive care. Providing these team members with access to systems that deliver accurate information regarding patients' transportation requirements will help to ensure that care is properly managed.
- **Expanded Telemedicine and Mobile Monitoring Capabilities**
  Telemedicine services save time and improve the efficiency of care delivery by eliminating the need for specialists to travel to remote locations and enabling them to treat more patients. Telemedicine can also reduce specialist wait times, decrease a patient's travel costs, and provide homebound patient with access to care that they might otherwise have problems receiving. In addition, many new mobile and wireless technologies can help patients automatically track medical conditions and communicate information to providers.
- **ePrescribing**
  Chronic disease patients typically take a large number of medications. ePrescribing is essential for safer care coordination and transitions. Physicians review a patient's consolidated medication profile, connect to an ePrescribing system, prescribe a drug, determine which provider should fill the prescription, and send the prescription electronically to a pharmacy. ePrescribing saves times and reduces costs while helping to prevent drug interactions and to ensure that appropriate medications are prescribed.
- **Reduced Utilization of Acute Care Facilities**
  Patients in some countries utilize expensive inpatient care services because of the difficult and laborious process required to identify appropriate homecare and community-based health services. If a complete view of local or regional community-based service providers along with a patient's EHR were readily available to them, they could more easily transfer the patient from acute care back to their community while assuring safety and continuity of care.

Providing the Right Interoperability Infrastructure

Many governments are beginning to focus on improving chronic disease management to reduce healthcare costs and improve citizens' quality of care. To help solve these problems, information technology solutions that deliver complete views of patient and provider information, and make them accessible at all points of care, should be rapidly deployed. These technology solutions should provide the following capabilities:

- **Accurate Patient Data**
  A patient may be identified in different ways across various silos of information, as a result of different business processes or data entry errors. What is needed is a highly accurate representation of a patient, regardless of how they are represented in different silos.
- **Complete Provider Data**
  Provider data should include information about individuals and organizations, provider resources in specific locations, and which providers practice at multiple public and private care settings. Information about colleges, licensing boards and other entities may also be required for verification and billing purposes.

- **Scalability**
  Technology solutions should be capable of scaling to handle whatever size and scope of data are required to ensure proper patient care coordination and management today and in the future.
- **Near Real-Time Data Access**
  Any information related to citizen services and healthcare delivery should be updated in real time and made available at all points of service. Information that is updated daily or weekly is not adequate to support high-quality, cost-effective health and social services.
- **Ease of Implementation**
  Technology solutions should be able to be deployed in months, not years, and provide immediate cost savings, improved quality of care and enhanced government and healthcare efficiencies.
- **Audience-Specific Views**
  The ability to tailor what levels of information specific audiences can access should be supported. For example, physicians need to see complete patient care information, but transportation providers only need to see when and where to pick up a patient, and any special transfer instructions.
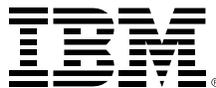
Delivering Comprehensive Information to Reduce Healthcare Costs and Improve Care

Patient information is the lifeblood of the healthcare system. Chronic diseases cannot be effectively managed in a safe, comprehensive and timely manner without leveraging technology to bring patient and provider information together and make it available at the point of care, whether care is provided in the home, in the community or in acute care facilities.

Complete and accurate views of patient and provider information are the foundational building blocks that enable a broad range of eHealth systems. By creating an overarching view of patients and providers, governments can focus on delivering their ehealth business goals and objectives, reduce the costs of chronic disease care, and ultimately reduce their overall healthcare costs.

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