

Hypertension as a chronic disease: What can be done at a regional level?

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Historically, management of chronic diseases such as hypertension has tended to be reactive, with patients being passive recipients of care. In recent years, the chronic care model has been developed and implemented in many jurisdictions to ensure optimal, proactive care of people with chronic conditions. The model and its principles address the infrastructure and support that is necessary to enable this high-quality care. The role of the patient, primary care team, system and community are all addressed in this model. Experience suggests that application of chronic disease management principles to hypertension can result in significant benefits to all concerned.

Key Words: *Chronic disease management; Hypertension*

Hypertension has been cited as the leading risk factor contributing to premature cardiovascular morbidity and mortality on a global basis (1). Because cardiovascular disease is the world's leading cause of premature morbidity and mortality (2), programs aimed at effectively managing hypertension are therefore expected to have a significant impact on population health. Indeed, it has been estimated that if hypertension control were optimized, cardiac mortality would decline by 49% and cerebrovascular mortality by 62% (3).

In recent years, principles of chronic disease management (CDM) have gained widespread acceptance and are being implemented in many jurisdictions. CDM refers to a system of health care that supports individuals with chronic illness to remain as healthy and functional as possible. Typically, CDM is patient-centred, with health care providers, the health care system and the community at large collaborating to help the patient achieve optimal health and long-term well being. Implicit in CDM is the concept that patients should be active participants in their care, being well informed about their illness(es) and sharing in decision making processes.

THE CHRONIC CARE MODEL

To put CDM into practice, a number of care models have been proposed. However, the one model that has generally received widespread acceptance and that has been extensively adopted is the chronic care model (4). Since its introduction, this model has evolved and a number of modified versions exist. However, there are certain core elements to the model. These include:

1. The health care system – the health care organization and its culture promote safe, high-quality chronic disease care. All levels of the organization, including senior leadership, support improvement and coordination of this care.
2. Delivery system design – the system ensures the delivery of effective and efficient clinical care. Definition of the roles of team members and proactive care, with timely interventions and systematic follow-up, are incorporated as the mainstay of care.

L'hypertension comme maladie chronique : Que peut-on faire sur la scène régionale ?

La prise en charge de maladies chroniques comme l'hypertension a toujours eu tendance à être réactive, les patients étant des receveurs passifs des soins. Ces dernières années, un modèle de soins chroniques a été mis au point et adopté dans de nombreux territoires pour assurer des soins proactifs optimaux des personnes atteintes de maladies chroniques. Le modèle et ses principes tiennent compte de l'infrastructure et du soutien nécessaire pour garantir des soins de qualité. Les rôles du patient, de l'équipe de soins primaires, du système et de la collectivité sont tous abordés dans ce modèle. D'après l'expérience, l'application des principes de prise en charge des maladies chroniques à l'hypertension peut procurer des bienfaits importants à toutes les personnes en cause.

3. Decision support – clinical care is delivered according to best practice. Evidence-based guidelines are embedded in clinical practice at the point of patient contact. Members of the health care team have access to, and are educated in, the most up-to-date clinical care information. Specialist services are organized to support primary care.
4. Clinical information systems – individual and aggregate patient data are available and organized to facilitate efficient patient care. Information is efficiently transferred between providers, across care boundaries and is shared with the patient. Alerts and reminders, as well as outcome measures, are used to facilitate optimum care.
5. Self-management support – health care organizations and the community at large empower patients to manage their health and health care. To do so, patients are provided with access to the necessary information and to supports in goal setting, action planning, problem solving and other techniques that allow them to play a major role in maintaining their health.
6. The community – the larger community supports the care of individual patients and patient groups. Community organizations, resources and policies are organized to contribute to the self-management and care of patients with chronic diseases.

APPLICATION OF THE CHRONIC CARE MODEL TO HYPERTENSION

Hypertension is a lifelong disease that is manageable but generally not curable. The chronic care model is therefore particularly suited to the management of hypertension. Under the auspices of the CDM program at Capital Health in Edmonton, Alberta, we consider ourselves responsible for the health of all individuals with, or at risk of, identified chronic diseases. This is the primary principle of CDM in the Edmonton region. The second major principle is that every individual with a chronic disease should have a family physician. The third major principle is that the family physician or primary care team

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is responsible and coordinates all care for chronic disease patients. In our region, hypertension has been identified as one of the chronic diseases we wish to target.

The three principles listed above support all hypertension care in our region. Based on these principles, the first requirement to manage hypertension on a regional basis is to identify all individuals with the disease. Using the Canadian Hypertension Education Program (CHEP) algorithms and recommendations, we are working toward facilitating systematic screening and identification of all individuals with hypertension. This has been done in tandem with the Alberta Medical Association who, through their Toward Optimized Practice program, is also working toward guideline-based screening for 10 of the top medical conditions. Thus, if every individual in the region has a family physician and if every family physician screens for hypertension according to CHEP guidelines, there is no need for extraordinary hypertension screening programs. To facilitate systematic hypertension screening at a primary care level, however, family physicians must be supported through delivery system design, decision support tools and clinical information systems. In addition, these same components of the chronic care model, as well as other components, are applied in patient management.

Delivery system design

In Alberta, a tripartite agreement between the Alberta Medical Association, the government and the health regions has led to the establishment of primary care networks, or PCNs. PCNs are composed of groups of primary care physicians who receive extra funding to deliver comprehensive care, including CDM, to their 'panel' of patients. Accordingly, most PCNs have specifically hired nurses to aid in the management of chronic diseases. Thus, a nurse within a PCN may apply CHEP recommendations locally in a care algorithm and ensure that all patients within a family physician's practice are appropriately screened for hypertension. To do this, there must be familiarity with the CHEP recommendations, including those dealing with screening, blood pressure measurement and diagnosis of hypertension. Once a diagnosis is made, CHEP recommendations are followed to ensure an appropriate workup and evidence-based management. In this model, the region participates in a number of ways. First, the region aids in dissemination of CHEP recommendations to primary care. Second, the region helps to educate family physicians, nurses and other health professionals on the CHEP recommendations and provides training in areas such as blood pressure measurement. Third, the region facilitates referrals to specialty hypertension clinics and ensures that these clinics are adequately supported. Finally, the region helps in the development and implementation of decision support tools.

Decision support

CHEP recommendations provide a substantial degree of decision support, particularly through their clinical algorithms. These algorithms have been locally expanded in many cases, and are disseminated by regional program staff. The CDM group of Capital Health has also developed local guidelines for areas such as specialty referral and is working toward regional integration of hypertension specialty clinics, much as the diabetes clinics within our region are now integrated into a single system. A major enabler of decision support in Capital Health are electronic medical records, or EMRs. Through a joint program of the provincial government and the Alberta Medical Association, many primary care practices function using EMRs. These EMRs may have decision support embedded within them. For example, electronic alerts and reminders can prompt evidence-based screening for hypertension, along with guideline-based management once a diagnosis is made.

Clinical information systems

Patients with selected chronic diseases in Capital Health are being entered into a chronic disease registry. For example, over 80,000 persons with diabetes have been tentatively identified in the region. The primary care provider and diagnosis of these patients are systematically

confirmed, and core patient information is entered into the chronic disease registry. This registry will shortly be accessible through the regional EMR, known as NetCare. NetCare contains information on all individuals who have ever been in contact with the medical system in the region. Currently, most of this information consists of laboratory and diagnostic imaging results, as well as discharge summaries and pathology reports. In the near future, however, core clinical information on a patient's chronic diseases will be available. Even more exciting is the 'dashboard' feature of the chronic disease registry. The CDM dashboard provides primary care providers a snapshot of key performance indicators specific to a chronic disease, applied either to an individual patient or to their practice. Thus, family physicians can easily identify the hypertensive patients within their practice who are not at blood pressure targets, not at lipid targets, not taking acetylsalicylic acid, etc. The dashboard function for hypertension is nearing completion, but the diabetes component of the dashboard has already proven to be extremely useful to care providers. At a regional level, de-identified patient data from the registry may be used for epidemiological purposes and to aid in the allocation of resources. While it is theoretically possible to compare the performance of practitioners, clinics or PCNs, the region avoids such comparisons, preferring to allow the individual physician or PCN to compare themselves with de-identified peers. In this manner, the fear of 'Big Brother' performance surveillance is eliminated.

SELF-MANAGEMENT SUPPORT

Hypertension is a chronic disease in which self-management plays a key role. In particular, home blood pressure monitoring is important in making a hypertension diagnosis and in monitoring therapy. CHEP materials are widely used for both patients and providers in the area of blood pressure self-monitoring. In addition, CHEP and Blood Pressure Canada patient resources are used to help enable patients to manage their own blood pressure through mechanisms such as lifestyle changes.

THE COMMUNITY

Formal and informal community partners are used in providing care to patients with hypertension. For example, the Heart and Stroke Foundation has collaborated with CHEP in developing tools and programs for hypertension control. Exercise centres and other lifestyle programs and resources are also used to help in hypertension prevention and control. In addition, public policy for realms such as smoking contribute to overall cardiovascular health of the region's population.

CONCLUSION

Principles of CDM and the chronic care model are well suited to the diagnosis and management of hypertension. Using this care strategy, evidence-based recommendations from CHEP can be effectively, systematically and broadly implemented, leading to a new era of hypertension control in Canada.

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