Preventing and Managing Chronic Disease:

Ontario's Framework

"This document has been developed to inform planning for chronic disease prevention and management (CDPM) in Ontario. It provides the evidence base for Ontario's CDPM Framework, which has evolved from the Chronic Care Model developed at the MacColl Institute of Healthcare Innovation, U.S.A.; and been informed by the Expanded Chronic Care Model from British Columbia, that incorporates the "Ottawa Charter of Health Promotion".

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Ontario

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ONTARIO'S FRAMEWORK

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Section I: INTRODUCTION

The Importance of Chronic Disease

Chronic diseases are long-term diseases that develop slowly over time, often progressing in severity, and can often be controlled, but rarely cured. They include conditions such as cardiovascular diseases (heart disease and stroke), cancer, diabetes, arthritis, back problems, asthma, and chronic depression. Chronic diseases may significantly impair everyday physical and mental functions and reduce one's ability to perform activities of daily living.

Worldwide, chronic diseases have overtaken infectious diseases as the leading cause of death and disability. Non-communicable diseases now account for 59% of the world's 57 million annual deaths, and 46% of the global burden of disease. The picture for Ontario is similar. In 2003, heart disease was the leading cause of death in the province – and myocardial infarction the largest single cause of death within heart disease – followed by cancers, stroke, and chronic obstructive pulmonary disease (COPD).

Chronic disease is most frequent among older Ontarians, since chronic diseases can take decades to develop. In 2003, almost 80% of those over the age of 45 or 3.7 million people were living with a chronic condition, including 34% with arthritis, 9% with diabetes, 30% with high blood pressure, and 12% with osteoporosis.

Chronically ill Ontarians are also likely to have more than one chronic disease. In 2003, 70 percent of chronically ill Ontarians over the age of 45 had multiple conditions.[1] The high levels of co-morbidity reflect the fact that, untreated, a serious chronic condition tends to lead to additional conditions and other health problems. Ontarians with diabetes account, for example, for 32% of heart attacks, 43% of heart failures, 30% of strokes, 51% of new dialysis, and 70% of amputations in the province.[2]

Statistics Canada estimates that major chronic diseases and injuries account for over 33% of direct health care costs.[3] In Ontario, chronic diseases account for 55% of direct and indirect health costs, which includes years of healthy life lost from premature death and lost productivity from disability as well as direct health

care costs.[3,4] Moreover, Ontarians with multiple serious chronic conditions consume disproportionately more health care than others with chronic conditions.

Death rates, and in some cases, prevalence rates (diagnosed cases in the population), have been declining for some chronic diseases but increasing for others in recent years. A decline in death rates (crude rates, 1995 to 1999) has been seen for breast cancer (12%) and asthma (8%) while an increase has been seen for lung cancer (5%).[5] The prevalence of cancers fell by (5%) in 2003 from 2001, but the prevalence increased for COPD (11%), arthritis (4%), and type 2 diabetes (7%) - mainly because people are living longer.[6] Hospitalizations for cardiovascular diseases are predicted to continue to decrease and, while some risk factors for this group of diseases are falling (e.g., hypertension), others are rising (e.g., obesity, aging). The health care costs of diabetes and associated conditions are estimated to rise by as much as 48% over the next decade.[7]

Chronic Disease can be Prevented, Detected and Managed

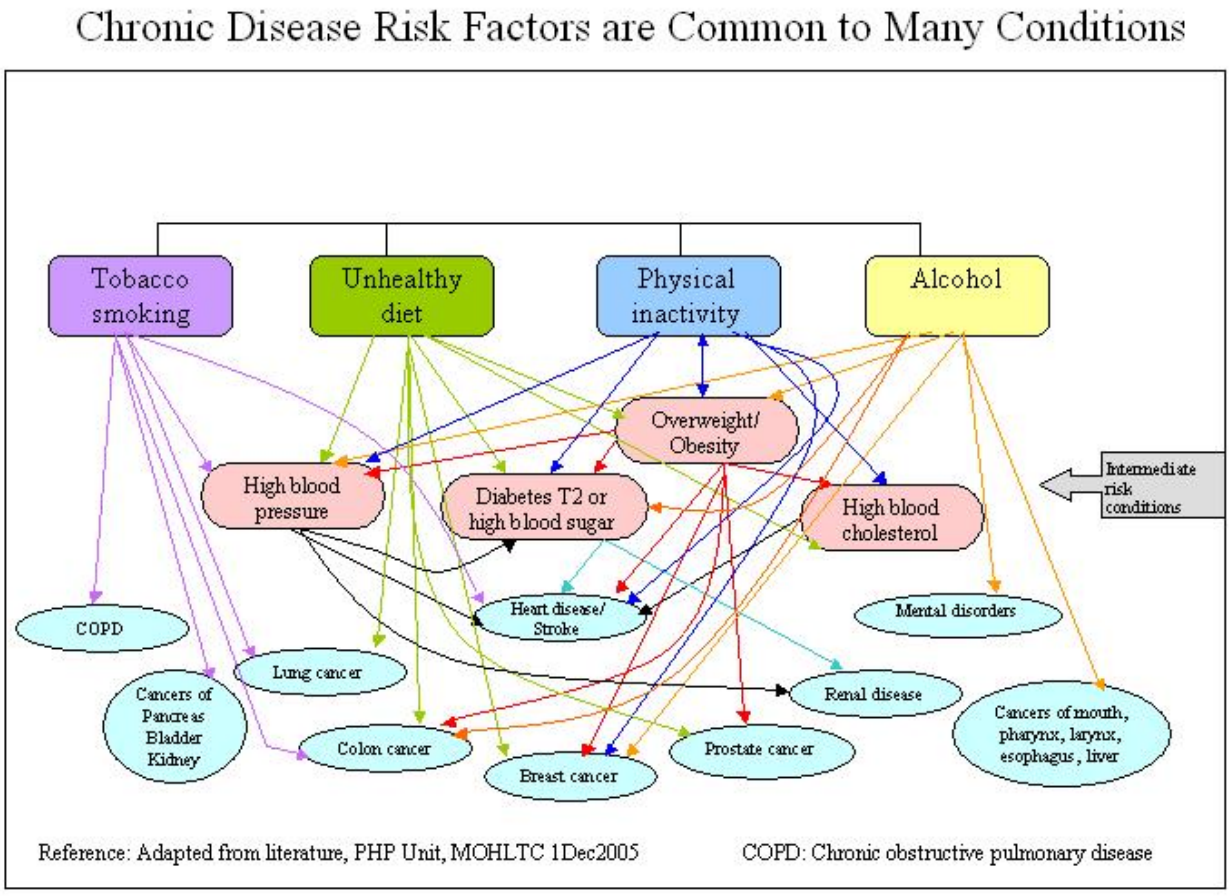
Although chronic diseases are among the most common and costly health problems facing Canadians, they are also among the most preventable. Major chronic diseases such as cardiovascular disease (heart disease and stroke), diabetes, arthritis, asthma, and osteoporosis share common risk factors and conditions. A small group of modifiable behaviours and intermediate biological factors/risk conditions (e.g., physical inactivity, unhealthy diet, tobacco, alcohol, hypertension, high cholesterol, and being overweight) account for a substantial proportion of chronic disease (see Figure 1). These modifiable factors are influenced and shaped by societal, economic and physical conditions.

Changing health behaviors and biological factors have the potential to reduce chronic disease in Ontario significantly. For example:

- A tobacco-free society would prevent more than 90% of lung cancer deaths and 30% of all other cancer deaths.[8]
- With healthy eating, regular exercise, and not smoking, up to 90% of type 2 diabetes, 80% of coronary heart disease, and one-third of cancers can be avoided.[9]

Interventions to reduce risk factors and prevent chronic disease can be extremely successful. One compelling example is the comprehensive community-based program in North Karelia, Finland, that brought cardiovascular disease and lung cancer rates in the region into line with national levels by reducing smoking rates, blood pressure, and cholesterol rates in the population through a broad mix of social and medical initiatives.

Figure 1:



Detecting chronic disease early, and intervening quickly to prevent its progress, also has significant potential to reduce deaths from chronic disease.
For example:

- If 70% of women between the ages of 50 and 69 underwent mammography screening, there would be about one-third fewer breast cancer deaths over a ten-year period.[10]
- If Ontarians 50-75 received regular colorectal screening by fecal occult blood testing, more would receive early treatment and deaths from colorectal cancer could drop by 15-33%.[11]

With the right treatment and support, people diagnosed with a chronic disease can improve their health and quality of life. Management typically involves multi-

faceted interventions providing integrated social and medical support for people with chronic conditions.[12] For example:

- People with diabetes who attended an interdisciplinary, community-based self-care clinic experienced an average 14% drop in blood glucose levels within one year.[13]

- Individuals who participated in a congestive heart failure discharge program that coordinated care and provided education for them and their families had over 60% fewer readmissions to hospital.[14]

- Post-fracture patients were three times more likely to have bone density testing and four times more likely to be prescribed treatment for osteoporosis when they were provided with information and telephone counseling and their physicians were provided with treatment guidelines.[15]

- Children and adults whose asthma care was managed by a primary care team using decisions supports and guided self-management experienced 50% fewer emergency department visits after one year.[16]

A New Approach to Chronic Disease

'Clients' in this paper are individuals who use health care and other health services, and includes healthy individuals and those suffering from disease.

The current health care system was designed to address acute illness rather than chronic disease. As a result, medical practices are generally organized to respond to clients' acute illnesses which tend to be short, urgent, easily diagnosed and treated with cure being the likely outcome. Care tends to be reactive – responding to acute health problems when they present. As a result:

- Medical practitioners rely on clients to contact the system
- Patients are usually passive while medical practitioners administer treatment
- Visits are symptom focused versus patient-centred [17]
- Promoting the client's overall health, preventing disease, injury, disability, and ensuring continuity of care across providers are not system priorities.

These features render the prevailing model of care inappropriate for tackling chronic disease.

In fact, the way the system is designed, patients with chronic illnesses are not receiving a good standard of care. For example, in Ontario:

- 58% of diabetes patients are tested for $HbA1_C$, and of those tested, less than 50% had optimal blood glucose levels.[18]
- Less than 20% of those who experience a fracture after age 40 are assessed for osteoporosis.[19]
- 7.2% of acute myocardial infarction (AMI) patients in Ontario are readmitted within 28 days – compared to 4.8% in Alberta.[20]
- 49% of diabetes patients have gone without an eye exam for over one year after diagnosis.[21]
- Asthma is not properly controlled in 53% of people who have asthma. [22]

A more responsive approach to chronic disease would recognize that chronic disease:

- Is ongoing, and therefore warrants pro-active, planned, integrated care within a system that clients can easily navigate
- Involves clients living indefinitely with the disease and its symptoms, requiring them to be active partners in managing their condition, rather than passive recipients of care
- Requires multi-faceted care which calls for clinicians and non-clinicians from multiple disciplines to work closely together, to meet the wide range of needs of the chronically ill
- Can be prevented and therefore warrants health promotion and disease prevention strategies targeted to the whole population, especially those at high risk for chronic disease.

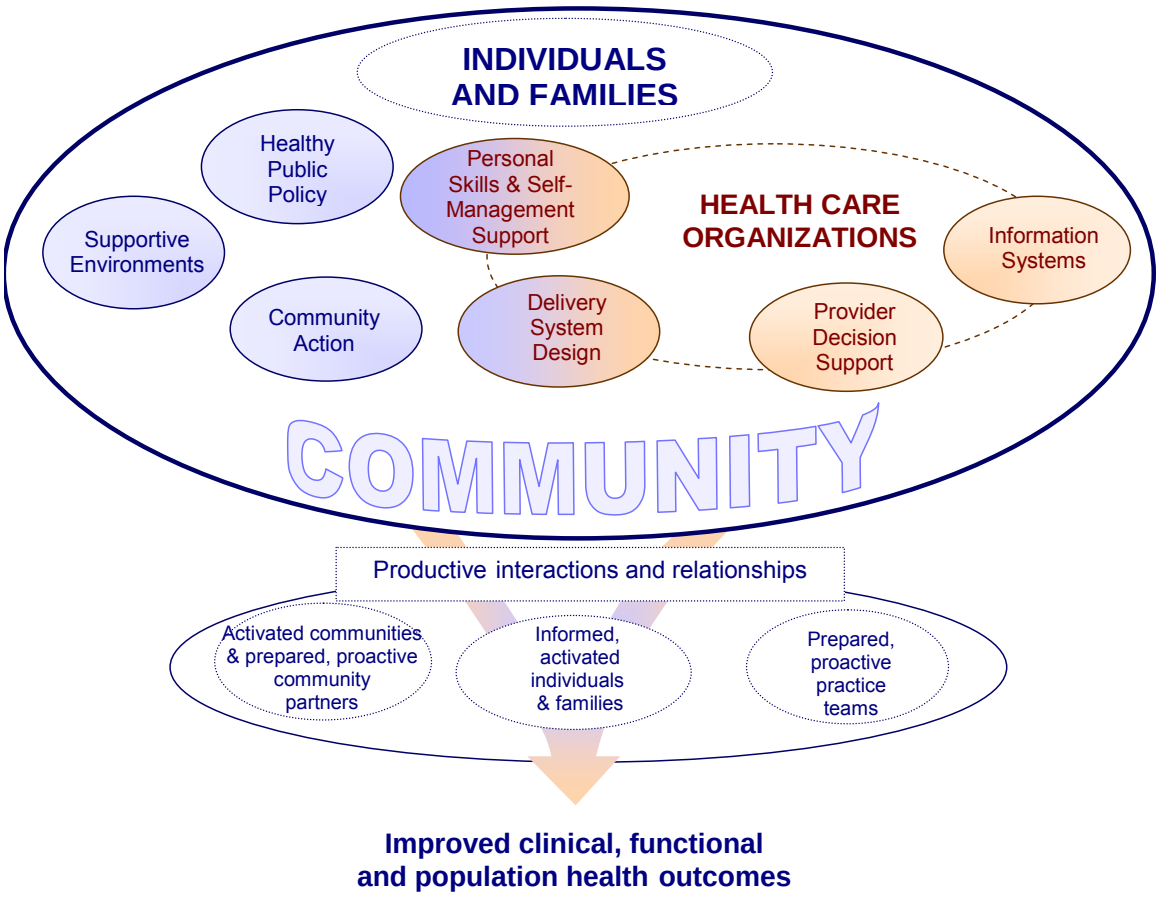
Internationally and within Canada there is growing interest in redesigning health care organizations and practice to improve the quality of care and to close the gap in care between what is known to improve outcomes, and what is practiced. This will require health care organizations to re-think current approaches to chronic disease management while exploring ways to build health promotion and disease prevention into health care practice and the lives of their clients.

SECTION 2: Ontario's New Approach to Chronic Care – THE CDPM FRAMEWORK

The Ministry of Health and Long-Term Care (MOHLTC) has developed a policy framework to guide redesign of health care practices and systems to improve chronic disease prevention and management in Ontario. The Ontario Chronic Disease Prevention and Management (CDPM) Framework (see Figure 2) is an approach to CDPM that is evidence-based, population-based, and client-centered. It supports health care system changes from one that is designed for episodic, acute illness to one that will support the prevention and management of chronic disease.

Figure 2

Ontario's Chronic Disease Prevention and Management Framework



The Framework's approach to chronic disease prevention and management is based on the Chronic Care Model (CCM) developed in the U.S.[23] (Appendix 1), and British Columbia's 'Expanded Chronic Care Model (ECCM)[24] (Appendix 2). The CCM has been applied extensively in the U.S., the U.K., Australia, New Zealand, and parts of Europe. Several international and Canadian jurisdictions, including British Columbia, Alberta, Saskatchewan, and Manitoba, are using the ECCM to inform their redesign of chronic disease prevention and management.

The Framework identifies a cluster of practice and system changes like those in the CCM that have been found to improve chronic care delivery. These elements, (i.e., personal skills and self-management support, delivery system design, provider decision support, information systems) essential to good care, have been applied successfully in many jurisdictions. Each element is interconnected and mutually dependent. In practice, jurisdictions have found that simply adding new elements such as self-management programs or client registries to a system solely focused on episodic, acute care does not change delivery of care substantially or improve health outcomes. Changing delivery of care to improve outcomes requires fundamental system changes in the design of practice and provision of self-management supports.

The Framework is a 'roadmap' to a chronic care delivery system that provides effective care and better health outcomes. Each 'stop' on the roadmap is linked to other stops. The Framework can be applied to both specific and generic chronic disease practice, and to different types of health care organizations.

The Framework's roadmap for effective chronic disease management addresses the distinct needs of clients with chronic conditions as it aims to provide multi-faceted, planned, pro-active seamless care in which the clients are full participants in managing their care and are supported to do this at all points by the system. Ontarians with chronic conditions will experience a change both in their care and their disease management. They will become equal partners in their own health and full collaborators in managing their conditions, and they will be supported in this. Their care will be organized and delivered to give the expert care they need when and where they need it, without their having to struggle through the system on their own, bounced from provider to provider. Their care will be planned and based on the best evidence, and both providers and clients will be supported in following through with the plan. Effective chronic disease management includes the implementation of prevention measures to halt the disease's progress and to prevent complications and co-morbidities. The Framework gives prevention vastly greater scope. Following British Columbia's ECCM it adopts the 1986 Ottawa Charter for Health Promotion's approach to prevention (Appendix 3). Prevention in the Charter includes interventions both to reduce the risk of disease among chronically ill individuals and individuals at high risk of developing disease, as well as broad initiatives to improve health

within the population as a whole and prevent new cases of chronic disease from occurring. The Charter identifies five action areas in which to do this:

- Development of personal skills necessary to staying healthy
- Re-orientation of health services to greater health promotion and disease prevention
- Building public policies that promote health and prevent disease
- Creating environments supportive to health
- Strengthening community action.

Actions in these areas not only address the risk factors for an individuals' health, but also address the full range of factors that determine the populations' health. The determinants of health range from individual genetic make-up to socio-economic factors such as income and education.

Determinants of health:

- Income and social status
- Education and literacy
- Social support networks
- Employment/working conditions
- Social environments
- Physical environments
- Personal health practices and coping skills
- Healthy child development
- Biology and genetic endowment
- Health services
- Gender
- Culture

Source: Health Canada

For the health care system, the Framework's approach to prevention means: expanded prevention and health promotion in health care settings, more pro-activity in preventing disease and promoting the health of clients, and outreach beyond client rosters to catchment area populations and the population as a whole.

The Framework also enhances the role of the community. Community agencies deliver much of the promotion/prevention in Ontario, especially promotion/prevention directed at populations of individuals. The Framework makes community providers important partners, linking them with health care providers – through systematic referrals, collaborations to reach underserved populations – for example, to exploit fully the capacity and resources of both sectors to deliver quality care, support client self-management, and prevent chronic disease. The Framework also promotes broader community strategies – led by individuals, families, advocates, and/or agencies – to improve health and reduce the incidence of disease among Ontarians through activities that address the determinants of health.

The Ontario Framework: Improved Outcomes and Reduced Health Care Costs

The best research evidence to date indicates that the Framework's approach to CDPM will improve the health and functioning of chronically ill Ontarians and reduce the incidence of chronic disease in the province. These outcomes will result from both increased prevention/promotion in clinical practice and in the community, as well as improved delivery of chronic disease care. The improved delivery of care will not only ensure quality care in the appropriate setting by the appropriate provider at the right time, but will also increase efficiency in the system.

Evidence also indicates that the Framework's approach will save health care system resources by reducing hospitalizations and use of emergency departments, reducing duplication of services, and helping Ontarians to stay healthy.

As indicated earlier, major chronic diseases and injuries account for 33% of direct health care costs and 55% of direct and indirect health costs in Ontario.[3, 4] A high proportion of these costs are consumed by the relatively small proportion of individuals with multiple serious chronic conditions. Studies in British Columbia found that in that province, individuals with very high co-morbidity used seven times the inpatient hospital days, four times the physician visits, five times the home care (nursing, rehab), and two and a half times the home support services as the population average.[25, 26]

Recent evaluations of chronic disease prevention and management based on the Chronic Care Model show promising indications that CCM practices reduce health care costs. One large scale modeling study by the RAND Corporation,[27] found that substituting hospital contact with regular primary care contact in the management of four major chronic diseases increased physician and drug costs, but produced tens of billions of dollars in net savings through reduced hospital costs.[12] Similarly, the U.S. Veterans Health Administration significantly reduced costly hospitalizations when it adopted the CCM focus on primary and ambulatory care in its health care system. Between 1995 and 2002 the number of acute operating beds decreased from 52,000 to 19,000 and the average daily in-patient population dropped about 60%.

In Canada, specific asthma programs featuring treatment, education, assessment and follow-up have been shown to save $501-597 per person enrolled.[28] A recent Alberta study of heart failure care after hospitalization

reduced hospital use by an average of 3.6 days per participant, with an estimated net savings of $2,531.[29]

The remainder of this section of the paper will be devoted to describing the main elements of Ontario's Chronic Disease Prevention and Management Framework.

Health Care Organizations

The health care system is the main provider of health care to chronically ill Ontarians, and a provider of chronic disease prevention. Virtually all health care organizations within the system that deliver services as well as those who plan, fund and coordinate services have a role to play in chronic disease prevention and management: acute care, primary care, public health, long-term care, Local Health Integrated Networks (LHINs), government, provincial associations, and provincial and regional service networks. Their role is to champion the changes required to shift from reactive episodic acute care to proactive chronic disease prevention and management. Leadership, resources, incentives, and quality improvement across the health care system and within individual organizations, are pre-requisite to successful implementation of the Framework's practice and system changes.

Health Care Organizations

- Strong leadership
- Aligned resources and incentives
- Commitment to quality improvement
- Accountability for outcomes

Strong Leadership

Strong organizational leadership that visibly supports chronic disease prevention and management is central to success. Committed leaders have a clear understanding of what's involved, and 'walk the talk' through ongoing organizational quality improvement to identify innovative and effective delivery strategies, based on best evidence. They also work to mobilize all partners and stakeholders within the health care sector and community to build an environment and service system that result in optimal care and reduced incidence of chronic disease.

Aligned Resources and Incentives

Organizational resources and incentives need to be aligned with the Framework for practice and system changes to be adopted. Leadership across the health care system must assign human and financial resources to Framework practices and redesign. In most jurisdictions, current incentives and performance measures continue to reinforce acute, episodic care in medical practice. Individual clinicians' and organizations' productivity, for example, is still largely measured by numbers of visits and technical procedures completed. Clinicians do not often get paid for conducting assessments of clients' risk for disease, general health status or ability to care for themselves. Current reimbursement structures discourage proactive outreach planned care and alternative visit structures such as telephone or email interactions with clients.

The Framework emphasizes clinical chronic disease prevention and management for the whole population. Incentives and resources need to reflect this approach. One way to do this is to offer population-based funding incentives – for example, reward organizations or sectors if cholesterol rates fall in the local population, or if smoking rates drop.

Commitment to Quality Improvement

Best practices in implementing Framework elements continue to evolve. Organizations need to foster a culture of quality improvement to identify innovative and effective delivery strategies, based on new best evidence, that are most effective in preventing and managing chronic disease. Initiatives could include continuous learning forums and systematic use of quality improvement tools. Quality improvement from the top levels to the front lines needs to be promoted and be a part of job descriptions and performance appraisals.

Accountability for Outcomes

Strong leadership, within the health care system as well as within health care organizations engages partners in defining common goals, setting a collective vision, determining performance measures, and evaluating and reporting on that performance. The result – shared commitment and defined accountability, with greater likelihood of improvements in health care and health system outcomes. Building Framework practice and system changes into performance measures is a proven, effective strategy to ensure organizations implement best practice approaches to chronic disease prevention and management. Framework-based performance measures make the organization, and individuals within the organization, accountable for their success or failure in implementing the changes, and rewards them for success in doing so. Organizations and individuals can also use the performance results to continually improve quality of

care and support organizational changes.

Personal Skills and Self-Management Supports

Informed and activated individuals and families have the confidence and capacity to participate fully in planning and self-managing their chronic conditions to stay healthy. To achieve this, they need to play an active role in their health, have the supports to help them manage their chronic conditions as much as possible, and skills-building to develop the personal skills needed to keep themselves healthy and prevent chronic disease.

Self-management Supports

- Clients are part of care team and engaged in shared decision making
- Individuals empowered to be self-managers
- Self-management support services organized for clients
- Shared clinical guidelines
- Follow-up

Clients are part of the Care Team and Engaged in Shared Decision Making

In a system oriented to the prevention and management of chronic disease, clients are key members of the health care team, and collaborate fully in managing their own health. For clients with chronic conditions, this means working together with clinical providers in defining problems, setting priorities, establishing goals, creating action and treatment plans and solving problems as they arise. Both providers and clients (and their families) contribute perspectives on priorities to be addressed. Tools such as questionnaires, interactive computer-based technology and patient-centered interviewing techniques can facilitate client participation in this process. Providers and clients (and their families) set realistic goals together, and develop a personalized plan to achieve them that reflects clients' willingness and ability to manage their health and change unhealthy behaviours.

Individuals Empowered to be Self-Managers

Support for individual self-management should be an integral feature of the health care organization and considered an essential part of its mandate and responsibility. The goal of this support is to enable chronically ill clients to be 'self-managers' of their conditions – that is, clients become the day-to-day managers of their conditions, while health professionals take on the role of expert coaches. For the client, being a self-manager typically includes:

- Taking action to promote health and to build physiological reserve through such things as exercise, proper nutrition, socializing and sleep

- Interrelating with the health care system, and following recommended treatment protocols, knowing when to recognize symptoms and signs in need of attention
- Managing the impact of the chronic condition(s) on one's emotional life, social relationships, and ability to function.

Not all clients are able or willing to self-manage their chronic conditions, and this should be respected. Some clients will need encouragement before they embrace the idea of self-managing. Some providers may not be prepared to see clients as full partners either, and this can pose a significant barrier. These attitudinal challenges to self-management may diminish over time as the culture changes and other practice and system changes proposed by the CDPM Framework are put in place.

Self-management Support Services Organized for Clients

Clients need a range of support services to become effective self-managers of their chronic conditions. Five kinds of self-management and training support services are key:

- Information and education about the disease, its causes and effects, strategies to forestall its progress and prevent disease complications, and effective treatments

- Training in skills to manage the disease day-to-day. These range from technical skills, such as monitoring blood sugar levels, to problem-solving and coping techniques. Improving client self-efficacy – the confidence to actually do what needs to be done – is also an important skills objective.

- Behaviour modification programs to help clients change the behaviours that exacerbate their condition or increase the risk of complications. Examples include smoking cessation and physical exercise programs.

- Counseling, advice and supportive services to help clients learn how to cope emotionally with their conditions

- Linking with all available health and social resources in the community.

Support services can be delivered in various settings, using various formats. Peer-led group classes, in which the information is tailored to specific patient needs and emphasizes the psychological aspects of coping with chronic disease, appear to be most effective.[30] However, the service format appears to be less important than the service's success in speaking to clients' individual needs and priorities.[17]

Community agencies provide many of Ontario's self-management support services, particularly prevention-oriented information, education, and behaviour modification programs. To fully utilize local capacity to develop clients' self-management skills, practice teams and community providers work together in organizing, integrating, streamlining, and enhancing community and health care system resources for self-management support.

Shared Clinical Guidelines

Sharing clinical practice guidelines with clients (or some simplified version of evidence-based guidelines) is another important self-management support. Research has found that clients more often comply with medication regimes, change unhealthy behaviours, and have recommended tests, screenings and other medical services when they appreciate why they should do so.

Follow-up

A final key self-management support is the follow-up measures that help providers and clients stay on track with the care plan, and day-to-day self-management activities. These follow-up measures include appointment and check-up reminders, checks on client compliance with their care regimen (including medications), and ongoing help with self-monitoring. In addition, clients need ongoing access to advice and support through such mechanisms as health care telephone lines.

Personal Skills for Health and Wellness

Clients without chronic conditions or those at risk of developing a chronic condition also need personal skills, to be full partners in managing their own health. Personal skills focus largely on developing and maintaining lifestyle behaviours that keep people healthy and prevent chronic disease.

Personal Skills for Health and Wellness

- Effective support services, e.g., information and education, training, behaviour modification,
- Social marketing and other population health strategies
- Collaboration between community and health care organizations

Clients need support to build personal skills. Health promotion skills-building supports include some of the same strategies used to support disease self-management. These include information and education about chronic diseases and other risks to health, and their causes and their effects; traditional health education programs on (un)healthy behaviours such as smoking, nutrition and

physical activity; and behaviour modification programs such as smoking cessation and healthy eating programs.

Mainstream health promotion strategies include services for individuals – a six-week healthy eating program at the local community health centre, for example – as well as population-wide strategies such as accessible online health information, television and radio health programming, and social marketing. Social marketing disseminates health messages population-wide, or to at risk populations, through mass and other media. Successful examples include the Canada Food Guide and the former national 'Participaction' campaign to improve healthy eating and physical activity. Social marketing is most effective when sustained, intensive, and combined with health education programs. Since research shows clearly that only higher-income groups have easy access to health information, and apply it more, outreach strategies can be used for disadvantaged and other specific populations to prevent health inequalities from widening.[31]

As indicated earlier, most health promotion activity in Ontario is delivered in community settings. Settings can include community venues, workplaces, schools or other structured environments. In these environments administrative policies and other supports – healthy menus in school cafeterias, for example, or provision of workplace gyms – increase the effectiveness of education/information strategies by creating conditions in which healthy choices can be made. The Framework promotes collaboration between health care providers and community organizations to develop and deliver personal skill-building strategies that reach everyone in the population. The health and wellness messages they provide also need to be consistent across settings and services.

Individuals' willingness and ability to change behaviours depends on their self-efficacy and on their circumstances. Building self-efficacy skills is therefore important. So too is changing individuals' circumstances. Healthy living is difficult in neighbourhoods without sidewalks, or without stores selling nutritious foods, or for individuals who cannot afford to buy nutritious food. To change health behaviours population-wide, personal skills-building needs to be part of a broader health promotion strategy addressing all the determinants of health.

These strategies are discussed later in the paper.

Delivery System Design

The term 'delivery system design' refers to the ways in which clinical health care practice is organized and carried out. Improving chronic care delivery and preventing chronic disease involves re-design of the current delivery system – in the range of professionals involved and their roles and responsibilities; in patient interactions; in care planning, care paths and care management; in the greater focus on prevention; and in outreach and population needs-based care.

Delivery System Design

- Interdisciplinary care teams with defined roles and responsibilities
- Innovative patient interactions
- Care planning, care paths and care management
- Enhanced health promotion and prevention
- Outreach and population needs-based care and cultural sensitivity

In a re-designed clinical practice chronically ill clients receive the expert care they need from the most appropriate provider when and where they need it, without their having to navigate the health care system alone. It enables their care to be planned, pro-active, and include mechanisms to ensure that plans are followed properly.

Interdisciplinary Care Team with Defined Roles and Responsibilities

The Framework's delivery system re-design enhances the role of primary health care. Chronically ill clients value a single source of care for their multiple needs, and a relationship with a primary care provider has been shown to be critical to good care and disease prevention.

Chronically ill clients need long-term expert care, even when they are successfully self-managing their day-to-day care. But the complexity of their needs means that no single professional can provide the expert care. An interdisciplinary mix of specialty care professionals, working either collaboratively or in an organized team, has been shown to improve care for the chronically ill, and provide effective prevention. Care teams typically include nurses, health educators, nutritionists and pharmacists as well as physicians. Depending on the client population, the team can also include psychiatrists, dieticians, social workers, physiotherapists and others. One factor found to be important to interdisciplinary teams' success is a shared vision and commitment among members to patient-centred care.

Prevention and health promotion experts in the community extend the breadth of the primary health care team, delivering prevention, health promotion and self-

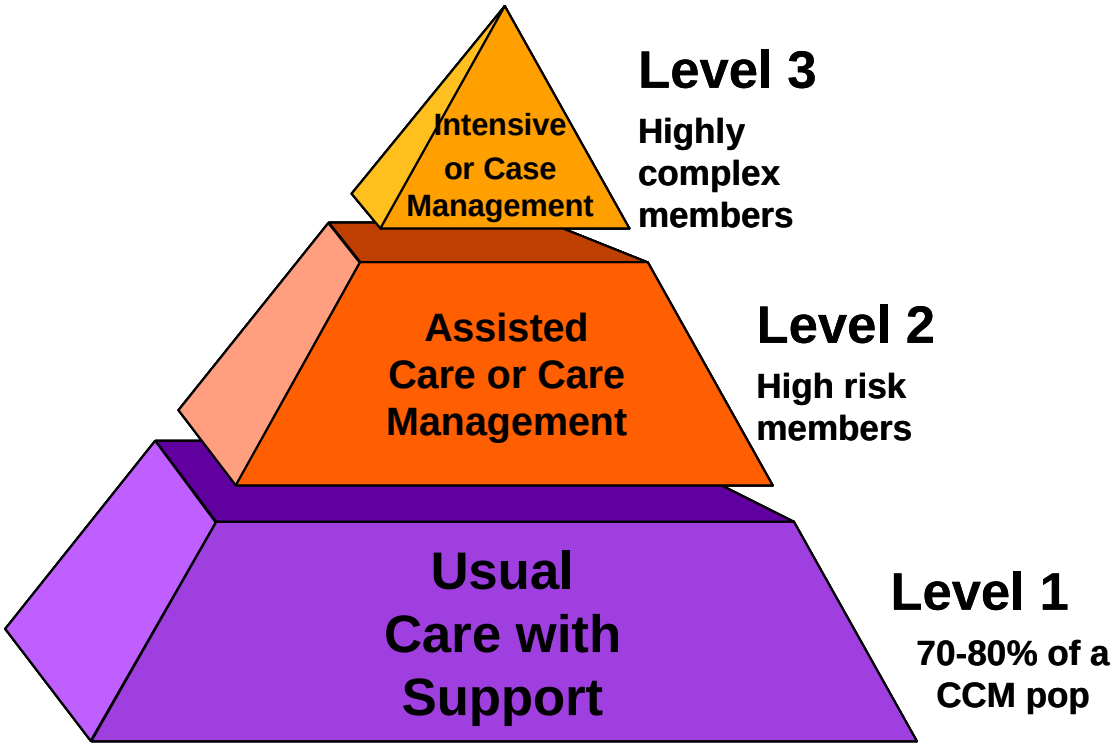
management supports to a practice's individual clients as well as to the population as a whole.

The division of tasks within practice teams can vary, but most successful chronic disease programs rely heavily on nurses.[17] In some jurisdictions nurses lead the care, drawing on other professionals' skills as needed. Nurse and health educators also have the training and time to educate and counsel clients, regularly assess them, and refer them to community services. Nurses and health educators often assume the major responsibility for chronic disease prevention with clients, working closely with other allied health professionals on the team, and with community promotion and prevention providers. Pharmacists are integral to practice teams, ensuring clients' compliance with medication and helping clients self-manage conditions. Successful chronic disease teams delegate key tasks to appropriate members, especially non-physicians. Each team member has clear roles and responsibilities in the individual's care so that hand offs are efficient and seamless. Education and information sharing among team members is necessary to ensure that each member of the team understands the expertise and scope of practice of the others and is prepared for collaborative, interdisciplinary practice. Regular team meetings, new to most practices, enhance care and improve client outcomes.

Team members' roles and responsibilities will also depend on whether clients are stratified by risk. California-based Kaiser Permanente, for example, stratifies its clients into three groups (Figure 3). Clients with multiple complex, chronic illness receive intensive care from an array of health and social care professionals, and all are case-managed by advanced practice nurses who plan and co-ordinate services across the whole care system. For clients who have a complex single need, or multiple conditions, a diverse interdisciplinary primary care team, with specialist support, provides pro-active planned care and preventive services using pathways and protocols. The rest of the health organization's clients with chronic conditions are provided with care by a multi-disciplinary team, but with a focus on helping individuals and their families develop the knowledge, skills and confidence to care for themselves and their conditions effectively.

Even where clients are not formally stratified by risk, practice patterns will vary for clients who need more or less contact, resources, and follow-up.[32] In all cases, as mentioned earlier, clients are a key member of the care team.

Figure 3: Kaiser Permanente's Risk Stratification Pyramid



As effective chronic disease prevention and management is process-oriented and involves complex, integrated team-based care, with active, planned support for self-management and skills development, interdisciplinary care teams need to be supported by coordinated administrative support. Administrative support enables the members of the team the time to provide optimal care to their clients by relieving them of administrative responsibilities. This ensures that resources are used in the most appropriate way by supporting the care team in:

- Coordinating care for multiple individuals by multiple providers and arranging for external referrals where necessary
- Coordinating client care to reduce the number of encounters with the system (i.e., one-stop shopping)
- Maintaining up-to-date health records that are accessible to all members of the practice team
- Maintaining a system for organizing follow-up and reminders for both providers and individuals.

Innovative Patient Interactions

For chronically ill clients the traditional 15 minute one-on-one visit to the doctor's office is not always the best or most efficient way to receive care. Group medical appointments have been found effective for chronically ill patients with similar conditions. Some jurisdictions have implemented 'mini-clinics', in which a group of patients with similar conditions is invited to participate regularly in specially designed 90-minute visits that deliver a planned set of assessments, visits with various health professionals, a group meeting, and a plan for follow-up.[17] Group classes – delivered in practice offices or the community – are also effective and efficient in changing unhealthy behaviours such as smoking. Group classes do not fully replace the traditional 15 minute one-on-one visits, which typically continue to focus on diagnosing and treating acute symptoms.

Nor does client contact need to be in person. Telephone contact has been found to be effective, and is low-cost.[33] One research study found that substituting regularly scheduled follow-up phone calls improved clients' health more than irregular in-person follow-up visits.[17]

Managing and preventing chronic disease successfully requires regular, ongoing contact with clients. Often providers need to initiate the contact. A variety of interventions – patient reminders, outreach workers, physician reminders, or patient orientation – have been shown to be effective in maintaining ongoing client contact, which can take the form of return visits, home visits, e-mails, or telephone calls.

Care Planning, Care Paths and Care Management

Periodic planned visits between clients and their care team that focus solely on clients' chronic conditions, have been found to improve health outcomes and reduce the number of specialty and acute care visits. Planned visits can be in groups or with individual clients. During these visits, prepared, informed practice team members work through the history and status of the chronic condition(s), past and planned interventions and self-management tasks with clients. Ideally, practice teams should schedule these meetings when clients are healthy.

The regular planned visits anchor the planning and coordination of clients' care which, as indicated earlier, is based on a patient-centred care plan tailored to the client's specific needs, capacities, circumstances and wishes. Important activities in any plan will include risk assessment, education and skills training to prevent and manage chronic disease; screening, diagnosis, testing to detect the early onset of chronic disease, or onset of co-morbidities; and treatment, rehabilitation, medication management and counseling for chronically ill patients.

Effective execution of the plan requires use of care paths – that is, algorithms or decision-trees that plot the sequence of care, and next steps for each point in disease management. An example of this would be the determination of the next steps after a client has been diagnosed with diabetes. Effective execution also requires ongoing coordination of clients' care. Typically, one or more team members will coordinate the care or prevention services planned for the client. Some organizations also assign individual clinical case managers to the small fraction of high needs clients with complex co-morbidities. These case managers take charge of all aspects of care for the client, and work with the primary care provider team to alter treatment as needed. Ideally the clinical case manager will be cross-trained in the management of multiple chronic conditions. The case manager also assists with navigation them through the health care system. As mentioned earlier, advanced nurse practitioners fulfill this function in Kaiser Permanente. Community matrons fulfill this function in the U.K.'s National Health Service.

Reminder systems and other follow-up strategies also increase compliance with the care plan. Studies have shown that instituting reminder systems increases the probability of providing the right medication management by as much as 420 percent.[34] Successful planned care also relies on decision support tools and effective information systems; these are described in later sections.

Enhanced Health Promotion and Prevention

The Framework's focus on chronic disease prevention means enhanced prevention and health promotion services in clinical health care practice. The greater emphasis on prevention is manifest in regular client risk assessments (for genetic, environmental, behavioural or social factors, for example) and pro-active follow-up for screening and tests to detect disease early, and information, education, skills training, and supports to stay healthy. As mentioned earlier, the prevention and health promotion services that clinical team members deliver may need to be expanded by drawing upon, or developing services with community organizations.

Outreach, Population Needs-Based Care and Cultural Sensitivity

Recognition of the role of culture, income and other determinants of health in shaping individuals' health and access to health care is critical. The practice teams will need to ensure that their services are equally accessible to everyone, and that they are sensitive to the cultural needs and the degree of comprehension of each of their clients. Clinical care teams can also support community organizations in making health services, information and education accessible to all sub-populations in their catchment area.

The Framework extends the scope of clinical practice beyond the client roster to sub-populations that are not getting the health care or prevention services they need. Practice teams can identify these sub-populations by comparing their clients' characteristics with the characteristics of their catchment area population, and through their links to community organizations. The Latin American Diabetes Program in London, Ontario, is an example of effective clinical practice-community collaboration to bring diabetes prevention to high risk local Latino community members, who were underrepresented in local physician and community health centre client rosters.

Provider Decision Support

Prepared, proactive practice teams need a range of decision supports that enable them to provide evidence-based expert, informed, and timely clinical management, self-management support, and prevention. Key decision supports include:

- Evidence-based practice guidelines embedded into daily clinical practice
- Provider education, including education in collaborative team practice
- Access to specialist expertise
- Clinical care and client management tools
- Routine reporting and feedback, measurement, and evaluation of care delivered.

Provider Decision Support:

- Evidence-based guidelines embedded into daily practice
- Provider Education
- Access to specialist expertise
- Clinical care and client management tools
- Provider alerts and prompts
- Measurement, Evaluation, Routine Reporting and Feedback

Provider decision supports improve the quality of prevention and care by integrating practice guidelines or protocols into daily practice, supported by effective provider training and behavioural change methods.

Evidence-based Practice Guidelines Embedded into Daily Clinical Practice

To close the gap that is known to exist between the health care that is provided and that which is considered to be optimal, providers need evidence-based practice guidelines for specific chronic conditions and prevention of risk factors, and these need to be incorporated into decision support systems that make it easy to

deliver optimal care. For example, web-based interactive practice guidelines allow providers to locate the specific guidelines they need quickly, without having to commit guideline contents to memory.

Research shows clearly, however, that practice guidelines affect quality of care minimally unless they are embedded into daily practice. Health system designers have done this by incorporating guidelines into patient registries (see next section), flow sheets and patient assessment tools. Some have developed patient registries that generate reminders of overdue services, sometimes in the summary reports generated at client visits.[35] Another tool to embed guidelines is disease severity assessments that link resulting severity indicators with recommendations for changes in treatment.

Provider Education

Professional training and education also enhance provider expertise. Chronic disease management and prevention are likely to become more prominent in core curricula and continuing education for health professionals over the next decade. Content should emphasize best-evidence practice, collaborative and interdisciplinary practice, and provider skills training in such areas as communication, counseling, health education, and functional assessment.

Since traditional lecture-style education has little effect on actual provider practice, jurisdictions have begun exploring alternatives such as the effective collaborative series, based on the Institute for Healthcare Improvement's 'Breakthrough Series'.[36] In this learning model, provider teams hold a series of sessions on evidence-based practice issues, incorporating performance measurement and feedback into the process as they test ideas on the individuals in their practice, and share their innovations to develop best practices. This approach not only enhances and disseminates best practices, but also strengthens individual provider and practice team accountability for the delivery of evidence-based care.

Practice teams also need educational support in learning to work together effectively. Regular consultations within the team can educate individual members about the scope of other team members' practice, effective team co-operation, and effective therapy strategies. For example, a team pharmacist may conduct medication reviews for other providers, or recommend use of software that monitors medication compliance and provides alerts.

Access to Specialist Expertise

Providing the best care for specific patients will continue to involve specialist expertise. Currently, specialist expertise is usually integrated into medical care

through conventional consultation referrals from primary care providers, but research shows that formal episodic referrals may further fragment care, may not increase the skills of the referring physician, and may increase costs unnecessarily.[37, 38, 39, 40, 41] Several alternatives or complements to referrals have been introduced in Ontario as well as other jurisdictions, including combined visits with generalists and specialists, alternating regular visits between generalists and specialists, and/or joint discussions about individuals between case manager and a specialist or specialty team. The diabetes education study (DIABEDS) program in the U.S., introduced 'hotlines' to specialists to increase residents' access to expert advice. Another promising strategy makes expertise available to primary care practices through the development of cadres of specially trained experts. Critical to success in all these alternatives is effective coordination of the various client-related interactions, and regular information sharing among providers through pre-arranged care coordination agreements.

Clinical Care and Client Management Tools

Practice teams provide better quality care when they have access to clinical care and management tools or instruments they can use in everyday practice. Decision support tools are designed to make it easy to adjust practice in order to deliver optimal care. Tools range from disease assessment and management flow sheets to behavioural risk assessments to inventories of community prevention and health promotion services. In the U.S., for example, Kaiser Permanente has developed practice teams that have implemented the use of mini-questionnaire tools to help providers engage patients, assess their readiness for prevention, and involve patients in the prevention process. Team members are trained to use these tools. They also receive training in how to motivate patients, and to communicate well with patients through 'brief negotiation' training instruments.

The Patient-centered Assessment and Counseling on Exercise plus nutrition (PACE+) and the Step Test Exercise Prescription (STEP) are other examples of formal validated tools for use in primary care.[42, 43] Information technology aids such as drug interaction software also help in sometimes complex decision-making.

Decision support tools have been found to be extremely helpful in encouraging practice teams to deliver disease prevention and health promotion to clients in the absence of specific symptoms. Evidence-based prevention and management tools also integrate best evidence into day-to-day clinical practice that practice teams might not otherwise know how to integrate. Community inventories and related tools help providers link clients to community services. As indicated above, providers may need training to use tools effectively, and

some providers will need ongoing support to do so. As well, the tools will need to be updated on a regular basis.

Provider Alerts and Prompts

Reminder systems can greatly increase the probability of providing the right care. They remind providers that their patients are due for preventive screening and tests, assist diagnosis and treatment, and improve the use of prescription drugs. They can provide alerts to drug interactions and duplicate tests and other alternative courses of action. Even simple interventions can have dramatic effects. Affixing a red notice to the front of charts for patients with coronary artery disease, citing current guidelines and the changes necessary to restore adherence resulted in proper drug therapy being instituted for 94% of patients.[44]

Measurement, Evaluation, Routine Reporting and Feedback

Regular measurement and feedback of provider and client practices, and resulting outcomes, is key to creating and maintaining quality care. Research has shown that there is a tendency among providers to think they are doing a better job than they are. Routine performance and outcome measurement and reporting of results in a continuous quality improvement loop enables practice teams to measure how well they are doing, identify gaps in care, and make incremental adjustments to practice patterns in order to bring them into line with evidence-based practice. Experience indicates that clients are important participants in the measurement and feedback process. Collaboration between clients and providers in the measuring and the analysis of results can be effective in driving the continuous improvement in outcomes, particularly, for example, in improving adherence to proven therapies.

Information Systems

Prepared, proactive practice teams need timely data about individuals, and populations, their care and outcomes to enable them to:

- Identify individuals with specific diseases or conditions and at-risk, underserved groups to make planned proactive care possible
- Engage in population health improvement

Information Systems:

- Client registries (e.g., clients with diabetes)
- Electronic health records
- Provider portals
- Client portals
- Population health data

- Facilitate collaboration among team members, and integrate client services across the health system
- Improve decisions about care, diagnosis and treatment
- Track performance of guideline-informed care and receive feedback on performance for evaluation and continuous quality improvement
- Implement reminder systems, and follow-up prompts
- Facilitate patient self-management support behaviours
- Make possible automated shared care plans between providers and patients.

To accomplish this, information systems must have the functionality to produce registries or at a minimum, have the ability to query population data to sort clients into disease, risk and/or condition-specific sub-populations.

Client Registries

Registries let practice teams identify clients with similar conditions, call in patients with specific needs, deliver planned care through planned visits, implement reminders and other follow-up mechanisms, and manage the client's care. Registries are most successful in improving care delivery when they are augmented by client management software that generates automatic reminders and other follow-up. The use of registries and reminders to maintain surveillance of patients with hypertension, for example, has consistently been shown to improve care for clients with high blood pressure.[17] As many clients with chronic

disease suffer from co-morbid conditions, information systems must be capable of linking data across different disease registries.

Practice teams can also use registries to map their client population's health needs and set service priorities in the practice. If their registry showed that most of their clients smoked, for example, a practice team might increase smoking cessation counseling during visits, or increase referrals to community cessation classes. Registries also help practice teams receive feedback on their performance. Although registries need not be electronic, well designed electronic registries are easiest to use.

Registries can play an important role in identifying unmet local health needs and underserved populations. Comparing clients' characteristics recorded in the registry and population level socio-demographic and health status data, for example, can reveal populations at high risk or who are not accessing care. Client registries are most useful to population level prevention/promotion when they record clients' socio-demographic and lifestyle risk factors.

Electronic Medical Records (EMRs)

Information systems make it possible to maintain an up-to-date electronic medical record for each individual in the health care organization, complete with client's personal health information – health status and risk, lab reports, test results, prescriptions, prevention and treatment plans. However, to be maximally useful, EMRs need to do more than replicate the existing paper records kept in many clinical practices. The EMR must have registry functionality to allow for the population-based care described in the Registry section above; without it, the practice is unable to deliver optimal chronic and preventive care to all clients in a proactive, planned fashion.

Provider Portals

Information systems need to be fully integrated to ensure client information is accessible to all members of the practice team in order to support case management and care coordination; and to improve decisions about preventative care, diagnosis and treatment. Information systems within clinical practices and within the community need to be linked effectively to tertiary care centres and other external health care services that provide acute, primary, rehabilitation, long-term, and palliative care. Such links assure clients continuity of care, help in care planning and follow-up, and enable practice teams (and community providers) to direct clients to the services they need, while at the same time avoiding duplicate procedures.

Provider portals at all care sites that access client data are necessary so that all

providers have the same information about the client's care in real time. In this information systems scenario, data is stored centrally in relational data repositories that feed EMRs at practice sites while allowing data aggregation at various levels to maximize public health population surveillance (see below). This will require establishing data standards that all software vendors must adopt if their products are to be used across the health care environment.

Current examples of such technology are realized in the telehealth world. Information systems employed in various telehealth initiatives use technology to link providers and individuals in remote locations, link providers to one another, decision support resources, specialist care and to community resources.

Client Portals

Sharing access to EMRs with clients has also been shown to increase clients' ability to self-manage chronic conditions and take charge of their health. Many jurisdictions now give consumers access to their personal health records, lab data, prescriptions, and prevention and treatment plans. Two way portals let clients book visits and let providers book check-ups and tests with patients as well as provide reminders for self-management follow-up, immunization and screening. Some client portals provide access to information on best practices guidelines, community resources, educational tools and reference materials to support self-management.

Population Health Data

Effective outreach to underserved populations, and rational allocation of health and social resources within a region or other geographical area, requires information systems that capture data on the population, and integrate it with clinical and other client information systems. Population health data includes demographic and health status data such as: rates of chronic diseases; data on lifestyle risk factors such as smoking, physical activity and fruit and vegetable consumption; data on environmental health risks, such as air, water, and soil quality; and social and economic trends such as literacy, employment rates, income, and housing status.

Neither clinical practices nor community providers can be expected to generate all this data, but both should have the capacity to use it to set priorities and shape programs. The system developed in Saskatchewan's Saskatoon Regional Health Authority is an exemplar of a population health data system developed collaboratively, and used collaboratively, by local health and social service organizations to improve the health of, and reduce health inequalities among, the population in the region.

Healthy Public Policy

Healthy public policy is an important tool in promoting health and preventing chronic disease within the population as a whole. It refers to the development and implementation of policies aimed at improving individual and population health and to address inequities among groups within the general population. Public policy refers to legislation, regulation, administrative and organizational policies.

Healthy Public Policy

- Legislation and regulations
- Fiscal policies
- Guidelines
- Organizational policies and programs

Healthy public policies created to prevent chronic diseases often focus on individual behaviours such as smoking, unhealthy diet, lack of physical activity and alcohol and drug use. These policies include, for example, smoking bans, healthy menus in school cafeterias, workplace fitness facilities, improved food labeling and zoning by-laws to create bike lanes. However, preventing chronic disease through healthy public policy also requires a focus on the social determinants of health. These factors include income, education, economic security, safety and housing. There is considerable evidence that this broader focus can reduce inequalities in chronic disease among different population groups, and reduce the overall incidence of chronic disease in population groups with low socio-economic status.

Developing and promoting healthy public policies is a shared responsibility of individuals, communities, the private sector and governments. Implicit in this is the recognition that the health status of individuals and population groups are due to factors and conditions that extend beyond the health care system. The responsibility crosses many sectors: health, education, labour, social services, housing, transportation, recreation and the justice system. To deal effectively with chronic disease, health care organizations and community organizations need to work together to understand the key determinants affecting the health of their population and advocate for healthy public policies.

Legislation and regulations

Legislation and regulations have been proven to be effective tools. For example, legislation to reduce smoking rates was found to be more effective than individual-level interventions such as physician counseling.[45] Legislation and regulations, including by-laws that prohibit smoking in public places, that provide good facilities, such as bike lanes and green spaces, and provide affordable

housing and transportation have helped reduce threats to health, improve living conditions, and encourage healthier behaviours. [46]

Fiscal policies

Fiscal policies are an effective tool to reduce social inequities and remove economic barriers to healthier choices. Findings indicate that policies that led to changing the economics of food choices in schools and other environments can have positive effects on healthy eating.[47]

Financial incentives can be used to encourage the use of public transit, to encourage the private sector to reduce pollution, to increase participation in sports and recreational activities and to persuade tobacco farmers to switch to other crops. Economic interventions such as reducing the price of whole wheat flour and lowering duty on imported fruits can make healthy eating more accessible. Financial disincentives can be created to make it more costly to partake in unhealthy behaviours, such as raising taxes on cigarettes, junk food or driving fuel-inefficient automobiles.

Guidelines

Guidelines that encourage healthier choices help to set the standards for healthy living. Examples of these guidelines include the Canada Food Guide, Canada's Physical Activity Guide and low-risk drinking guidelines. Easy to use tools and programs, such as the '5 to 10 a day' vegetables and fruits campaign and 'activ8' to promote physical activity in schools that are based on guidelines, support individuals and families to make consistently healthier choices. The translation of the Canada Food Guide into several languages, as well as ensuring that it is culturally appropriate, is an example of how guidelines can also reduce inequities in access to new immigrants.

Organizational policies and programs

Organizations can develop policies and programs to support individuals and families in their efforts to maintain their health. Examples of this include workplaces that offer fitness programs, car pooling, flexible hours, elder care leaves and Employee Assistance Programs. Private sector policies that lead to supermarkets and other services being available in lower income neighborhoods, as well as community policies and programs such as day care, at-risk youth outreach, employment retraining, immigration and re-settlement initiatives, all promote health and the reduction of inequalities.

Developing and Implementing Healthy Public Policies is a shared Responsibility

In addition to the role of government in creating healthy public policy there is also an important role for individuals and communities. The creation of healthy public policy requires cooperation and support among a diversity of stakeholders. Individuals, communities, institutions and organizations can be expected to lead or to be full participants in the development of most healthy public policies. For example, a coalition of over 25 agencies serving homeless young parents in downtown Toronto were effective in securing funding for the development of social housing for their clients.

The health care sector can play an important role in fostering healthy public policies that help reduce chronic diseases and enable clients to self-manage chronic conditions. It can do so in several ways: by implementing policies within the sector that ensure genuinely equal access to universal health services; by taking a lead role in advocating for public policies with clear links to risks for chronic diseases, such as anti-smoking bylaws and healthy school nutrition policies; and by lending its support to public policy initiatives to address the broader determinants of health such as income, education, working conditions and social and physical environments. It can also provide community groups, individuals and health care workers with information needed for effective advocacy for healthy public policy such as population level data on health status and socio-economic inequities, understanding of the determinants of health, and understanding of the links between existing policies and health outcomes.

Supportive Environments

Supportive environments are living and working conditions that promote health and prevent chronic disease by being stable, secure and safe, as well as being stimulating, satisfying and enjoyable.

Fundamental to supportive environments is the recognition that individuals are more likely to be healthy if they live in surroundings that allow them to make healthy choices. This means increasing people's access to resources for health, increasing opportunities for healthy lifestyles, minimizing threats to health and enhancing individuals' self-reliance.

Creating Supportive Environments

- Supportive Physical Environments
- Supportive Social and Community Environments

The incorporation of supportive environments into the framework acknowledges that high quality health care is not enough to effect a healthy population. Health care services need to be supported by community environments that allow

people information, time and opportunities to care for themselves in ways that do not compromise their health or financial security.[28]

Supportive Physical Environments

Supportive physical environments are characterized by such features as safe water, clean soil, clean air, accessible transportation, and adequate housing and recreation that are needed for a healthy community. Efforts to shape supportive physical environments often focus on designing communities that make walking and other physical activity easy through the provision of green spaces, community centres, safe and accessible walking and biking trails,[48] as well as making neighbourhoods safe for children to play on the street or in a park. Likewise, supportive environments can enhance the health and quality of life for the elderly and reduce their need for health care and other social services by maintaining them in their home as long as possible through the provision of safe, accessible, good-quality housing, adequate outdoor lighting, along with opportunities for social interaction and public transportation.[49]

Supportive Social and Community Environments

Supportive social and community environments include social networks to minimize social isolation, foster positive family relationships, safe schools and workplaces, and communities that create an overall sense of security due to low crimes rates, and community services, programs and information that support people to be healthy. Social supports have positive impacts on health (e.g., decreased loneliness, decreased anxiety), on health behaviour (e.g., a reduction in alcohol consumption) and on the use of the health care system (e.g., fewer hospital admissions).[50] They help individuals and families make healthier choices by ensuring, for example, that local grocery stores sell fresh fruit and vegetables to its clients, or ensuring that smoking cessation programs are readily available. They can also promote resilience in and provide support for vulnerable groups of people. For example, more older people will be able to stay in their homes for as long as possible in those communities where health care organizations work to ensure more equitable access to home care services, self-management education, caregiver respite, medication reviews and seniors' activity programs. Other examples of social supports provided by the community include schools that encourage students to be physically active every day, workplace health promotion programs, and community-based support networks for seniors, young families and new immigrants.

Efforts aimed at creating supportive environments that prevent chronic disease often focus on features that support healthy behaviours. For example, rates of quitting smoking among adults have been correlated to the level of media coverage of smoking and health issues.[51] In countries with strong tobacco

control movements and where people understand and accept the health risk from smoking, one-third or more of smokers attempt to quit each year. [52,53]

Creating supportive environments is a shared responsibility

Creating supportive environments involves actions that influence social and economic processes, or increase the level of resources in a community. Creating supportive environments calls for collaboration among diverse sectors, organizations and individuals – it is a shared enterprise among all who help shape the local environments. Individuals and community organizations within the local community can be expected to initiate and lead most of these efforts.

The health care system can play an important role in creating supportive environments. These partnerships can be one in which stakeholders and health care providers organize programs and resources such as the initiative between a large corporation and the local public health unit to initiate a healthy workplace. Or they may involve organizing community members, who then work with local health professionals, to address an issue such as asthma that is due to the poor air quality in a high rise building in their community.

By understanding the challenges that their clients face, health care providers can advocate for new resources, and coordinate community services, information and programs for their clients. For example, health care providers can work with community organizations to co-ordinate self-help groups to support their clients with chronic disease, and they can arrange a variety of social support programs for their newer immigrant clients to reduce their isolation and enhance their mental health. As well, health care providers can collaborate with community organizations to advocate for a community sponsored congregant meal program or community programs that offer social support for their senior clients. Collaboration such as these can enhance the health and well-being of seniors, who are often at risk for poor nutrition and social isolation. At the other end of the life span, community groups can collaborate with health care organizations to develop programs for new mothers, often at risk for post-partum depression, to offer information on parenting skills and child development. Collaborative partnerships like these represent an excellent opportunity to augment the services provided by health care organizations. These initiatives offer the potential of improving the health of the individuals as well as the community.

Community Action

Community action refers to activities that are undertaken by communities aimed at increasing their control over those issues that affect the health of their residents. Communities that take effective action on issues to improve their population's health will be healthier places in which to live, work, go to school and play

Community Action

- Building partnerships across Sectors
- Public participation
- Enhancing local knowledge, skills, and resources

A community's ability to take action on issues that affect health and well-being depends on partnerships among local providers, institutions, organizations and local groups, as well as a population that is engaged in community affairs and issues that promote their health. It can be strengthened by consistent leadership, by building social networks and learning from experience, by developing knowledge and skills, and learning how to access resources. Strengthening community action involves building the social processes that enable communities to manage their own health in this way.

Community action is not merely an adjunct to the health care system but rather, it is a necessary intervention to remove barriers to healthy living and quality of life for particular individuals and groups in the community. Communities that make a strong and concerted local effort to improve the health of their population, that work in partnership to reduce the incidence of chronic disease in their community, do so through actions that create supportive environments and create healthy public policies.

Building Partnerships Across Sectors

At the fundamental level, strengthening community action involves building partnerships among local organizations, including the health sector, community providers and advocates. It is about bringing together individuals and organizations that share a common goal or problem and are willing to solve it. This begins with them working together to identify their key problems, assessing gaps in available services and working to find solutions.

As the problems confronting a community are often complex, such as poverty, accessible transportation, inadequate housing and social exclusion, collaboration across sectors is required to mobilize relevant resources and expertise to identify and meet the needs of the population. A good example of this is the role that Regional Health Authorities are playing with their community partners which span

many sectors. Through Public Health they identify the health related issues utilizing its information systems and collaborate with community partners to advocate, identify gaps and design strategies to deal with the issues.

Building partnerships is an on-going process that is encouraged by strong local leadership and requires building capacity for action within individual organizations and institutions.

Public Participation

Strengthening community action also involves mobilizing individuals and families to participate in organized community action. A community's success in improving the health status of its residents is affected by the degree to which its citizens participate in the decision-making processes, and that those most affected are involved in finding the solutions. It is especially important to engage high need populations or marginalized groups, often excluded from these consultations, in identifying their health needs and discussing means to improve their health. Mechanisms need to be put in place to mobilize individuals and families to participate in organized community action. Fostering public participation can be done through consultation. Community settings such as schools, workplaces and recreational sites are often used as venues for public consultation. Engaging individuals and families can be supported by increasing their awareness on the risk factors for chronic disease, on how the determinants may shape their health, as well as what can be done to improve their health.

Enhancing Local knowledge, Skills and Resources

Individuals and organizations need the knowledge and skills to identify the issues, to identify strategies to address the issues, and the ability to access resources for successful action. This requires mobilizing a variety of sectors with resources and expertise to work together in developing policies, programs and services. The health sector has, and often plays, a major role in strengthening community action by bringing their knowledge, expertise, strengths and resources to build a healthier community. The focus of partnerships involving the health sector may be to address the risk factors for chronic disease or to address the specific determinants of health that can shape and influence health. Information systems that collect appropriate data on the incidence of chronic disease and their risk factors are important tools to strengthening community action. Working in partnership, local community groups and the health sector use this data to identify local needs, high risk populations and to develop chronic disease prevention and management strategies that address these local needs. For example, public health departments often develop neighbourhood profiles to serve as information tools for the community to address key issues confronting them. These profiles can included such information as socio-demographic data,

health status data as well as community assets and strengths.

Health care organizations also work with their community partners on specific initiatives to support groups that are most vulnerable to chronic disease, such as seniors, low income families and recent immigrants. For example the Toronto Public Health Department partnered with several local ethnic communities to address service gaps. Working together, these organizations were able to redesign services to meet their specific needs through the establishment of the Access Alliance Multi-Cultural Community Health Centre.

As part of community action, health care organizations advocate for policies and improved programming and services as well as the removal of barriers to healthy living and improved quality of life in the community. This role of the health sector, to work with community partners to identify local health needs and issues and to strategize on how best to address these issues, represents an opportunity to enhance the services provided by health care organizations. In doing so, such initiatives not only address the identified needs of the local community, they also promote the sustainability of the health care sector.

Summary

The system changes in Ontario's Chronic Disease Prevention and Management Framework are designed to improve the health of chronically ill Ontarians, and prevent chronic disease, by bringing about 'productive interactions' among individuals and families, practice teams, and communities. The benefit of these productive interactions is improved clinical, functional and population health outcomes. For interactions to be productive, individuals and families must be informed, and activated practice teams must be prepared and proactive, and communities must be activated.

Prepared, proactive practice teams will have the necessary expertise, client information, time, decision support, and proper mix of professional skills to assure effective clinical management, self-management support, and prevention. Informed, activated individuals and families will understand the disease process, and have the confidence and capacity to participate fully in planning and self-managing their health, in their interactions with practice teams and community providers. Activated communities will be ones where public policies support healthy environments and engage clients in the public health planning processes.

Productive interactions between practice teams and individual clients will include creation of patient-centred care plans that guide clients' care. These plans will: be tailored to clients' individual needs, circumstances, desires and capacities; created jointly with clients (and often their families); incorporate self-management and prevention, based on knowledge of effective therapies; involve active, sustained follow-up; and revised regularly. Clients will have services that are well co-coordinated, and they will be assisted in navigating through the health care system. Regular assessments of health status, health risk, and coping ability and confidence will form the basis of the care plans.

Prepared, proactive community partners will also have the necessary expertise, information, time and resources, and will be collaborating with health care organizations to provide effective management and prevention. Interactions between practice teams and community organizations will be productive when they involve systematic two-way service referrals, collaboration on program and service development, and other strategies that fully utilize community resources in ways that optimally improve the quality of care and the health of the population.

In their interactions with the community at large, informed, activated individuals and families will understand the determinants of health and be engaged in working with others to improve health in the community. Activated communities

will be those that are engaged in improving health in the community through the full range of changes that create supportive environments and create healthy public policies.

With the Framework in place, clients will be healthier with improved quality of life. Providers' lives will be organized producing quality care and high degrees of job satisfaction. Communities will be focused with a common mission to improve the lives of all their members.

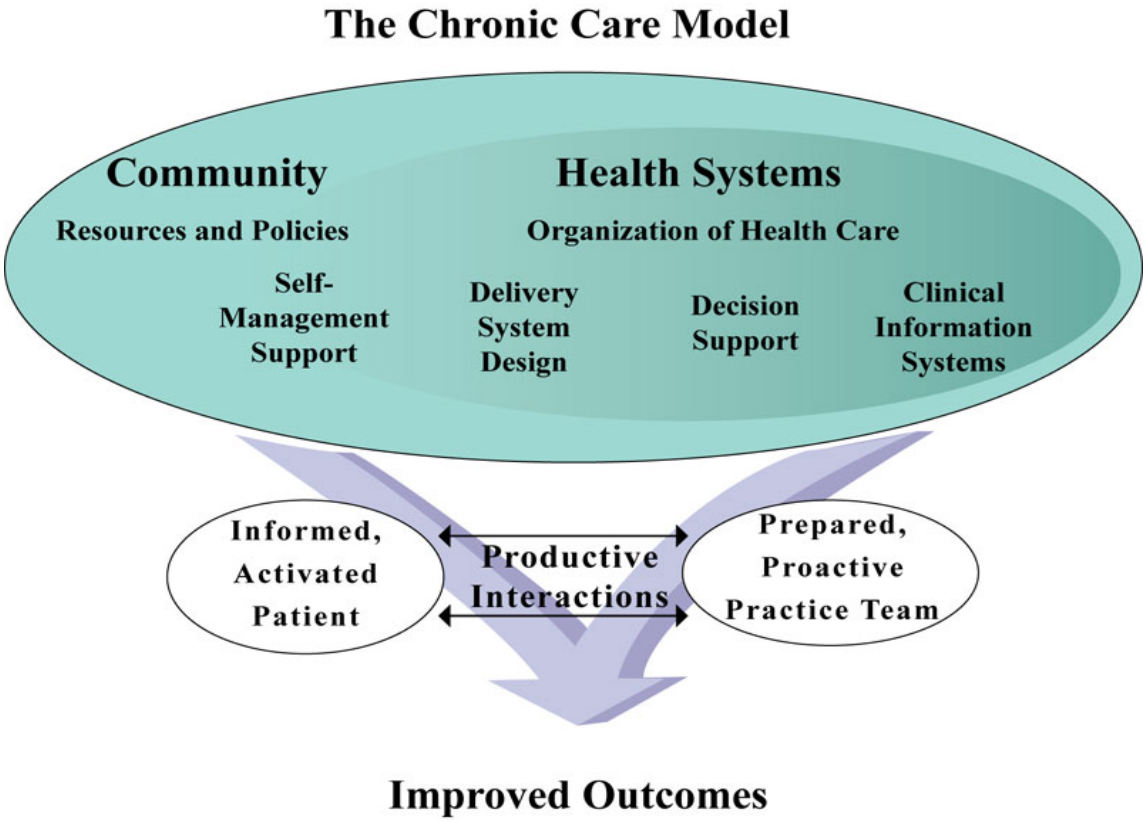
APPENDICES

Appendix 1: The Chronic Care Model

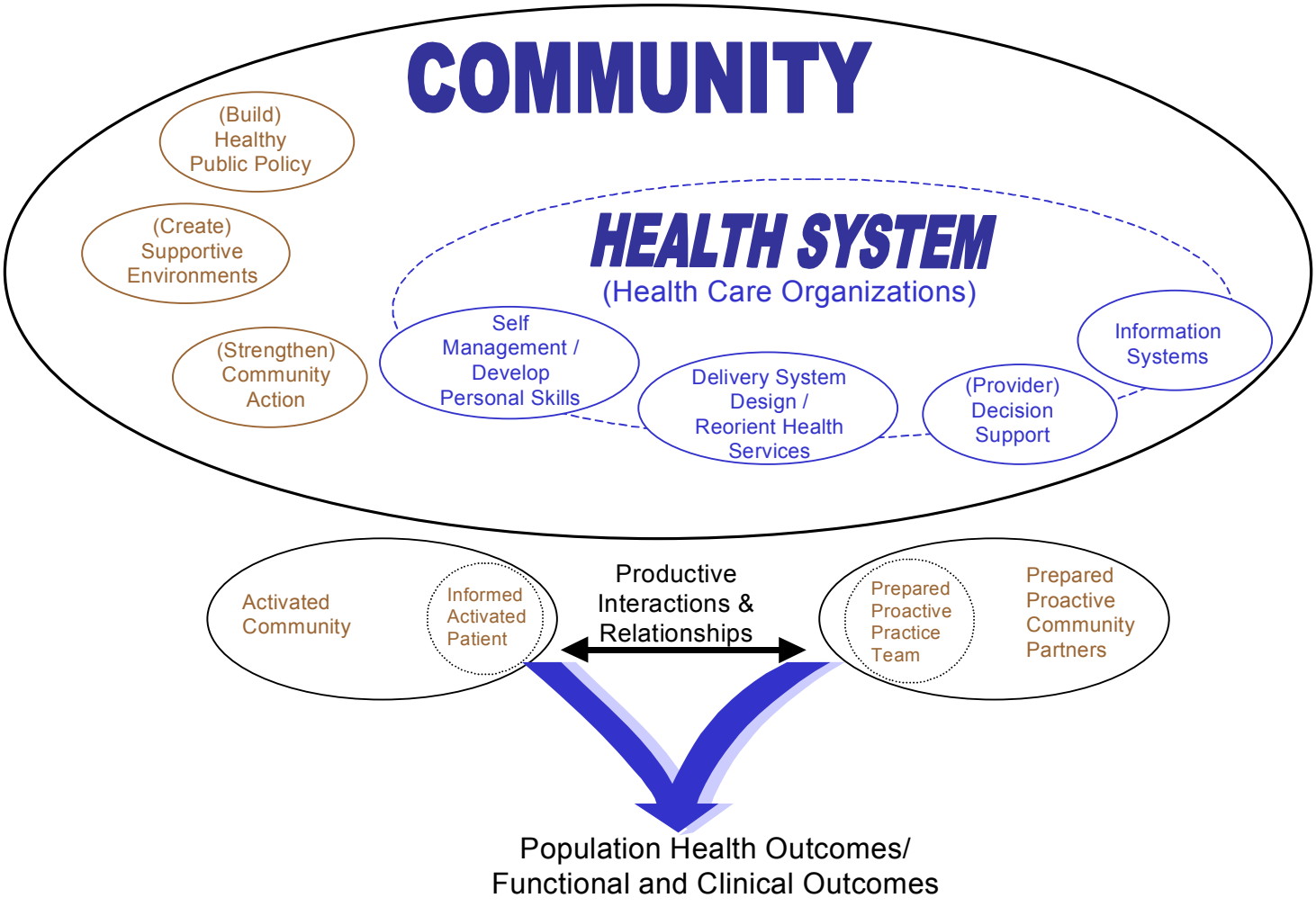
Appendix 2: Expanded Chronic Care Model

Appendix 3: Ottawa Charter for Health Promotion

Appendix 1: The Chronic Care Model

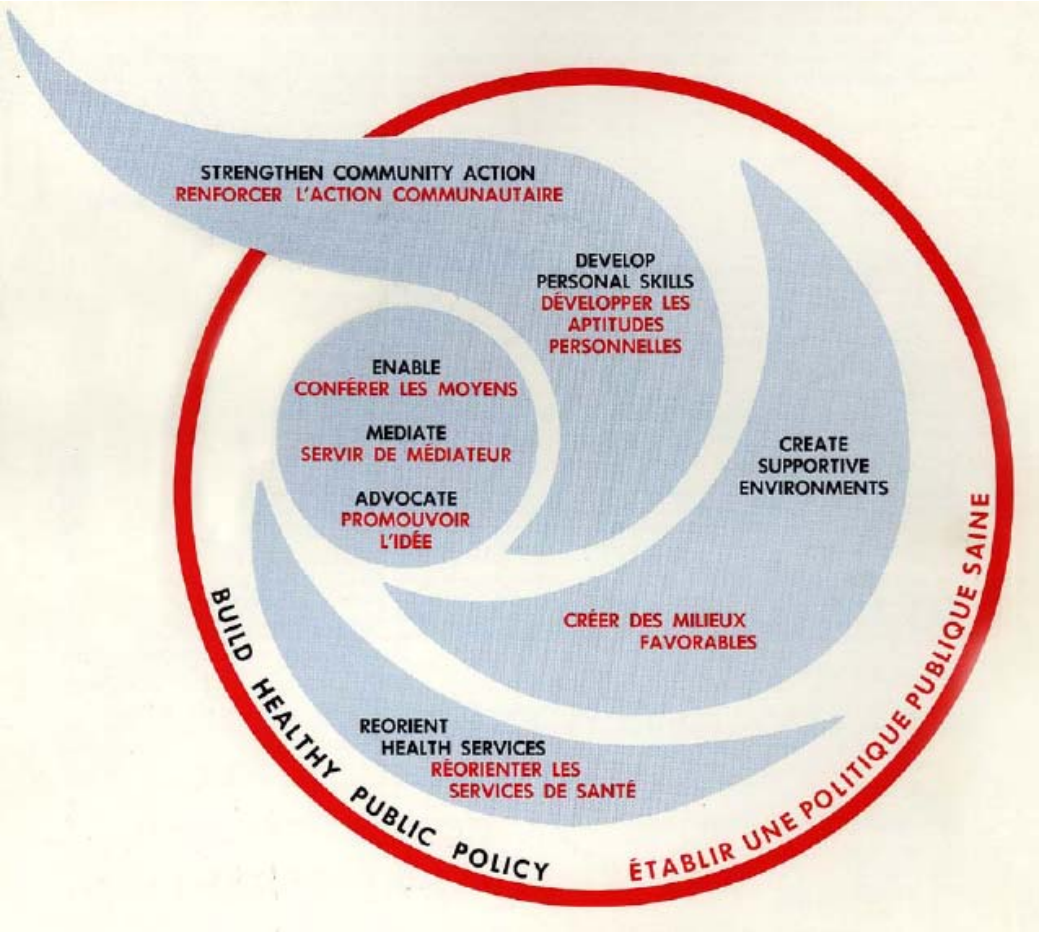


Appendix 2: Expanded Chronic Care Model [1]



[1] Barr, V.J., Robinson, S., Marin-Link, B., et al. The expanded chronic care model: an integration of concepts and strategies from population health promotion and the chronic care model. Hospital Quarterly. 2003;7:73–82.

Appendix 3: Ottawa Charter for Health Promotion



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