

Diabetes Prevention & Management Through A Health Equity Lens

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TABLE OF CONTENTS

INTRODUCTION	1
DIABETES: THE PROBLEM TO BE SOLVED.....	1
HEALTH CARE SYSTEM IMPACT	2
HEALTH GRADIENT.....	3
FOUNDATIONS OF THE PROBLEM	5
UNHEALTHY LIVING	5
UNHEALTHY LIVING CONDITIONS AND OPPORTUNITIES	6
ONTARIO CONTEXT	9
ONTARIO'S ACTION PLAN FOR HEALTH	10
ONTARIO'S FRAMEWORK FOR PREVENTING AND MANAGING CHRONIC DISEASE	11
MOVING TO ACTION	13
BEYOND LIFESTYLE INTERVENTIONS	13
HEALTHY PUBLIC POLICY	14
BUILDING ON PROMISING PRACTICES.....	15
BUILDING EQUITY INTO SERVICE DELIVERY	17
CONCLUSIONS.....	20
REFERENCES	21

INTRODUCTION

The World Health Organization estimates that 90 percent of cases of Type 2 diabetes¹ could be prevented through lifestyle modifications including healthy diets and physical activity (Health Council Canada, 2007). Therefore, if Canadians are encouraged to make healthier food choices and partake in regular physical activity, we will be able to slow down the increasing prevalence of diabetes in Canada. But some populations face systemic barriers to being able to eat well, exercise and live healthy lives. Prevention and management² interventions that don't take into account the broader context of the individual and their community oversimplify the risk factors of diabetes. The risk and burden of diabetes and many other health conditions is not shared equally by Canadians: those who are worse off socially and economically are faced with a greater burden of diabetes (Cameron et al., 2003; Ball and Crawford, 2005; Dinca-Panaiteanu et al., 2012).

The focus of this discussion paper is to explore diabetes prevention and management in Canada from a social determinants of health perspective. Scholarly literature, grey literature, policy documents and key informant interviews were used as sources of information for this paper. The paper provides an overview of the status of diabetes in Canada, a scan of best and promising practices, and a roadmap for action to support diabetes prevention and management from a health equity lens.

DIABETES: THE PROBLEM TO BE SOLVED

How to manage the rapidly rising incidence of chronic diseases is a 21st century global challenge. The World Health Organization (2005) estimates that chronic diseases account for approximately 89 percent of deaths in Canada. It is projected that between 2005 and 2015, deaths in Canada from chronic diseases in general will increase by 15 percent (WHO, 2005, p.1). Not all chronic diseases continue to increase at the same rate; diabetes mortality is expected to see the sharpest increase (44 percent) between 2005 and 2015 (WHO, 2005, p.1). How to prevent and better manage diabetes is widely seen to be one of the biggest challenges facing Canadians and our health care system.

Over the past 15 years the prevalence of diagnosed diabetes in Canada has increased by an overwhelming 70 percent (Public Health Agency of Canada, 2011, p.4). In 2008, 2.4 million Canadians (6.8 percent of the population) were living with diabetes (Public Health Agency of Canada, 2011, p.4). Even more alarming, data obtained from blood samples suggests that nearly 20 percent of diabetes cases remain undiagnosed (Public Health Agency of Canada, 2011, p.4).

Diabetes imposes serious health and economic consequences on Canadians. Preventing and better managing diabetes can reduce the incidence of other chronic conditions: 36.5 percent of Canadian adults

1 In this discussion paper, type 2 diabetes' is referred to as "diabetes"

2 In this discussion paper, prevention and management are referred to in tandem, as strategies that work to prevent diabetes also play a role in improving health outcomes for those with diabetes (Personal communication, Key informant interview)

with diabetes suffer from two or more other chronic conditions in addition to diabetes (Public Health Association of Canada, 2011, p.4). An individual's quality of life is also affected by diabetes. Nearly 40 percent of Canadians with diabetes reported "poor" or "fair" health compared to only 10.3 percent of Canadians without diabetes (Public Health Association of Canada, 2011, p.4). The economic consequences of diabetes are also large. By 2020 it is projected that the Canadian economy will lose \$11 billion annually due to diabetes mortality (Canadian Diabetes Association, 2009).

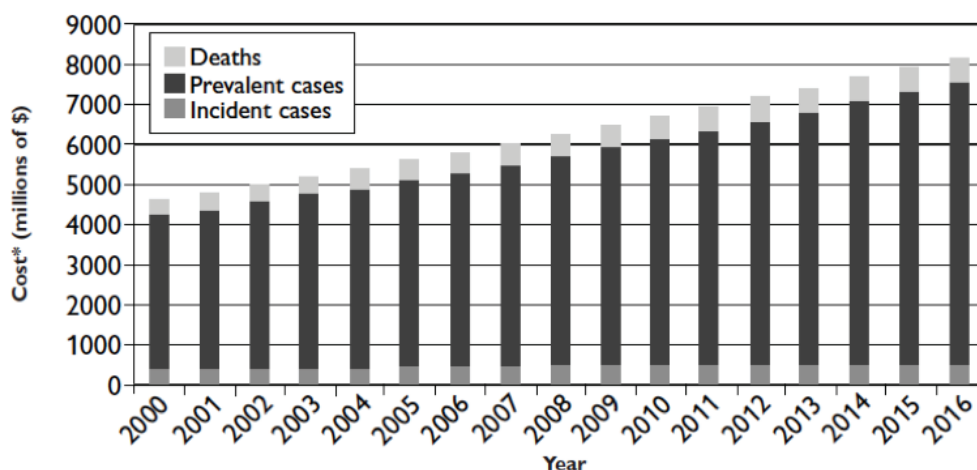
While there are profound challenges, prevention and disease management can reduce the incidence and minimize the impact of existing cases. For those with diabetes, getting the right care early means improved quality of life and a reduced economic burden. The benefits to the health care system include prevented or delayed service demands resulting in improved cost sustainability.

Health Care System Impact

Diabetes prevention and management is not just a concern of health and well-being, but also a question of efficiency and sustainability (Gardner, 2008). As the prevalence of diabetes continues to increase, demands on the health care system will also increase. The Public Health Association of Canada (2011, p.5) estimates that the annual per capita health care costs for persons with diabetes are approximately three to four times greater than those of the general population. The total increase in diabetes spending is projected to increase by 47 percent from \$4.66 billion in 2000 to over \$8.14 billion in 2016 (Ohinmaa, Jacobs, Simpson, & Johnson, 2004, p.4). Figure 1 highlights that the projected increase in health care costs as a result of the 81 percent increase in the rise in prevalence of cases of diabetes from 2000 to 2016.

Data from 2008/2009 shows that adults with diabetes between the ages of 20 and 49 years saw their family physician twice as often and specialists 3 times as often as adults without diabetes (Public Health Agency of Canada, 2011, p.5). Furthermore, persons with diabetes were 300 percent more likely to be

Figure 1: Distribution of the direct health care costs for individuals with diabetes in Canada by diabetes status (i.e. incident, prevalent or death cases), 2000–2016 (Ohinmaa et al., 2004, p.4).



*Monetary values expressed in 1996 Canadian dollars

hospitalized at least once during a one-year period and on average spent more days in hospital than those without diabetes (Public Health Agency of Canada, 2011, p.5).

Common co-morbidities of diabetes contribute to the increasing financial burden. Stroke, kidney failure, nervous system damage, dental diseases, and complications in pregnancy can result from poorly managed diabetes care (Campbell and Martin, 2009). Cardiovascular diagnoses account for 27 percent of diabetes spending (Ohinmaa et al., 2004, p.5). Similarly Ohinmaa et al. (2004, p.5) project that nephropathy (damage to or disease of the kidney) and dialysis will make up 6.8 percent of diabetes spending and ophthalmic diseases (diseases of the eye) will contribute to roughly 2.5 percent of costs. The other 64 percent of spending is associated with other health causes, including amputations (Ohinmaa et al., 2004, p.5)

The projected health care costs associated with the increase in prevalence and incidence of diabetes are economically significant and unsustainable. But current models of care have not seen a decrease in the incidence of diabetes. A new approach to effectively manage and prevent diabetes is required, resulting in improved health outcomes for Canadians and reduced health care costs over time. Focusing upstream on the root causes of diabetes is a starting point in outlining a new model of care.

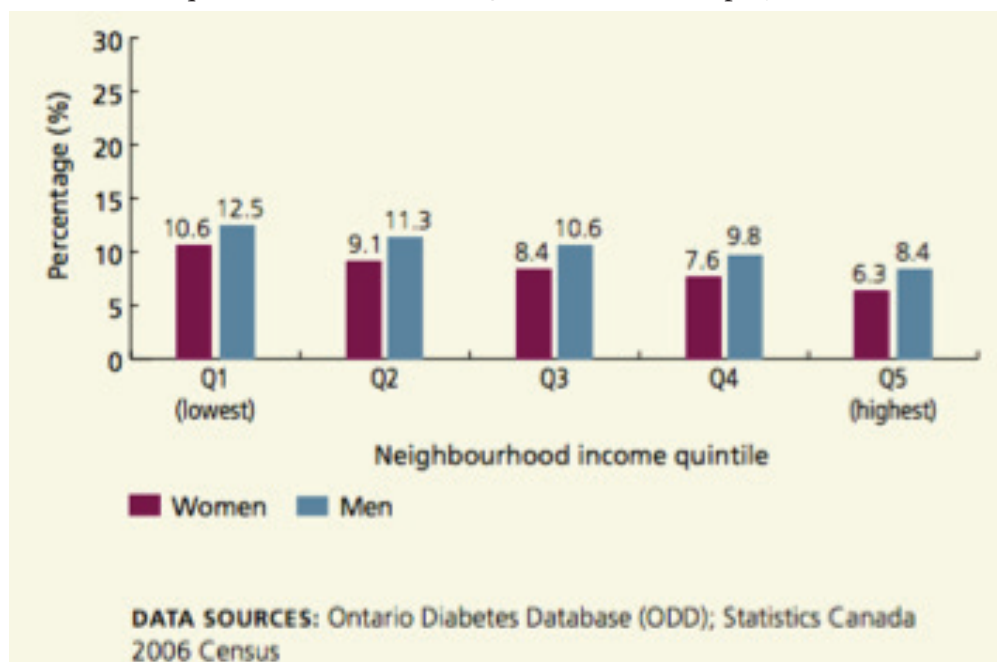
Health Gradient

The new model of care means starting from systemic disparities: those who are worse off socially and economically are faced with a greater burden of diabetes (Carmeron et al., 2003; Ball and Crawford, 2005; Dinca-Panaitescu et al., 2012). The 2004-2007 Canadian National Population Health Survey revealed that low-income individuals had a 77 percent higher risk of diabetes (Dinca-Panaitescu et al., 2012). Even after adjusting for demographic characteristics like age and sex, and lifestyle factors such as physical activity, the effect of being low income prior to the onset of diabetes was significant (Dinca-Panaitescu et al., 2012). Furthermore, people living in Canada who were low income at least once had a 50 percent greater risk of developing diabetes, suggesting there is a residual effect of poverty (Dinca-Panaitescu et al., 2012).

In Ontario, both men and women in the lowest neighbourhood income quintile have a higher prevalence of diabetes (see Figure 2) (10.6 percent women, 12.5 percent men) than those in the highest income quartile (6.3 percent women, 8.4 percent men) (Booth, Lipscombe, Bhattacharyya, Feig, Shah, & Johns, 2010, p.23). Furthermore, Black, Aboriginal and Arab, and South and West Asian adults reported diabetes prevalence rates twice as high as White adults (Booth et al., 2010, p.23).

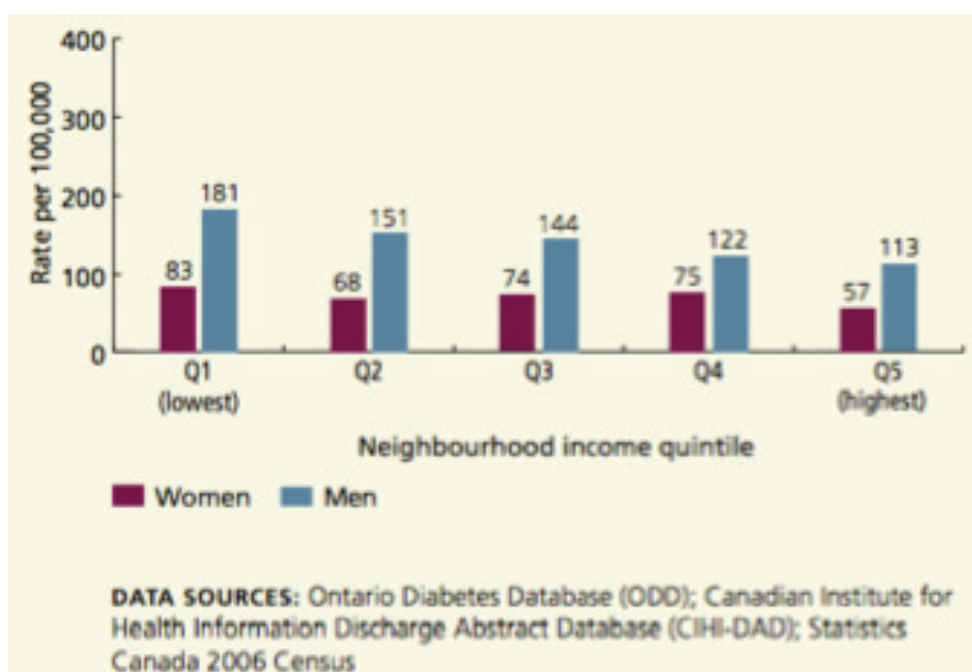
Among people with diabetes, the burden of the disease is also felt more strongly by those who are economically and socially disadvantaged. A higher percentage of lower income women with diabetes reported their health as fair or poor compared to higher income women with diabetes (50 percent versus

Figure 2: Age-standardized prevalence of diabetes in adults aged 20 and older by sex and neighbourhood income quintile, in Ontario, 2006/07 (Booth et al., 2010, p.23).



31 percent) (Booth et al., 2010, p.29). This impact can be significant: low income Ontarians with diabetes had more cases of amputations than those with higher incomes.

Figure 3: “Age-standardized number of adults aged 20 and older with diabetes per 100,000 who had a major amputation, by sex and neighbourhood income quintile, in Ontario, 2006/07” (Booth et al., 2010, p.92).



This inequity is not caused by limited access to care. In Ontario, men and women with diabetes who lived in lower income neighbourhoods had a higher mean number of general physician and family physician visits than those who lived in higher income neighbourhoods (7.7 versus 6.8 visits per year, respectively)” (Booth et al., 2010, p.41). This means that people who live in low income neighbourhoods have poorer health outcomes even when they have access to health care providers.

FOUNDATIONS OF THE PROBLEM

Unhealthy Living

Leading a healthy lifestyle is very important in not only preventing diabetes, but also many other chronic conditions. The Canadian Diabetes Association (2013) states individuals with diabetes can lead long and healthy lives by eating healthy meals, maintaining a physically active lifestyle, and taking diabetes medication as prescribed by a physician. It is widely accepted that increased sedentary lifestyles and consumption of high-calorie foods have contributed to the growing prevalence of diabetes in Canada (Allender, Cavill, Parker, & Foster, 2009; Statistic Canada, 2012). The 2011 Canadian Community Health Survey revealed that 46.2 percent of Canadians were less than moderately active, meaning they were not getting the recommended 30 minutes of physical activity per day (Statistics Canada, 2012, p.2). In addition, nearly 60 percent of Canadians were not consuming 5 or more serving of fruits and vegetables per day (Statistics Canada, 2012, p.1).

An underlying assumption of many lifestyle interventions is that behavioral modifications are determined by the motivation of the individual. As a result, if any individual is at risk of diabetes or has diabetes, it is because of their own lack of willpower and poor individual choices. However it is important to emphasize that lifestyle interventions that focus on behaviour changes may not see desired outcomes; as behaviour changes may not necessarily be within individual control (Denton et al, 2004; Ochieng, 2006; Fong et al., 2007).

The systemic gradient of health implies that the foundations of the prevalence and inequitable distribution of diabetes are rooted in the social determinants of health. The behaviour change approach ignores this broader context, and if used in solitude will not be successful in reducing health inequities in diabetes. Numerous studies have explored the limits of behavioural approaches to diabetes prevention and management. Korkiakangas et al., (2009) conducted a systematic review of barriers to physical activity among high-risk adults diagnosed with type 2 diabetes. Commonly reported internal barriers included: lack of time due to work or home duties, depression, lack of childcare, and difficulties at home. External barriers included lack of social support, lack of convenient venue for exercise, not having a safe place to exercise, poor street lighting, gang activity, lack of sidewalks, lack of transportation, and costs. A commonly cited barrier in adhering to a prescribed diet for diabetes prevention and management was cost (Vijan et al. 2004; Aihara et al., 2011).

Unhealthy Living Conditions And Opportunities

Diabetes prevention and management will not be improved by behavioural approaches alone. It is crucial to consider the prerequisites that enable individuals to partake in healthy lifestyles, including access to the social determinants of health. These include: (Mikkonen & Raphael, 2010):

- Income and income distribution
- Education
- Unemployment and job security
- Employment and Working Conditions
- Early Childhood Development
- Food Insecurity
- Housing
- Social Exclusion
- Social Safety Net
- Health Services
- Aboriginal Status
- Gender
- Race
- Disability

These social determinants of health underlie the inequitable distribution of diabetes risk and burden in Canada. Living in poverty limits an individual's ability to eat well, exercise, take medication, and practice blood glucose monitoring. A study by Pilkington et al., (2011) explored the challenges of low-income individuals in managing their diabetes from a health care provider perspective. Health care providers reported the chronic stress of their low-income patients with diabetes in having to make difficult decisions of paying their rent or buying essential items like food and medications (Pilkington, Daiski, Lines, Bryant, Raphael, Dinca-Panaitescu, et al., 2011).

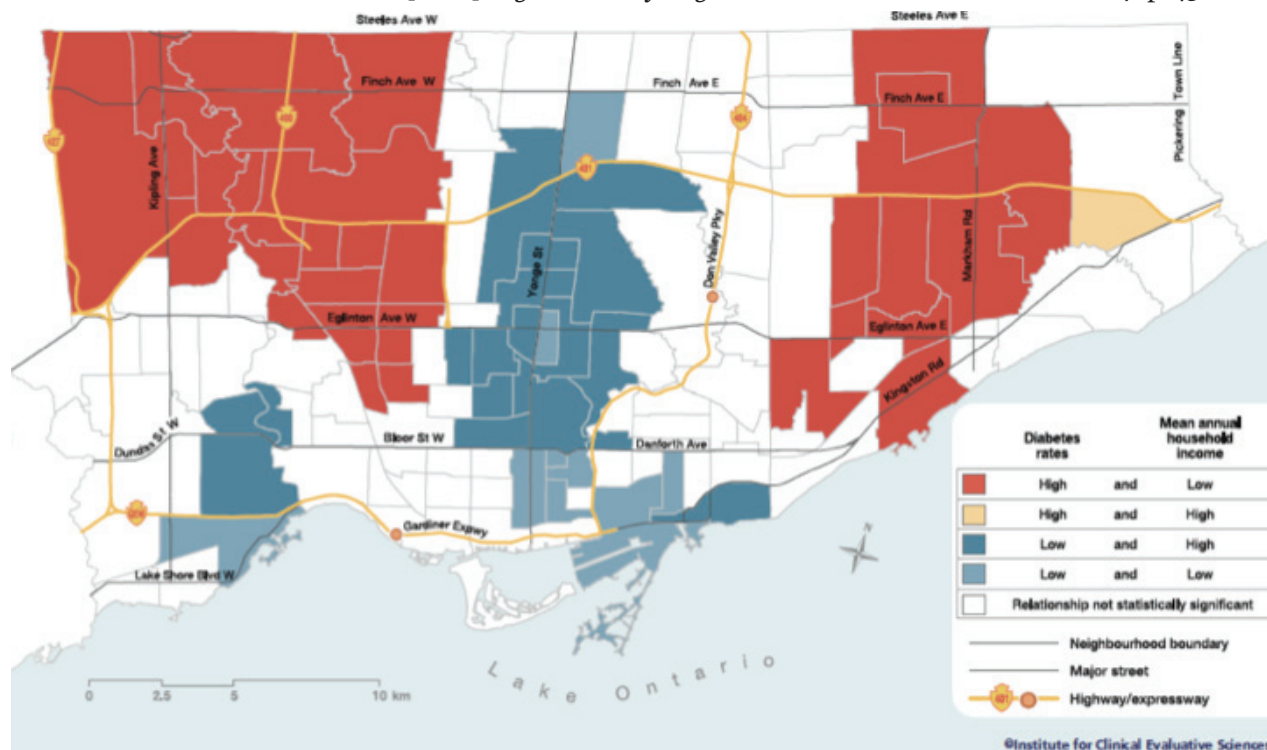
Figure 4 (below) visually demonstrates the link between low income and diabetes by neighbourhood in Toronto.

Individuals with diabetes who work in precarious employment face barriers to effective self-management due to work environments that do not support short breaks for snacks, taking medication, and blood glucose monitoring (Pilkington et al., 2011). In this study, individuals were also worried about asking for time off work to attend doctor's appointments, out of fear of being fired (Pilkington et al., 2011).

Unstable housing presents further challenges to managing diabetes. Health care providers noted that clients who lived in homeless shelters found it difficult to find privacy to practice good self-management like blood glucose testing (Pilkington et al., 2011; Hwang and Bugeja, 2000). It was also reported that needles and blood glucose monitors were frequently stolen in homeless shelters, due to their perceived

“street-value” (Hwang and Bugeja, 2000). Homeless shelters generally do not provide optimal diets for diabetes management and prevention. Meals that were high in starch, sugars, fats, and low in fruits and vegetables were commonly reported by homeless Canadians (Hwang and Bugeja, 2000).

Figure 4: Spatial relationship between age- and sex-adjusted diabetes prevalence rates[2001/02](high or low) and mean annual household income[2001](high or low), by neighbourhood, in Toronto. (Creatore, 2007, p. 49)



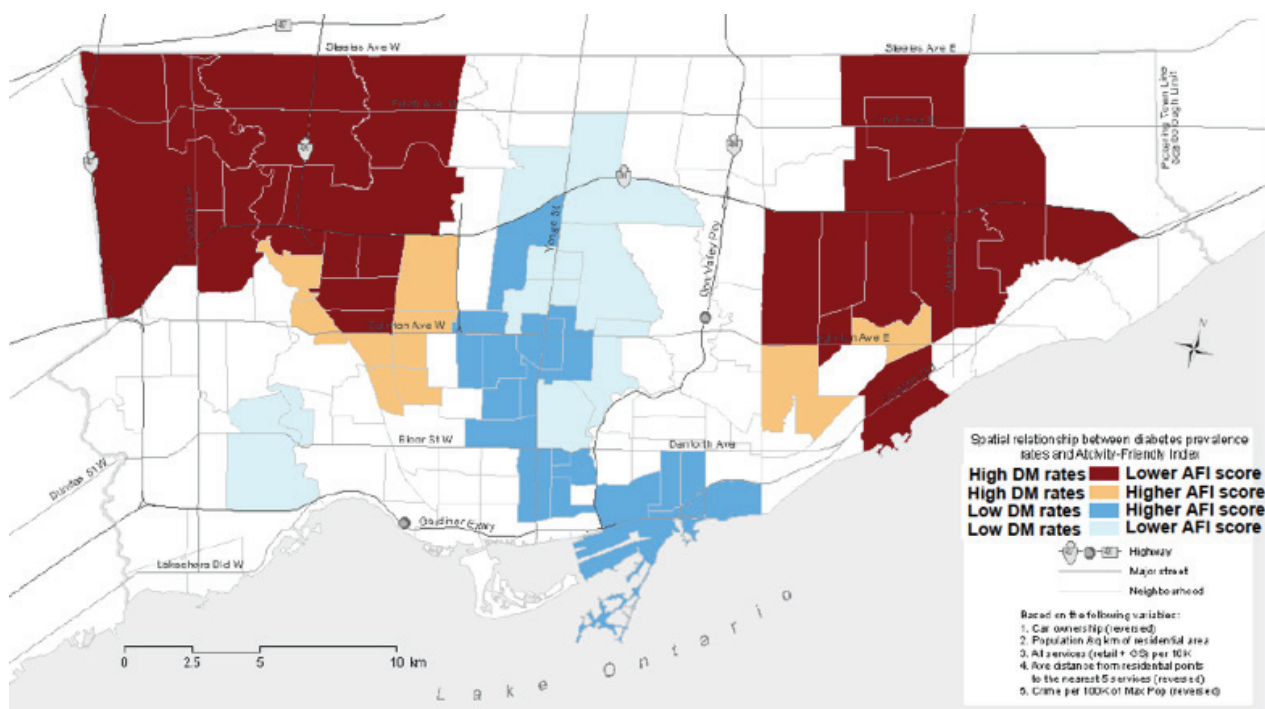
The prevalence of depression is also higher in people with diabetes, and more likely if the individual is low income (Booth et al., 2010; Pilkington et al., 2011). Having depression can inhibit an individual’s self-efficacy in taking part in physical activity or eating healthy foods.

Accessing health care services is also shaped by social conditions. Extended office hours are usually not available in most family physician and general physician practices, a problem for those with precarious or inflexible jobs. Moreover there may be barriers to quality of care that relate to class or social bias. A study by Olah et al., (2013) found that people of lower socio-economic status were less likely to receive an appointment than people of high socio-economic status (14 percent vs. 23 percent). In regards to quality of care, patients whose main point of entry into primary care is through walk-in clinics are less likely to be referred to other specialists or services (Pilkington et al., 2011).

The neighbourhood that you live in also influences your health. Glazier (2008) explored how neighbourhood characteristics influence the prevalence of diabetes. This study used the Activity Friendly Index (AFI) that considers population density, retail outlet density, travel time to nearby retail, car ownership, and drug and violent crime rates. A clear spatial relationship was found in the City of Toronto in regards to diabetes and

AFI rates. Figure 5 demonstrates that neighbourhoods that had a low activity friendly index were found to have higher rates of diabetes compared to neighbourhoods with a higher activity friendly index score.

Figure 5: Diabetes Mellitus (DM) rates and Activity Friendly Index (AFI) scores in Toronto (Glazier, 2008, p.45).



Comparing Figure 4 and Figure 5 suggests there is a clear interconnectedness between low income, neighbourhood activity friendly index and diabetes prevalence. These maps demonstrate how the social determinants of health are related to the prevalence of diabetes at the local level.

Race and ethnicity in Canada also play a role in the inequitable distribution of diabetes. Immigrants from South-Asia, Latin American, the Caribbean, and Sub-Saharan Africa all had higher prevalence's of diabetes compared to western European immigrants and long-term residents. This difference in distribution can in part be explained by factors related to genetics; however there is increasing evidence of the role of

stress in the development of chronic conditions due to factors such as discrimination, racism and social exclusion (Nestel, 2012; Mikkonen & Raphael, 2010)

The inequitable distribution of diabetes in Canada is a symptom of broader social and economic inequalities. What this means in practice is that the social determinants of health must be taken into account in policy and program design.

Lifestyle-focused interventions that do not consider this wider context are extremely frustrating and unproductive for patients. Focus groups conducted by Vijan et al., (2004) highlight these frustrations. Quotes from patients include:

- “The only thing I got to say about the diet thing is that when you go to a nutritionist, I have not a clue of what they are talking about;”
- “You are talking to me and you don’t know what my economical position, my economics position, is. You don’t know how I am situated. You don’t know the community that I live in, but you are talking to me like I am Richie Cunningham of Happy Days and that is the problem that I have with the doctor.”
- “You don’t take into consideration how much money is available to me, the community that I live in, and the sources, my resources, that is available to me.”
- “See, that is where it comes down to these doctors again. They don’t understand the community or your upbringing ... It ain’t got nothing to do with black or white. I am a southerner man. They cook like this all the time.” (Vijan et al., 2004, p. 35).

Health research that focuses on biology and genetics emphasizes a popular belief that health problems are a result of genetic differences and biological dispositions (Raphael, 2011). As a consequence, this approach strengthens the medicalization of health and reinforces the societal status quo (Raphael, 2011) while ignoring social factors that influence the prevention and management of type 2 diabetes.

We cannot solve the increasing and inequitable incidence and prevalence of diabetes unless we look to the root causes. Behavioral changes are critical in diabetes prevention and management; however behavioural changes are not exclusively influenced by willpower. Socio-economic status, neighbourhood design and resources, stable housing and employment are part of the prerequisites to adopting lifestyle patterns that promote diabetes prevention and management. The social determinants of health must be built into program planning and policy. The examples below provide insight into how this can be done.

ONTARIO CONTEXT

For diabetes prevention and management strategies to be successful, we must work at multiple levels. The onset and progression of type 2 diabetes is influenced by both social and biological factors (Nestel, 2012). If we are going to close the gap on the inequitable distribution of diabetes in Canada, approaches to prevention and management must take this complexity into account. One approach to driving equity

into health system action is to align equity with system drivers and priorities (Gardner, 2012a). In Ontario, diabetes prevention and management is a major provincial priority.

Ontario's Action Plan For Health

In early 2012 the Ministry of Health and Long Term Care (MOHLTC) released its Action Plan for Health Care, identifying key drivers of change that have the potential to improve access, quality and value as part of a comprehensive health transformation strategy (Ontario Ministry of Health and Long-term Care, 2012). There is a major focus on preventing and reducing the impact of chronic conditions like diabetes. Strategies designated to lead on the diabetes priority include:

- **Expansion of Community Health Centres (CHCs).** CHCs are unique in that they are the only primary health care service in Ontario that focuses on the social determinants of health, combining health care services with health promotion and community development services (Association of Ontario Health Centres, n.d.). Given the complexity of diabetes prevention and management, and the unique focus CHCs provide in directing services to those with complex needs, this expansion is a positive step in supporting equity driven models of care and reducing the inequitable distribution of diabetes in Ontario.³
- **Childhood Obesity Strategy.** The childhood obesity strategy takes an upstream prevention approach to diabetes. The aim is to reduce childhood obesity by 20 percent over the next 5 years. This strategy is an important step in reducing risk factors of diabetes; how the strategy will be implemented will ultimately determine its success. Children in lower income neighbourhoods experience a greater burden of obesity rates (35 percent) compared to children in more affluent neighbourhoods (24 percent) (Barnes, 2012). Reducing childhood obesity is greater than healthy breakfast programs, and mandatory physical activity in schools; initiatives need to look at root causes like child poverty and creating supportive environments that encourage well-being.
- **Improving Primary Care Access for Individual with Diabetes.** As part of their action plan, the MOHLTC boldly announced they have “ensured that all Ontarians with diabetes who wish to have a primary care provider [will] now have one” (Ontario Ministry of Health and Long-term Care, 2012). Access to primary care is an important element in diabetes prevention and management efforts. Not only does low continuity of care translate into preventable clinical suffering that is sometimes irreversible, but it is also a major financial burden (Glazier et al., 2008). Canadians with chronic conditions who do not have access to a primary care physician are 1.22 times more likely to have a visit to an emergency department than those who do have a primary care physician (Glazier, Moineddin, Agha, Zagorski, Hall, Manuel et al., 2008). Ensuring that all Ontarians with diabetes who wish to have a primary care provider have one is an important first step. However having access to a primary care provider does not necessarily translate into equitable quality of care.⁴ In Canada, there is strong consensus around

3 On April 3, 2013, the Ontario government announced its plan to invest in 17 capital projects for Ontario's Community Health Centre's and Aboriginal Health Access Centers, including urban centres in Toronto and rural centres in Trenton and Tweed (<http://news.ontario.ca/mohltc/en/2013/04/improving-access-to-health-care-for-families-in-rexdale.html>)

4 A study by van Ryn and Burke (2000) reported that physicians perceived patients of lower socio-economic status as less likely to be compliant with a prescribed treatment plan, have less desire to live a physically active lifestyle, and have less demands from their career. “Racial/ethnic disparities in healthcare are documented across conditions, settings, diagnostic and treatment modalities, and dimensions of technical quality” (Cooper et al., 2012 p.979).

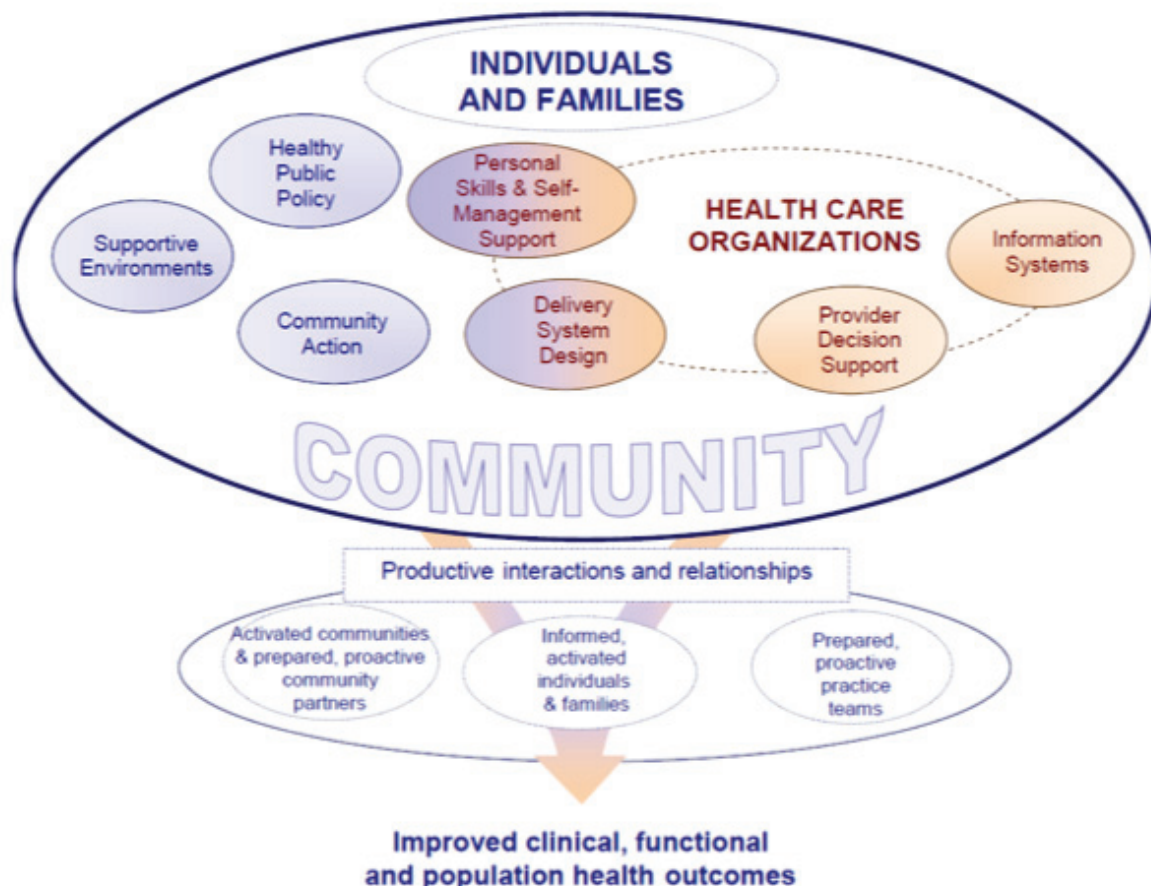
appropriate clinical practices for diabetes care. Ensuring that there are no inequitable differences in who receives the highest standard of care is critical in reducing the diabetes equity gap.

- **Increased Focus on Chronic Disease Management By Strengthening Community Capacity.** The MOHLTC has been vague, however, as to how the action plan will strengthen community capacity. Ontario has outlined a comprehensive framework for preventing and managing chronic disease (outlined in greater detail below). This framework is strongly influenced by the principles of the Ottawa Charter for Health Promotion.

Ontario's Framework For Preventing And Managing Chronic Disease

In 2007, the Ministry of Health and Long Term Care released a new framework for preventing and managing chronic disease. This framework can play an important role in guiding planning, implementation, and evaluation of diabetes prevention and management. It was strongly influenced by the Chronic Care Model developed by the MacColl Institute of Healthcare Innovation, USA, and the Expanded Chronic Care Model from British Columbia, which includes the Ottawa Charter for Health Promotion (Ministry of Health and Long Term Care, 2007). This framework is evidence-based, population-based, and patient-

Figure 6: Ontario's Chronic Disease Prevention and Management Framework (Ministry of Health and Long-term Care, 2007).



focused. It challenges the current model of health care that was developed around acute-illnesses and outlines a more comprehensive approach to prevention and management.

Highlights of the framework include a focus on:

- **Health Care Organizations** with strong leadership, where resources and incentives are aligned with a prevention and management perspective. The framework notes that the current system does not support proactive outreach and alternative structures such as email and telephone communication with clients (Ministry of Health and Long-term Care, 2007, p.13). The framework suggests that organizations should be rewarded for any positive outcomes on clinical markers in their local area. Taking equity into account would also mean providing incentives to organizations that are able to reduce systemic gaps in access and outcomes.
- **Healthy Public Policy** that focuses on reducing inequities for both individuals and communities. The framework emphasizes that healthy public policies must address the social determinants of health if the aim is to close the equity gap. It states that healthy public policies need to move beyond behaviors such as smoking bans, healthy menus in schools, fitness facilities in the workplace, and improved food labeling. In contrast, policies that improve income, education, economic security, safety and housing will reduce inequalities in disease among different population groups (Ministry of Health and Long-term Care, 2007, p.30). This implies that supporting health is beyond the capabilities of the health care sector. If we are to prevent and improve chronic disease management, the existing health, education, labour, social services, housing, transportation, recreation and criminal justice systems must work together to inform coherent and complementary healthy public policies.
- **Supportive environments** where we are born, grow, work, and play, promote well-being and prevent chronic disease by not only being stable and safe, but also enjoyable, stimulating, and satisfying (Ministry of Health and Long-term Care, 2007, p.32). Such environments are important in promoting active living and preventing diabetes. Having safe walking areas, green space, adequate lighting and opportunities for social interaction and public transportation promote active living and have been highlighted as barriers in certain populations at high risk of diabetes. Supportive social and community environments that increase social interactions are known to decrease depression, a tightly linked co-morbidity of diabetes. Communities with easy access to local grocery stores with fresh fruit and vegetables support healthier diets.
- **Community Action** that is not just seen as an add-on, but that is seen as necessary to the success of health care transformation. Communities that take action through public participation on issues that affect their well-being see more relevant outcomes (Ministry of Health and Long-term Care, 2007). Local knowledge and skills needs to be equally valued in the planning and decision making process to ensure that outcomes are aligned with communities' needs and assets.

Other core elements of the framework include: a prevention focus in the delivery of health services that support access and continuity of care; support for health care providers in integrating evidence based guidelines into daily practice; information systems that improve continuity in patient care and integrate services across systems; and support to empower individuals in personal skills and self-management to promote healthy living (Ministry of Health and Long-term Care, 2007).

MOVING TO ACTION

There is a strong momentum in Ontario around reducing the damaging and inequitable burden of diabetes. Having a more nuanced understanding of what makes a strong diabetes prevention and management program through a health equity lens will be critical moving forward. This section sets out promising system-level, organizational and program practices. This list is not meant to be presented conclusively, but rather as a working menu of ideas and directions for discussion.⁵

Beyond Lifestyle Interventions

Many key players in the diabetes prevention and maintenance field have been slow in shifting from a lifestyle perspective focused on behavior changes, to a broader social determinants of health perspective.

The Canadian Diabetes Association (CDA) aims to “lead the fight against diabetes” by advocating on behalf of people with diabetes, supporting research, translating research into practice, and linking health care providers and people with diabetes with appropriate education and services (Canadian Diabetes Association, n.d.). The CDA could be a powerful voice in changing diabetes discourse to reflect social “risk factors,” however their strong biological and genetic research focus detracts from this potential.⁶

The CDA could strengthen the best-practice evidence base by focusing research investment and program development more on prevention and management interventions that improve health outcomes for those most at risk by taking a social determinants of health approach.

The latest phase of the Eat Well Campaign launched by the federal government in March 2013, is another example of the focus on individual lifestyle factors in diabetes prevention and management. The basis of this campaign “is rooted in the principles underlying Canada’s Food Guide” for the purpose of promoting changes in our approach to how we select and prepare foods (Government of Canada, 2012). The “Eating Well” presentations are didactic in nature, educating the audience on topics such as: what is a food guide serving, choosing vegetables and fruit, making better choices, and respecting your body. This campaign focuses narrowly on behaviour change at the individual level.⁷ This approach comes from the perspective

5 A scan of the literature for best practices in diabetes prevention and management was conducted. The Canadian Diabetes Association (2010) updated their list of best and promising practice case studies. While equitable care was not mentioned as one of their process standards, the case studies do highlight other valuable conditions. To supplement the literature, three key informant interviews were conducted with experienced leaders in diabetes prevention and management at the community level to better understand the fundamental principles in designing and implementing diabetes programs from an ‘on-the-ground’ perspective that is often not captured in scholarly literature. These semi-structured interviews were one hour in length and asked participants to provide an overview of their diabetes prevention/management program. Participants were asked about the target population, elements of their program design, and enablers and barriers to taking an equity approach to planning. Some participants in the community conversations found it challenging to articulate these core principles, as equity was seen to be inherent in everything they do. The risks of not articulating these principles are that assumptions can unknowingly be made.

6 Conclusion made from scan of currently funded research projects on April 16th, 2013.

7 Despite a United Nations Report of the Special Rapporteur on the right to food, citing “A growing number of people across Canada remain unable to meet their basic food needs” (http://www.hc-sc.gc.ca/ahc-asc/media/nr-cp/_2013/2013-30-eng.php), the Federal Government launches the latest phase of their Eat Well Campaign with an emphasis on ‘making healthy choices’ (http://www.hc-sc.gc.ca/ahc-asc/media/nr-cp/_2013/2013-30-eng.php)

that “health problems result from important modifiable medical, behavioural, and community risk factors” (Raphael, 2011, p. 28). The theory underlying this work is that if people have the right information they will be able to make healthy choices. In contrast, this type of intervention ignores the context of people’s lives and the material basis of health and social problems (Raphael, 2011).

To reduce the rapidly rising incidence of diabetes, strategies must also include a focus on the contextual factors of those most affected. A criticized policy assumption is that interventions aimed at improving overall population health will also reduce inequalities. Examples of strategies that do both include “the establishment of universal health care and reduction of private care for the rich, in a country where the great majority of the population has lacked access to health care” (Benach et al., 2011, p.6). Frohlich and Potvin (2008) argue that health interventions based on social norms result in more affluent social groups taking up the positive changes earlier, leading to an increase in the inequity gap. The inverse care law states that ‘the availability of good medical care tends to vary inversely with the need for it in the population served’ (Tudor, 1971, p.405). To significantly reduce diabetes incidence, both population strategies and health equity strategies must be applied in tandem.

Raphael recommends to “transfer resources into community development activities that serve to empower individuals and communities” (Raphael, 2011, p.74) to allow for individuals to have the opportunities to lead healthy and satisfying lives.

Under the traditional focus on the behavior change model of care and prevention, diabetes rates have continued to rapidly rise in the general population, and more rapidly for those of lower socio-economic status. Focusing more efforts and resources upstream on the broader risk factors of diabetes will ultimately lead to improved health outcomes for Canadians and reduced financial burden on the health care system. This requires a major policy shift.

Healthy Public Policy

Building healthy public policy to support chronic conditions like diabetes is complex. Evidence-based best practices do not easily nor always translate into policy and programs. Public policy is affected by competing interests and demands that are influenced by different human values, interests and beliefs (Allender et al., 2011; Walt, 1994). Policy makers are challenged in finding the ‘right’ balance of regulation. Social marketing is more readily accepted, as it is less intrusive, while taxes on high fat foods are seen as coercive (Allender et al., 2011).

Raphael (2011) states that “Health can be improved by increasing the power and influence of those who experience these inequalities... [this] requires health workers and citizens [to] engage in the building of social and political movements that increase the power of the disadvantaged” (p.52). It is important to have a clear vision forward and to take advantage of system drivers and priorities in moving the equity agenda forward; “Think big, but get going” (Gardner, 2008). A huge range of promising and innovative programs have been developed by Community Health Centres, hospitals, community-based networks, and

organizations and other providers to address the needs to disadvantaged community” (Gardner, 2012a, p.4). Building the key success conditions that underpin the achievement of these programs into policy and program planning is critical in eliminating the gradient of health in diabetes.

The Senate Subcommittee on Population Health’s final report, “A Healthy, Productive Canada: A Determinant of Health Approach” has listed recommendations to support healthy public policy in Canada. These recommendations should focus not only on improving overall population health, but also reducing health inequities. Select recommendations include:

- **Interdisciplinary Collaboration:** “That a Cabinet Committee on Population Health be established to coordinate the development and implementation of the federal population health policy; That the Prime Minister of Canada chair the Cabinet Committee on Population Health; That the Cabinet Committee on Population Health comprise the relevant departmental ministers including, but not limited to: Human Resources and Skills Development, Indian and Northern Affairs, Finance, Health, Environment, Justice, Agriculture and Agri-Food, Industry, Public Health Agency, and Status of Women” (Pan-Canadian Public Health Network, 2009, p.7).
- **Equity Driven:** “That the Department of Finance, in collaboration with the Privy Council Office and the Treasury Board Secretariat, conduct an interdepartmental spending review with the aim of allocating resources to programs that contribute to health disparity reduction” (Pan-Canadian Public Health Network, 2009, p.8).
- **Reflective:** “That the Government of Canada require Health Impact Assessment (HIA) to be conducted for any policy, plan, or program proposal submitted to Cabinet that is likely to have important consequences on health (Pan-Canadian Public Health Network, 2009, p.8).

Building On Promising Practices

Toronto Central Local Health Integration Network (LHIN) has taken great strides in making equity a top priority as part its Excellent Care for All vision. In 2011, 44 diverse stakeholders met to identify health equity action priorities (Toronto Central LHIN, 2011). The participants identified 3 priority areas:

- As of April 1, 2013, hospitals in the LHIN began to collect health equity data (Toronto Central LHIN, 2013).
- Improved interpretation and translation services through a shared service model across the LHIN. Language barriers have been identified as a challenge for individuals with diabetes who do not speak English. Improved translation and interpretation services will help to break down barriers and improve quality of care.
- Improved access and consistency of care for non-insured clients. Diabetes is higher in recent immigrants in Toronto, many of whom may not yet be insured under the provincial system.

Sudbury & District Health Unit (SDHU) has also taken a leadership role in developing a 2020 Health Equity Vision. The plan explicitly states that “the Sudbury & District Health Unit will work to improve the overall health and health equity of area citizens so that: systemic and avoidable health disparities are steadily reduced and the gap between the best and worst off is narrowed” (Sudbury & District Health Unit, 2020). The SDHU has played a proactive role in increasing awareness through community action on the social determinants of health. Their creative posters titled “The most important things you need to

know about your health may not be as obvious as you think,” and “the most important things you can do for your health might not be as obvious as you think” hit home the message of the prerequisites of health (Sudbury Public Health Unit, n.d.). Messages incorporated in these posters include:

- “Health = A rewarding job with a living wage. Little control at work, high stress, low pay, or unemployment all contribute to poor health. Your job makes a difference.
- Health = Food on the table and a place to call home. Having access to healthy, safe, and affordable food and housing is essential to being healthy. Access to food and shelter makes a difference.
- Health = Having options and opportunities. The thing that contributes most to your health is how much money you have. More money means having more opportunities to be healthy. Money makes a difference.” (Sudbury Public Health Unit, n.d.)

These themes have been adapted in videos and other messaging by other Public Health Units.

These success stories demonstrate the range of possibility in implementing a health equity action plan around diabetes prevention and management. Scaling up these initiatives and adapting these frameworks to other regions will help to promote changes in the way we understand risk factors of diabetes and build equity and the social determinants of health into the mainstream, contributing to better health outcomes. The MOHLTC and LHINs should encourage and enable providers who work with people with diabetes to build social determinants and equity into their program planning and deliverables. They should support evaluation of promising practices and sharing lessons learned and local innovations widely.

Strong Regional Coordination

This is essential to implementing diabetes preventions and management programs at a population level. In Ontario, Diabetes Regional Coordination Centres (RCCs) were developed to coordinate diabetes care across the disease continuum (Ministry of Health and Long-term Care, 2012). The RCCs are aligned with many of the principles of Ontario’s Framework for Chronic Disease Management and Prevention. The RCCs focus is on providing equitable care by identifying socio-demographic profiles in each region with an emphasis on disadvantaged populations. The RCCs support community action by planning activities that engage and address the needs of the community. They focus on proactive care by adopting best practice models and leading their implementation in regions accordingly. Their focus is on integrating chronic disease management services and resources, connecting people with diabetes to a doctor or primary provider if they do not have one, and influence the removal of barriers to enable improved access to programs (Ministry of Health and Long-term Care, 2012). Good regional coordination ensures that individuals will receive the same quality of care regardless of where they are referred, while still allowing programs to be tailored to community assets and needs.

Continuous Evaluation And Reflection

Both formal and informal evaluation was seen to be critical in planning and delivering relevant care and to be accountable to service users and funders. Informal evaluation with service users and staff were important in providing a continual feedback loop to keep programs relevant and honest, and to better

understand how to respond more effectively. Formal evaluation was important for accountability reasons to funders, but also as means to mobilize lessons learned to academic, policy makers, and other stakeholders.

- **Evidence Based:** Program design should use best practices in program planning. One current challenge is that there is not a systematic way to share successes and failures in regards to diabetes planning.
- **Mutual Learning:** Mutual learning was also inherent in program design. Participants not only learn from program facilitators and their peers, but also facilitators learn from participants.

Strong Leadership

The leadership of upper management was less mentioned in the CDA best educational practices but was highlighted in the key informant interviews. One participant stated that “Health equity is about critically looking at the status quo. It is recognizing that the system does contribute to an unfair distribution of resources to promote health.” Another key informant noted that leaders navigate difficult waters because of the challenges that arise between “being a visionary” and “bringing people along” on that path.

Advocacy

The role of advocacy at the individual level and systemic level in providing diabetes prevention and management through a health equity lens was rarely articulated in the CDA best educational practices reviews. However in the key informant interviews, advocacy was seen an important component in diabetes equity work. In one program, staff were selected for their previous engagement around issues of social justice and health equity. Community development is often a different skill set than those of RNs, RD, and MDs. However it was important for the success of the program that there was some overlap. In another program it was noted, “The quality of the healthcare assistant/link worker is vital to the success of the project – he/she needs to come from the community itself, have a respected position, and have the right skills, attitudes and motivation” (Canadian Diabetes Association, 2010, p.112).

Building Equity Into Service Delivery

The London Primary Care Diabetes Support Program is an example of how primary care can build a social determinants of health lens into service delivery. When patients attend their first appointment, part of their intake is an assessment of the broader determinants of health; asking about food security, social supports, employment security, housing, and life (Ontario Ministry of Health and Long-Term Care, 2013). The program stresses outreach initiatives to high-risk patients including those who do not have a family physician and those who exhibit difficulty navigating the health care system due to mental health and health literacy challenges (Ontario Ministry of Health and Long-term Care, 2013). The team takes an innovative approach in providing continuity of care through long distance follow-up, saving patients from taking time off work. Staff from the diabetes support program also play an active role in advocating for their patients. For example, in London, Ontario:

“Registration for community centres and activity programs requires a credit card and a permanent address – things that patients struggling with illness or poverty can’t always provide. The London team took

the issue to City Hall and managed to change the system, so that there were no longer barriers preventing access to activity programs to facilitate good health” (Ministry of Health and Long-term Care, 2013, p. 3).

This comprehensive model with a focus on equity and the social determinants of health translates into positive health outcomes:

“For example, six months after the introduction of this diabetes program, the number of patients whose LDL cholesterol was at target jumped by 13%, and the number whose A1C was at target jumped by more than 71%. With unattached patients, the successes were most dramatic –a 65% increase in the number of patients reaching the clinical guideline target for LDL cholesterol and a 50% increase in the numbers of patients reaching their targets for blood pressure” (Ministry of Health and Long-term Care, 2013, p. 4).

Understanding people’s lived experience is crucial to good delivery. Key informants reported that it is important to understand how people live, their circumstances, and how they get information. It is important to look at the social factors that influence their health including education, income, housing, and gender.

- **Culturally specific:** Culturally specific programs assist with understanding what matters to particular populations or groups, and building equity into program design. Participation from those with lived experience is essential. Culturally specific programs were developed in a variety of ways. One key informant noted that programs held focus groups during the program planning stage to better understand the assets and needs of specific communities. In the Diabetes Education for Canadian Portuguese Adults with Diabetes, professional interpreters or staff who spoke the language were hired to deliver programs in a way that clients would be responsive to that took into account cultural practices and foods (Canadian Diabetes Association, 2010). For example, in the Promotora Diabetes Intervention for Mexican Americans, it was important that the spirituality of Hispanic clients was addressed in education programs to support outcomes (Canadian Diabetes Association, 2010).
- **Peer Educators/Outreach Workers:** Peer educators and outreach workers were hired in many programs to facilitate diabetes education prevention and management programs. Peer educators shared cultural similarities with the groups they were leading. Key informants noted that peer educators were supported through intensive training, however they were encouraged to tailor the program to the needs of their community. Peer educators were mutually beneficial. Group participants benefited from facilitators they could relate to, and peer educators themselves benefited in regards to developing new skills and gaining Canadian experience. In one program, many of the peer educators were newcomers to Canada; the peer education position provided an opportunity to gain Canadian experience. The program manager noted that this position was a valuable stepping-stone towards other employment opportunities. In a few cases program participants of the program later trained to become peer educators themselves.
- **Group-Directed:** Group-based learning was identified as a strength to program facilitation design identified both in the literature and in the key informant interviews (Canadian Diabetes Association, 2010). Group-based learning provided opportunities for peer support and mutual learning. Furthermore sessions that were non-didactic and group directed were advantageous to participant engagement.

Key informants emphasized that their diabetes programs were based on core values of reducing inequities, “which means understanding that people’s lives are complex.” One participant noted: “this doesn’t

mean that you are able to deal with it all, however it does mean that you are designing programs with an acknowledgement of the bigger picture.”

- **Incorporating the Social Determinants of Health:** Programs that acknowledged the social factors that contributed to program attendance, increased retention. Key informants noted that onsite childcare was provided for participants at no cost, and participants were provided a taxi chit or public transit token. In certain cases, programs were brought directly to apartment buildings in “high-risk” neighbourhoods. Food demonstrations were conscientious to prepare meals that balanced dietary requirements with low cost foods. In one case, the program partnered with mobile food trucks to bring fresh fruit and vegetables directly to communities located in “food deserts.”

Program planning from an equity lens acknowledges that participants’ needs expand beyond medical care. Communication between the client, family, social service teams and medical teams is important in providing meaningful support (Canadian Diabetes Association, 2010).

- **Link to Primary and Social Services:** The link between education programs and primary care was seen as important in providing relevant care. Education programs also could provide a way to connect with disadvantaged people who did not have regular primary care.
- **Similarly, continuity of care is greater than only medical services.** Programs that were linked to interdisciplinary support teams were successful in linking participants to other services that influence their health. Teams were made up of community leaders (religious and secular), social workers, case managers, registered nurses, and registered dietitians (Canadian Diabetes Association, 2010).
- **Support for the Family:** In some programs, participants were encouraged to bring their spouse, a family member, caregiver, or friend. This provided an opportunity for family to learn more about ways to prevent diabetes, or the challenges of managing diabetes. It also increased the participants social support network. In one education program, while participants were engaged in one part of the session, their support members met as a group with a mental health specialist (Canadian Diabetes Association, 2010).

CONCLUSIONS

Solving the rising diabetes problem in Canada is complex and requires a multi-faceted strategy. Building equity into program planning, implementation, and evaluation is essential to see a meaningful reduction in diabetes rates in Canada. Reorienting health services is just one component of the bigger picture in reducing health inequities. Social determinant-relevant policies to improve housing conditions, employment opportunities, and income play a larger role in determining health outcomes.

Moving forward requires building the social determinants of health into health care initiatives like diabetes prevention and management. A roadmap or repertoire of key directions has been set out:

1. Going beyond traditional lifestyle focused health promotion to address the social and community foundations of better health;
2. Identifying and implementing healthy public policy;
3. Building equity into program development – from service planning through good regional coordination;
4. Identifying and investing in promising system-level, organizational and service practices;
5. Scaling up and increasing funding to community-based programs that assist those most affected by health inequities.

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