

ORIGINAL RESEARCH

Type 2 Diabetes in Vulnerable Populations: Community Healthcare Providers' Perspectives on Health Service Needs and Policy Implications

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ABSTRACT

OBJECTIVES: To identify a) ways of enhancing health services for vulnerable populations with type 2 diabetes, taking into account the social determinants of health; and b) health and social policy approaches to reducing the incidence of type 2 diabetes and improving its management.

METHODS: Focus groups were held with 18 community healthcare providers at 3 community health centres in Toronto, Ontario.

RESULTS: Community healthcare providers' perspectives were organized under 3 themes: a) the compounding effects of social factors on the health of people with diabetes; b) the need for responsive support at multiple levels; and c) barriers to change. Participants showed a good understanding of the impact of social determinants of health on patients' lives, and they had many ideas about prevention/health promotion and strategies to enhance health services. They seemed less aware of the important role that political advocacy can play.

CONCLUSION: Assessment of the policy environment and political advocacy through coalition-building with communities and other health and social sector service providers should become part of healthcare professionals' education and responsibility. Adequate income and access to proper resources would help with the prevention and optimal management of diabetes.

KEYWORDS: diabetes care, intersectoral collaboration, social determinants of health, type 2 diabetes

RÉSUMÉ

OBJECTIFS : Cerner a) des façons d'améliorer les services de santé offerts aux populations vulnérables souffrant de diabète de type 2, en tenant compte des déterminants sociaux de la santé; et b) des démarches en matière de politiques de la santé et sociales visant à réduire l'incidence du diabète de type 2 et à en améliorer la gestion.

MÉTHODES : Des groupes de consultation composés de 18 fournisseurs de soins de santé communautaires ont été réunis dans trois centres de santé communautaire de Toronto (Ontario), au Canada.

RÉSULTATS : Les points de vue des fournisseurs de soins de santé communautaires ont été partagés en trois thèmes : a) les effets cumulatifs de facteurs sociaux sur la santé des personnes diabétiques; b) la nécessité d'un soutien adapté aux besoins à de multiples paliers; et c) les obstacles au changement. Les participants ont fait preuve d'une bonne compréhension des répercussions des déterminants sociaux de la santé sur la vie des patients et avaient de nombreuses idées sur la prévention/promotion de la santé et les stratégies d'amélioration des services de santé. Ils semblaient cependant moins bien connaître le rôle important que peut jouer le plaidoyer politique.

CONCLUSION : L'évaluation du contexte stratégique et le plaidoyer politique par l'entremise de la création de coalitions avec les communautés et d'autres fournisseurs de services du secteur de la santé et social devraient être intégrés à la formation et aux responsabilités des professionnels de la santé. Des revenus convenables et l'accès aux ressources voulues contribueraient à la prévention et à la gestion optimale du diabète.

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MOTS CLÉS : soins diabétologiques, collaboration intersectorielle, déterminants sociaux de la santé, diabète de type 2

INTRODUCTION

The increasing prevalence of type 2 diabetes (hereafter called diabetes) has been characterized as an epidemic (1), and as such it calls for a response from health researchers, healthcare providers and policy makers. Much of the literature on the prevention and management of diabetes focuses on lifestyle changes (2); less attention has been paid to the role of social determinants of health (SDOH) in the prevention and management of diabetes. SDOH include income and income distribution; education; unemployment and job security; employment and working conditions; early childhood development; food insecurity; housing; social exclusion; social safety network; health services; Aboriginal status; sex; gender; and disability (3).

Diabetes is known to be more prevalent among those living on a lower income (4-8). A recent Canadian study found that the prevalence of diabetes was 4 times higher in the lowest income group compared with the highest income group (4). In addition, low-income populations have higher rates of diabetes-related complications and premature mortality (9,10). Qualitative studies of persons with diabetes living on a low income suggest that they struggle to survive, let alone manage their diabetes (11,12). Healthcare providers are well positioned, based on their practice experience, to identify the key challenges faced by this population regarding diabetes management, as well as possible solutions. In this study we aimed to tap into the experience of community-based providers of diabetes care to identify ways of enhancing health services to vulnerable populations with diabetes that take into account the SDOH; and health and social policy approaches to reduce the incidence of diabetes and improve its management. This study is part of a larger, triangulated study that examined the interrelationship between diabetes and SDOH using both qualitative and quantitative methods (4,11).

METHODS

Focus groups were conducted with 18 healthcare providers from 3 community health centres (CHCs) in Toronto, Ontario, that provide services to local residents, including people with diabetes who participated in another phase of the same research study. CHCs in Ontario serve priority populations that have traditionally faced barriers accessing health services (13). One of the CHCs serves homeless and underhoused persons, while the other 2 serve a broader-priority community. The populations served are ethnically and racially diverse, and include immigrants and people living in poverty who receive income from low-wage jobs (minimum wage was \$9/hour at the time of the study),

Ontario's income assistance program, known as Ontario Works (approximately \$500/month for a single person), or the Ontario Disability Support Program (approximately \$900/month).

The 3 focus groups ranged in size from 3 to 8 participants (18 in total), including 7 registered nurses, 8 registered dietitians, 1 outreach worker and 2 diabetes program coordinators. Participants were recruited by word of mouth by their managers. No physicians were able to participate. Ethics approval was obtained from York University, and written informed consent was obtained from participants prior to each focus group. Focus groups were conducted by pairs of researchers with backgrounds in health and the social sciences. A semi-structured focus group guide was used to explore participants' perspectives with respect to the following: diabetes management issues for people living on a low income; impact of the policy environment; people's need for services and supports; availability of services and supports; ideas for reducing the incidence of diabetes and improving its management; and barriers to change. Focus groups were audiotaped and transcribed verbatim.

Thematic analysis of the data was conducted using the SDOH as sensitizing concepts. Transcripts were reviewed by 3 of the researchers, who independently noted emerging patterns and created preliminary themes, on which there was close agreement. Differences were discussed and resolved by consensus. Themes were verified by rereading the transcripts to ensure that they adequately captured the central ideas in the data. The remainder of the research team reviewed and concurred with the themes. Due to the time that elapsed after the focus groups were held, it was not feasible to seek validation of themes from the focus group participants.

RESULTS

The findings from the focus groups were grouped under 3 major themes representing the 18 participating community healthcare providers' perspectives on the following: a) the compounding effects of social factors on the health of people with diabetes; b) the need for responsive support at multiple levels; and c) barriers to change.

Compounding effects of social factors

In response to questions about diabetes management issues for people living on a low income, participants spoke of a range of interrelated factors that complicate the challenge of managing diabetes, all centred around poverty. Participants suggested that these factors have a compounding effect, making day-to-day life a struggle for survival; it is a life characterized by generalized insecurity and a lack of personal control, with resulting negative consequences for diabetes management and overall health. "I think when people are

living such stressful lives, their own bodies' cortisol levels must be way up there all the time, and I am sure that feeds into the whole blood sugar problem, too. I wonder if the body's insulin is able to keep up with the whole process," said 1 participant.

Participants mentioned a number of interrelated socio-economic factors when explaining why people living in poverty experience difficulty adhering to the diabetes self-care regimen of diet, exercise, medication and blood glucose monitoring. Most notable were limited access to health care and ongoing, chronic stress that directly affects health.

Participants perceived that living on a low income is immensely stressful for their clients. For example, they described the precarious conditions of their clients' lives, including being at risk of losing their housing due to an inability to pay the rent, being forced to live in substandard housing, or having to choose between paying the rent or buying essentials such as food or medication. Many CHC clients are new immigrants, and participants indicated that for newcomers (especially those lacking permanent resident status or legal status and, thus, lacking healthcare coverage), poverty often coexists with gender, culture and language issues, resulting in negative effects on self-care capacity. As 1 participant commented, "It's not that they don't want to come in for follow-up. It's that there's so much else going on in their lives." The following comment illustrates several of the intersecting factors that can make diabetes so difficult to manage: "A lot of new immigrants, especially women, have a lot on their plates. They're still definitely playing a traditional role, having to cook all the meals, but they're also working, and also, generally, are having more than 1 or 2 children. So they have a lot more to think about on top of their housing situation and all of that."

Similarly, participants noted that employment conditions, including shift work, contract work and part-time positions, made diabetes self-care difficult or impossible. For example, people may not take time off work to seek healthcare for fear of losing their job. In addition, insecure jobs are often characterized by unsupportive work environments, where workers avoid taking breaks to eat or check blood glucose: "Factory workers or people who are working 12 hour shifts are not home a lot and are not monitoring [blood glucose] or do not even have time to eat properly. By the time they come home, they are too tired to do anything, so then they miss their medications because they fall asleep ... [They miss] even taking the time off to do testing during working time, because of the stigma of testing. They say, 'If I let my employer know that I have diabetes, then he may not like me, and he may fire me.' That's her fear at work. And she doesn't want to take breaks for snacks or for insulin because of that."

Participants discussed how the poorest people are often

homeless and may have mental illness or addictions that make management of their diabetes even more difficult. Supportive services, when provided, are often inadequate: "Their lives are very chaotic. If they have a mental illness or addiction issues complicating the picture, then they could be precariously housed. Our job becomes one of trying to help them maintain it. Many have been housed in the past year, but we don't know if it is sustainable. People only have support for a limited amount of time, even though they might need more, especially if they have medical concerns."

With respect to self-monitoring, participants related how those living in shelters and rooming houses often lack the proper blood glucose testing equipment or fail to properly maintain it. Moreover, they may lack access to appropriate refrigeration and storage facilities, and even to medications, given that proper identification is required to obtain a drug card. Lack of privacy presents another challenge: "I can think of 2 people who have to get out of the house early in the morning because they can't stand the other people. There's too much dysfunction in the home, so they feel they can't take their insulin with other residents around and can't create a schedule for themselves."

Participants also offered many reasons why following a healthy diet and exercising are more difficult for people living on a low income. For one thing, good-quality food may be too expensive or unavailable: "Their closest grocery store in the community just closed, and a [drug store] is moving. So that increases the walk to a grocery store for anybody without a car from 10 minutes to 25 minutes, 1 way. That kind of change is a big deal, and the community has no control over it."

Furthermore, when it comes to exercising, as 1 participant commented: "They [clients] often don't really want to go out on the street or walk. Mental illness and depression have a lot to do with that. And working really long hours, and having children are also barriers."

Considering the significant challenges constantly faced by people living in poverty, diabetes self-care is a lesser priority: "When you have so many competing demands for your time and energy, your own personal health may slip far down on that list." Again, this is particularly true for people who are homeless: "Checking their [blood] sugar, watching their diet, making sure they're storing their medications properly, seeing a doctor, managing their foot care—these aren't the priorities. Their priority is, 'I just need to eat. I need to make sure I stay out of trouble. I need to make sure that I get out of the cold.' So, because all of these things—the food, the housing and the income—the management of the disease is not a priority."

Even when support from agencies is available, it is often fragmented and difficult to access, thus further adding to stress: "It's a very complicated and exhausting life, a poor

life, especially if you are using our so-called social support systems, which can have you running all over God's green earth for appointments across the city. Appointments, appointments and more appointments. On top of it, you have no money for [public transit] and you're not feeling very well, and your feet are sore."

People with diabetes who are living in poverty also tend to have comorbidities that complicate self-care: "We have had a large proportion [of clients] who have many other comorbidities, such as heart disease. Chronic disease management is a huge issue. We see cardiovascular disease and all the diseases of poverty. People grow old fast living a poor life."

Nonetheless, healthcare is often inaccessible for a variety of reasons. Identification may be stolen or lost, or people can't take time off work or afford transportation, or they may refuse to be seen, mostly due to negative past experiences with healthcare professionals: "Many don't have access to health services. They don't have a physician, or maybe don't have [provincial health insurance] cards to even walk into a clinic. And some of them don't feel very positive about health professionals and don't feel that the doctor listens to them, and so may avoid seeing one."

Participants identified multiple ways that people living on a low income experience healthcare inequities. For instance, without a family physician, diagnosis is often delayed. Furthermore, the working poor lack private/extended health insurance coverage for medication, medical supplies and other health services (e.g. dental care, orthotics). Similarly, people who are poor may lack access to new and improved medications, and access to tertiary care, because they may be less assertive about seeking referral to an endocrinologist. Also, participants suggested that those who obtain medical care from walk-in clinics are less likely to be referred.

Furthermore, those with a lower level of education, or who have a language barrier, may have difficulty communicating with their physician, leading to negative effects on self-care capacity, continuity of care and health.

In summary, interrelated socioeconomic factors—including low income, insecure housing, resource-poor neighbourhoods, unemployment/insecure employment, food insecurity, immigration status, gender, disability and unequal access to healthcare—have compounding, adverse effects on the quality of life and health of people with diabetes. Chronic stress arises from and compounds the effects of poor living conditions, rendering diabetes—which is hard to manage under any circumstances—even more challenging for individuals and their healthcare providers to manage.

The need for responsive support at multiple levels

Whereas individual behaviour and lifestyle changes are

the usual focus of diabetes care, participants identified the need for responsive supports from multiple levels to better address the issues faced by people living in poverty. As 1 participant said: "It's easier to look at the individual and say, 'You need to eat better, you need to do this, you need to do that,' than it is to say, 'Okay, let's look more broadly at how your life is structured and how our city is structured and how these things work together to make it difficult for you to manage your diabetes.'"

Participants suggested various approaches at the point of care, healthcare system and policy levels that could help people in poverty better manage their diabetes or even prevent it in the first place.

Point of care

Participants described a range of community health and other services that could increase self-care capacity, including programs for individuals with prediabetes and diabetes. Some of these services are already offered by CHCs, although participants thought that they could be improved, as well as expanded. For example, CHCs provide diabetes education for individuals and groups in a supportive environment: "We try to have a place where clients can socialize with other people with diabetes. A lot of our clients live alone, so this helps counter the isolation. And they wouldn't [cook] by themselves, so we give them a chance to cook together. We try to use ingredients that are not very expensive, and in the program we also talk about shopping on a budget so the client can learn more about that. We provide [public transit fares] for clients who need them ... and child care."

Participants talked about the importance of a client-centred approach, although it was suggested that this could be more consistent. Still, participants felt that giving individuals time and attention, and "finding out ... what it is that they need to help them adjust" helps them to manage their diabetes: "If they continue following with us, even in the most difficult cases, there is a gradual change for better. You know, feeling more empowered. But it's a process. It happens over a long period of time."

In addition, participants identified the importance of advocacy; for instance, helping individuals obtain health and social services, or providing daycare and fares for public transit so they could attend programs or appointments. Access to affordable food was consistently emphasized: "You can't expect people to eat a healthy diet if fruits and vegetables are very expensive." To address this need, participants called for community gardens and community kitchens: "Not just soup kitchens, but food kitchens, where they actually come together and prepare a meal, which is a way of interacting with a nutritionist, and they can cut costs that way."

Participants also called for more community outreach and relationship-building between healthcare providers and other community services; for example, “connecting people with community resources that are not just health services”, providing programs in the community where the people in need are located, and “learning to partner with them so that we will be even more accessible.” While the CHC model inherently attempts to achieve these types of aims, participants thought it could go even further, to encompass “the funding of health promoters and programs where people are actually out in the community doing community development initiatives, working with the community to change their community—to make that voice stronger, rather than just providers trying to advocate at a policy level—and to actually have communities trying to actualize themselves as healthy communities. I think that would be almost revolutionary to see.”

Healthcare system level

Participants described health services as fragmented, and they thought that short-term responses, such as providing free medications and medical supplies, were insufficient and unsustainable. Instead, they discussed the need for healthcare that is more integrated, coordinated, comprehensive and responsive to the needs of communities, including the need to integrate primary healthcare, public health and social services. Other suggestions to enhance service provision included a public diabetes information line, centralized referral to diabetes services, a screening program for diabetes and mandating physicians to refer patients for diabetes education.

Policy level

When asked about the effects of public policy changes on their clients' ability to manage their diabetes, participants mentioned cuts to health and social spending, and the growing gap between rich and poor. One participant observed how policy changes have worked against the poor: “I think the general downloading that has happened since the mid-90s has affected affordable housing and the shelter system, so people are living more precariously now. There is less money provided in [welfare payments] and [disability support] for individuals who qualify. And then, also, for the working poor, minimum wage is very pathetic and not climbing very quickly. So, generally, policies have worked against people who are poor, particularly, and probably against society, too, in many ways.”

Participants were also upset about a relatively recent change that would curtail access to a special diet allowance (funded by the province) for social assistance recipients, which was described as punitive and harmful to people living on an inadequate income: “and then that cut to the special diet funding. I've seen that have a big impact on how

clients manage in terms of the extra stress that it's causing in their lives. It's a very stressful thing, and it doesn't add up. I don't know how clients are to cover rent and all the basic necessities when their support payments just can't cover them. So it is challenging. People do run out of food.”

In order to effectively respond to the diabetes epidemic, participants thought that policy should address the SDOH; in particular, “people need the basics: safe, secure housing, proper income, access to postsecondary education ... so that they can get a job that pays enough to sustain them.” However, although the detrimental impacts of low income on their clients' lives were recognized, participants made no specific suggestions regarding social policy changes to address growing inequality and deepening poverty.

Suggestions in the area of health policy included ensuring coverage of extended health benefits and medications for the working poor; ensuring access to healthcare for those lacking a health card or physician referral; and preserving the special diet allowance. In addition, there was general agreement that there should be much more emphasis on health promotion and diabetes prevention. Suggestions in this area included tax credits for physical activity; funding medically supervised exercise programs; mandatory physical education in schools; public education for prevention in schools and communities; and government regulation to ensure affordable nutritious foods, better food labelling and healthy environments that encourage physical activity.

Participants also suggested environmental and urban planning policies to address the diabetes epidemic, including government regulation to curb urban sprawl and facilitate the production of local, affordable, fresh produce; more accessible public transit; and better urban design to allow for “access to green space, places that are safe, where you can walk quickly to get your groceries, somewhere your kids can ride their bikes or even just walk and play without you worrying about them getting hit by a car.”

Barriers to change

The final theme addressed perceived barriers to change and participants' ideas on how to surmount them. Barriers were categorized as professional, political and societal.

Professional

Participants shared a sense of lack of control over their practice. They felt they had only limited time to engage in advocacy, despite its importance, due to a sense of pressure from administrators and the government funder of CHCs to focus on “quantity over quality.” They expressed frustration about the need to see a high volume of individuals rather than concentrating on group-oriented, community-based programs focused on health promotion and diabetes prevention. They suggested that an increased understanding of the

social issues around diabetes by those who set the agenda might help change this situation.

Political

In the political realm, participants identified the lack of incentive for politicians to address long-term strategies as a barrier to change. As 1 participant stated, “I don’t think the government gets a lot of recognition for small, subtle things. They fund things where they’re going to get public recognition for flashier conditions, like heart attack and stroke.”

Societal

As 1 participant stated, the economic model around which our society is organized is a fundamental obstacle to change: “Our whole economic model is one of capital growth, market development and higher profit margins, and after a certain point you have to squeeze someone out in order to make your profit, right? So I think, unfortunately, that’s going to continue to cause a problem.... People on the upper scales who are not having these problems might have trouble understanding why more money has to come out of their pockets.”

A related societal barrier to change was an identified lack of public awareness of, and disengagement from, issues of poverty. Participants linked this with stigma and negative attitudes attached to poverty, disability and mental health issues. To address this issue, they suggested doing more work to increase awareness and build public support for solutions.

DISCUSSION

This study adds the voices of frontline healthcare workers to a growing body of literature about the compounding effects of poverty and related factors on health in general (4,6,9-11,14,15). For example, 1 American study focusing on socioeconomic position and incidence of diabetes found that being black further compounded the impact of poverty on health (16), while another study found large discrepancies in the treatment of Latinos and white Americans, pointing to a healthcare system that puts those without private insurance who are unable to pay at a disadvantage (17). In Canada, despite our universal healthcare system, there is a higher risk of diabetes among immigrants with lower incomes compared to long-term residents of Ontario in the same income group (18). The incidence of the disease seems particularly high in women of South Asian, South American, African or Caribbean origin and increases with time spent in Canada, suggesting a compounding effect of poverty and other factors specific to female immigrant populations that needs further investigation (18).

The new paradigm of intersectionality helps to explicate the complexity of the foundational causes of illness and dis-

ease (15) that was suggested by our first theme, *compounding effects of social factors on the health of people with diabetes*. As a conceptual approach, intersectionality interrogates “the meaning and relationship between different social categories,” while seeking to “reveal the dynamics of power” that lead to social inequality and health inequities (15). The first theme speaks to the intersectionality of gender, disability, recent immigration (concurrently, racial diversity) and social class (poverty); these categories coexist with and compound the effects of other SDOH, including unemployment and job insecurity, employment and working conditions, food insecurity, housing insecurity and social exclusion, with negative consequences for diabetes management and overall health. Accordingly, diabetes, like other chronic illnesses, is best addressed by multifaceted approaches and teams working in collaboration (19,20). Our participants were well aware of the multiplicity of social factors affecting people’s health that need to be addressed with multiple strategies.

The evidence is overwhelming that income levels are the most accurate predictor of type 2 diabetes (4-8). Improved health outcomes are achieved when incomes are raised to a sufficient level and/or basic needs such as secure housing and access to nutritious food and child care are met (20-22). Once an acceptable standard of living is reached, health improves (20,21). People regain some control over their lives, and stress is reduced. For example, women who have access to daycare can go out and work, if they so choose. This will raise the family’s income level and, in turn, improve the family’s health. Yet, despite all the evidence, current institutional health-promoting practices are still largely centred on individual lifestyle interventions, as found in the recommendations by the Centers for Disease Control and Prevention Primary Prevention Working Group (2). While our participants showed excellent awareness of how poverty and other social determinants affect health, they felt constrained and unable to pursue health-promoting strategies broadly aimed at these determinants, their roles leaving room for little more than teaching clients about healthy lifestyles.

Two recent studies (19,23) (1 of which was a randomized controlled trial), found that the chronic disease model of care, which uses a multifaceted team approach and emphasizes supportive care and prevention, worked well in the context of diabetes care. Given that diabetes care is managed primarily by the client, the chronic disease model of care fits well, as it ultimately relies on patient empowerment through various supports provided by healthcare providers and the community. In Piatt and colleagues’ study (19), educating staff as well as clients in the intervention group resulted in marked declines of glycated hemoglobin levels and improved behavioural outcomes. Educating healthcare providers alone, on the other hand, produced no better

outcomes than usual care in the control group, showing that it is beneficial for all stakeholders to work together and have a common understanding.

In Ontario, CHCs in particular serve disadvantaged populations (13) and, for the most part, provide seamless and excellent care (11). However, as our participants pointed out, CHCs could enhance their practices even further by focusing more on prevention and health promotion, and collaborating with social agencies under the same roof—suggestions that are congruent with the chronic care model (19,23), as well as with Health Canada's *Intersectoral Action Toolkit* (24).

Some of the innovative health-promoting strategies praised by the participants were community food kitchen programs and community gardens. However, a recent study by Kirkpatrick and Tarasuk (20) found low participation rates in community gardens and other projects in this same city, and overall these programs were ineffective in improving household food security. The authors warn health professionals to critically examine such programs; to collaborate with and remain sensitive to their clients' particular needs and special circumstances; and to advocate most of all for strategies known to be effective, such as higher incomes, universal daycare and food security.

Overall, participants told the stories of their clients' daily struggles, noting that insufficient income from minimum wage or social support programs is very much implicated in clients' difficulties with managing their diabetes. And yet, although they were asked about the impact of the policy environment, they did not offer specific policy suggestions to address the issues of growing inequality and deepening poverty, which are created by current public policies such as those that effectively reduce economic resources to low-income workers (e.g. the decline of minimum wage levels in relation to poverty lines) and those requiring government support (e.g. declining levels of social assistance in relation to poverty lines). These issues are of pressing importance, given that the Organisation for Economic Co-operation and Development has identified Canada and Germany as showing the greatest increases in income inequality and poverty rates over the past decade (25). Perhaps our participants were unaware of the significance of broad, macro-level policies, or else they chose to avoid taking a political position.

Likewise, participants discussed the inadequacies of existing provincial health policies, which were seen as mostly ineffective and particularly lacking in regards to disease prevention and health promotion. However, the expressed outrage over the government's recent cancellation of the special diet allowance, which had enabled many to buy healthier foods, did not translate into action. Although participants mentioned advocacy at the individual level (for instance, giving clients items not covered by insurance, such as lancets

and syringes, whenever they are available), advocacy at the policy level did not appear to be seen as part of the health professional's role, because it was never mentioned. Rather than seeking to influence policies, participants worked within existing policies as best they could, while emphasizing client education in order to help clients make do. However, by helping clients cope, and thereby haphazardly mitigating the effects of poverty, health professionals might also be inadvertently helping to maintain and manage poverty (26). Instead, health professionals could translate their front-line experience and resulting outrage into action for change by documenting and publicizing the fact that clients at times go without food, medication or medical supplies because they cannot afford to pay for these necessities. Further, we found that most clients have a surprisingly good working knowledge of their diabetes management needs, naming various sources, such as pamphlets, the Internet, health providers etc., as sources of information (11). However, because clients lacked proper resources, their knowledge did not necessarily help them manage their diabetes.

To address the root causes of disease (i.e. social determinants), health professionals and community health workers of all backgrounds need to assume a more active advocacy role. Historically, the role of public health nurses included advocacy, as described in a republished historical editorial from 1952, looking back at school nursing over the first half of the 20th century (27). Somewhere, the advocacy aspect of health professionals' roles has been lost. Today there needs to be a renewed awareness that effective policies are coproduced by the "experts" who live with the disease, along with those who work on the front lines (28).

In order to prepare health professionals to be more engaged in public policy advocacy, the concept of political activism and the potential impact of advocacy on health outcomes should be included in health professionals' education curriculum (29). Health professionals need to become politically aware and include assessment of the policy environment in their practice, in order to advocate for health at the policy level (30); indeed, the policy environment could be viewed as another "vital sign" (28). Brewah (31) calls for coalition formation in order to advocate together, as there is strength in numbers. Rock (26) warns that failing to do so, and continuing the current piecemeal approach (e.g. providing sporadic supplies and teaching clients to cope) could be counterproductive, as it contributes to managing poverty rather than promoting health. These implications should be considered by all who are working with clients who have diabetes.

Limitations

This study included a small convenience sample of health-care providers who work in a community setting. They

were chosen because they work closely with the population of interest (persons with type 2 diabetes living on a low income); however, they are not necessarily representative of all healthcare providers working in a community setting, and the group did not include physicians. Moreover, the findings do not directly represent the perspective of people with type 2 diabetes, but rather, those of their healthcare providers. The findings of the experiences of people with diabetes have been reported elsewhere (11). In addition, the themes from this study were not validated with focus group participants; hence, the interpretation represents those of the researchers only. The researchers approached this study using the theoretical lens of the SDOH, which shaped the interpretation of the findings.

CONCLUSIONS

Given the diabetes epidemic, the purpose of this study was to identify a) ways of enhancing healthcare services to vulnerable populations with type 2 diabetes, taking into account the SDOH; and b) health and social policy approaches to reduce the incidence of diabetes and improve management. The healthcare providers who participated in this study showed awareness of the importance of SDOH in relation to diabetes. They called for more comprehensive and client-centred approaches to care, including meeting and working with clients in the community to improve the level of care for persons with diabetes, and they realized that they need to involve clients when designing programs to ensure that they meet clients' needs. Participants glimpsed the possibility of new, expanded roles for themselves, such as community-based health promotion activities to prevent diabetes and raising awareness about diabetes and its management with the public—particularly employers and government funders. At the policy level, multiple strategies for health promotion and disease prevention were identified, as well as healthy public policies, such as building healthier environments conducive to recreation and exercise. Our participants' perspectives confirm the urgent need to enhance service provision through advocacy, community development and coalition building with clients and other workers; for example, putting health and social services under one roof to promote intersectoral collaboration between healthcare professionals and those working in the social sector.

While multiple strategies to enhance service provision were identified, a seeming lack of political awareness was noted regarding community healthcare providers' potential role in public policy activities that effectively produce social inequality and health inequities. Front-line workers, it seemed, did not question or consider how they could become more involved at the institutional and governmental levels of policy-making. However, without political advocacy, community healthcare providers may become

complicit in managing poverty rather than promoting health. Assessment of the sociopolitical environment should be viewed as essential to health assessment; indeed, this should become part of all healthcare professionals' curriculum. In the end, successful advocacy for food security, a livable income and affordable, quality childcare and transportation would go a long way to curtail the incidence of diabetes and improve quality of life and health for persons with this disease. In addition to each health professional's responsibilities as a citizen to vote with social justice in mind, the most important activities to this end might be advocacy and political engagement through professional associations, diabetes associations, and other health organizations and agencies.

AUTHOR DISCLOSURES

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AUTHOR CONTRIBUTIONS

DR developed the concept and design of research. TB, ID, EL and DR acquired data. BP, ID and EL conducted analysis and interpretation of data. BP, ID and EL drafted the manuscript. TB, ID, EL, BP, DR, MD-P and SD-P reviewed and approved the final manuscript.

REFERENCES

1. Karam JG, McFarlane SI. Update on the prevention of type 2 diabetes. *Curr Diab Rep*. 2011;11:56-63.
2. Williamson DF, Vinicor F, Bowman BA; Centers for Disease Control and Prevention Primary Prevention Working Group. Primary prevention of type 2 diabetes mellitus by lifestyle intervention: implications for health policy. *Ann Intern Med*. 2004;140:951-957.
3. Mikkonen J, Raphael D. *Social Determinants of Health: The Canadian Facts*. Toronto, ON: York University School of Health Policy and Management; 2010. <http://www.thecanadianfacts.org>. Accessed November 16, 2011.
4. Dinca-Panaitescu S, Dinca-Panaitescu M, Bryant B, et al. Diabetes prevalence and income: results of the Canadian Community Health Survey. *Health Policy*. 2011;99:116-123.
5. Brown AF, Ettner SL, Piette J, et al. Socioeconomic position and health among persons with diabetes mellitus: a conceptual framework and review of the literature. *Epidemiol Rev*. 2004;26:63-77.
6. Creatore MI, Gozdyra P, Booth RH, et al. Socioeconomic status and diabetes. In: Glazier R, Booth G, eds. *Neighbourhood Environments and Resources for Healthy Living – A Focus on Diabetes in Toronto*. Toronto, ON: Institute for Clinical Evaluative Sciences; 2007. <http://www.ices.on.ca>. Accessed November 16, 2011.
7. Kumari M, Head J, Marmot M. Prospective study of social and other factors in the incidence of type 2 diabetes in the Whitehall II study. *Arch Intern Med*. 2004;164:1873-1880.
8. Raphael D, Anstice S, Raine K, et al. The social determinants of the incidence and management of type 2 diabetes mellitus: are we prepared to rethink our questions and redirect our research activities? *Leadership Health Serv*. 2003;16:10-20.
9. Wilkins R, Berthelot JM, Ng E. Trends in mortality by neighbourhood income in urban Canada from 1971 to 1996. *Health Rep*. 2002;13(suppl):45-72.
10. Thomas J, Jones G, Scarinci I, et al. A descriptive and comparative study of the prevalence of depressive and anxiety disorders in low-

- income adults with type 2 diabetes and other chronic illnesses. *Diabetes Care*. 2003;26:2311-2317.
11. Pilkington FB, Daiski I, Bryant T, et al. The experience of living with diabetes for low income Canadians. *Can J Diabetes*. 2010;34:119-126.
 12. Popoola MM. Living with diabetes: the holistic experience for Nigerians and African Americans. *Holistic Nurs Pract*. 2005;19:10-16.
 13. Association of Ontario Health Centres website. <http://www.aohc.org>. Accessed November 16, 2011.
 14. Colagiuri R, Colagiuri S, Yach D, et al. The answer to diabetes prevention: science, surgery, service delivery, or social policy? *Am J Public Health*. 2006;96:1562-1569.
 15. Hankivsky O, Christoffersen A. Intersectionality and the determinants of health: a Canadian perspective. *Crit Public Health*. 2008;18:271-283.
 16. Maty SC, James SA, Kaplan GA. Life-course socioeconomic position and incidence of diabetes mellitus among blacks and whites: the Alameda County study, 1965-1999. *Am J Public Health*. 2010;100:137-140.
 17. Rodriguez HP, Chen J, Rodriguez MA. A national study of problematic care experiences among Latinos with diabetes. *J Health Care Poor Underserved*. 2010;21:1152-1168.
 18. Creatore MI, Moineddin R, Booth G, et al. Age- and sex-related prevalence of diabetes mellitus among immigrants to Ontario, Canada. *CMAJ*. 2010;182:781-789.
 19. Piatt GA, Orchard TJ, Emerson S, et al. Translating the chronic care model into the community: results from a randomized controlled trial of a multifaceted diabetes care intervention. *Diabetes Care*. 2006;29:811-817.
 20. Kirkpatrick SI, Tarasuk V. Food insecurity and participation in community food programs among low-income Toronto families. *Can J Public Health*. 2009;100:135-139.
 21. McIntyre L. Food security: more than a determinant of health. *Policy Options*. 2003;24:46-51.
 22. Robbins JM, Vaccarina V, Zhang H, et al. Socioeconomic status and type 2 diabetes in African American and non-Hispanic white women and men: evidence from the third National Health and Nutrition Examination survey. *Am J Public Health*. 2001;91:76-83.
 23. Pibernik-Okanovic M, Prasek M, Poljicanin-Filipovic T, et al. Effects of an empowerment-based psychosocial intervention on quality of life and metabolic control in type 2 diabetic patients. *Patient Educ Couns*. 2004;52:193-199.
 24. *Intersectoral Action Toolkit: The Cloverleaf Model of Success*. Ottawa, ON: Health Canada; 2000. <http://www.phac-aspc.gc.ca/canada/regions/ab-nwt-tno/pdf/programs/isatoolkit.pdf>. Accessed November 16, 2011.
 25. Organisation for Economic Cooperation and Development. *Growing Unequal? Income Distribution and Poverty in OECD Countries*. Paris: OECD; 2008. <http://www.oecd.org/els/social/inequality/GU>. Accessed November 16, 2011.
 26. Rock M. 'We don't want to manage poverty': community groups politicise food insecurity and charitable food donations. *Promot Educ*. 2006;13:36-41.
 27. Changing times, changing needs, changing programs 1952. *Public Health Nurs*. 2005;22:267-268.
 28. Woolf SH. Social policy as health policy. *JAMA*. 2009;301:1166-1169.
 29. Boswell C, Cannon S, Miller J. Nurses' political involvement: responsibility versus privilege. *J Prof Nurs*. 2005;21:5-8.
 30. Spenceley SM, Reutter L, Allen MN. The road less traveled: nursing advocacy at the policy level. *Policy Polit Nurs Pract*. 2006;7:180-194.
 31. Brewah H. Policy formulation and implementation. *Primary Health Care*. 2009;19:35-38.