




Exploring the prospective acceptability of a healthy food incentive program from the perspective of people with type 2 diabetes and experiences of household food insecurity in Alberta, Canada

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Abstract

Objective: FoodRx is a 12-month healthy food prescription incentive program for people with type 2 diabetes (T2DM) and experiences of household food insecurity. In this study, we aimed to explore potential users' prospective acceptability (acceptability prior to program use) of the design and delivery of the FoodRx incentive and identify factors influencing prospective acceptability.

Design: We used a qualitative descriptive approach and purposive sampling to recruit individuals who were interested or uninterested in using the FoodRx incentive. Semi-structured interviews were guided by the theoretical framework of acceptability, and corresponding interview transcripts were analysed using differential qualitative analysis guided by the socioecological model.

Setting: Individuals living in Alberta, Canada.

Participants: In total, fifteen adults with T2DM and experiences of household food insecurity.

Results: People who were interested in using the FoodRx incentive (n 10) perceived it to be more acceptable than those who were uninterested (n 5). We identified four themes that captured factors that influenced users' prospective acceptability: (i) participants' confidence, views and beliefs of FoodRx design and delivery and its future use (intrapersonal), (ii) the shopping routines and roles of individuals in participants' social networks (interpersonal), (iii) access to and experience with food retail outlets (community), and (iv) income and food access support to cope with the cost of living (policy).

Conclusion: Future healthy food prescription programs should consider how factors at all levels of the socioecological model influence program acceptability and use these data to inform program design and delivery.

Keywords
Healthy food prescription
Type 2 diabetes
Food insecurity
Acceptability

More than 10% of people in Canada with cardiovascular-related chronic diseases, including type 2 diabetes (T2DM), face financial barriers to managing their chronic conditions⁽¹⁾. One of the most common financial barriers to self-management of T2DM is household food insecurity, which is the insecure or inadequate access to food due to financial constraints^(1,2). Through a host of pathways, including

detrimentally impacting individuals' diet quality and increasing levels of chronic stress, household food insecurity can increase the odds of developing T2DM and lead to significant glycaemic variability⁽³⁾. As a result, those with T2DM who are experiencing household food insecurity are at an increased risk of diabetes-related complications^(4–6). With the prevalence of household food

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insecurity recently rising to 1 in 6 households in Canada,⁽²⁾ there is a growing concern about the increased incidence of T2DM and the difficulties with self-management and associated complications those with T2DM will face⁽⁷⁾.

Healthy food prescription programs are a possible intervention to reduce diabetes-related adverse health outcomes through supporting participants to self-manage their T2DM through dietary practices^(8,9). In healthy food prescription programs, primary care providers or other authorised prescribers (e.g. dietitians and pharmacists) provide a written prescription with dietary guidance to patients who have low incomes or who are experiencing household food insecurity. In addition to the prescription, patients receive a financial benefit (subsidy or incentive) to purchase foods at a redemption site, such as a supermarket or farmers' market^(8–10). While healthy food prescription programs are growing in popularity as a research intervention, many programs have low enrolment and rates of incentive or subsidy use^(10,11).

Some researchers have used qualitative methods to explore program implementation and users' experiences of healthy food prescription programs to better understand program outcomes, including low uptake. Some factors identified as barriers to using incentives or subsidies include a lack of transportation to redemption sites, stigma associated with using financial supports and limited redemption locations^(12–17). Of the qualitative studies that have explored users' experiences with healthy food prescription programs, two have explored users' experienced acceptability of some elements of program design and delivery after program completion^(12,13). The authors of these studies used their findings to inform recommendations to improve program acceptability and minimise the impact of participant identified barriers to using subsidies or incentives, such as by expanding the number of redemption sites and offering electronic subsidies or incentives^(12,13). Although these and similar recommendations may help to improve engagement with healthy food prescription programs once participants have enrolled, it remains unclear why potential users do not always want to participate in these programs^(18,19).

One way to better understand potential users' interest in participating in healthy food prescription programs or their initial willingness to use the associated incentive or subsidy is by exploring anticipated or prospective program acceptability^(20,21). The authors of the Theoretical Framework of Acceptability (TFA) define prospective acceptability of health-related interventions as the degree to which users consider an intervention appropriate based on their anticipated emotional and cognitive responses⁽²⁰⁾. If potential users do not consider the design or delivery of a program acceptable, issues with low enrollment, engagement and retention may emerge – all of which are threats to the completion of research and may increase implementation costs, thereby limiting potential program benefits⁽²¹⁾. By understanding potential users' prospective acceptability

of healthy food prescription programs, program leads may be able to make changes to program design and delivery that enhance enrolment and use of incentives or subsidies within healthy food prescription programs.

To our knowledge, no studies have investigated potential users' prospective acceptability of a healthy food prescription program. Previous studies of healthy food prescription programs have only considered acceptability from the perspective of individuals enrolled in or who have already completed a program, which may not reflect the perspective of individuals who are considering participating in these programs. Furthermore, studies that have explored acceptability have not fully considered how potential users' personal and sociocultural contexts may shape program acceptability. Identifying contextual factors that shape users' acceptance of healthy food prescription programs may provide further guidance to program designers on how to adapt program elements to enhance program acceptability^(20,22). Hence, the purpose of this research was to (i) explore potential users' prospective acceptability of the FoodRx incentive, and (ii) identify contextual factors that influence the prospective acceptability of the FoodRx incentive from the perspective of potential users.

Methods

Program overview

The FoodRx randomised controlled trial is evaluating the impact of a healthy food prescription incentive program (FoodRx) on glycaemia in adults (18–85 years old) with T2DM in Alberta, Canada, who have baseline A1C between 6.5 and 12% and experiences of household food insecurity⁽²³⁾. Participants randomised to the intervention arm (n 297) receive a 12-month weekly healthy food financial incentive through a partnering supermarket chain's loyalty points system to purchase program-eligible foods. Those randomised to the control arm (n 297) received a healthy food prescription pamphlet containing nutritional advice mimicking standard of care without the financial incentive. These foods include nutrient-dense whole foods from all food groups, with little to no added fat, sugar or salt (including fruits and vegetables, fresh meat and poultry, meat alternatives, dairy products and whole grain foods). Purchases of these foods are incentivised as participants earn a fixed value of points each week (\$10-50/household member) after they spend a minimum number of store loyalty card points or dollars (\$10/household member) on study-eligible foods the week prior.

Study design and participants

We conducted a qualitative descriptive study⁽²⁴⁾ with adults (18–85 years old) in Alberta, Canada, who self-reported T2DM, were at risk of household food insecurity in the past



6 months (using the two-item Hunger Vital sign screener)⁽²⁵⁾, had no experience using the FoodRx incentive, did not reside in a facility that provided meals (e.g. shelter, long-term care and prison) and who were able to communicate in English. The Hager two-item screener was used to screen for household food insecurity as studies have shown that this abbreviated version from the full eighteen-item questionnaire correctly identified 97 % of food-insecure households and 83 % of food-secure households⁽²⁵⁾. Between March and June 2022, research staff purposively invited two groups of potential users to participate in semi-structured interviews, including those who: (i) expressed interest in using the FoodRx incentive, but were ineligible for the FoodRx randomised controlled trial (i.e. due to baseline A1C of <6.5 or >12) (i.e. the interested group) or (ii) were not interested in using the FoodRx incentive after briefly learning about the program at the end of the eligibility screening call (i.e. the uninterested group). All participants who agreed to participate provided written informed consent. The University of Calgary Conjoint Health Research Ethics Board (REB20-0543) approved this study.

Data collection

Participants first completed training on how to use the FoodRx incentive. The training included reviewing the incentive training material (booklet and/or video) on their own prior to a scripted phone call with a research assistant. The topics covered in the training included a list of the stores participating in the program, how to earn and redeem loyalty card points, a detailed list of eligible foods and who to reach out to for study support. One to 14 d after the training (median of 5 d), ST conducted and recorded semi-structured phone interviews with all participants between March and June 2022 using an open-ended, pilot-tested question guide with ten questions (Appendix) informed by the seven constructs of the TFA (Table 1)⁽²⁰⁾.

Interview recordings were transcribed verbatim with the assistance of an artificial intelligence transcription service (Rev.com), checked for accuracy against the audio recording and organised using NVivo (version 12.7). Participants were offered a one-time \$40 cash honorarium for participating.

Data analysis

Analysis was conducted concurrently with data collection, so recruitment ended when we achieved coding saturation (i.e. no new codes identified in three successive transcripts)⁽²⁶⁾. We used differential qualitative analysis⁽²⁷⁾ to explore differences and similarities between the two groups of participants (i.e. those interested and uninterested in using the FoodRx incentive). Two authors (ST and SD) inductively generated the initial codebook by combining their lists of independently developed descriptive, line-by-line codes from the first three transcripts.

Independent coding decisions were reviewed by ST and SD during a meeting in which similar codes were consolidated and disagreements between coders were discussed and resolved by an expert in qualitative research (DJTC). This initial codebook was then used in duplicate coding of three successive sets of 3–4 interviews, until no further changes were made to the codebook. Once all interviews were coded, ST independently reviewed transcripts within each group and noticed that many codes aligned with the socio-ecological model (SEM)⁽²⁸⁾ ST therefore used the SEM as a framework to group codes into categories and themes participants considered as they spoke of their prospective acceptability of the FoodRx incentive.

ST reviewed the codes for each participant group and organised them using the sem to create categories for each group. ST then reviewed similarities and differences between the categories across both groups to create one final set of categories that aligned with the sem (i.e. interpersonal, intrapersonal, community and policy). Once the categories were finalised, ST and DJTC developed themes by identifying and reviewing broad concepts (e.g. social support, access to a vehicle and store preferences) that were identified in the final set of categories⁽²⁷⁾. Themes were named, defined and reviewed with the research team. Regular peer debriefing meetings with multiple investigators during analysis enhanced the rigor of this analysis by bringing different perspectives to the data⁽²⁹⁾. Additionally, ST maintained a detailed audit trail documenting changes made to the codebook and decisions made during analysis.

Results

Of the twenty-nine individuals contacted, fifteen completed informed consent, received the FoodRx incentive training and completed a semi-structured interview (Table 2). Incentive training calls lasted 9–37 min (average of 23 min), and interviews ranged from 33 to 73 min (average of 49 min). Those who declined to participate in the qualitative study reported not being interested or having limited time due to other commitments (i.e. childcare, medical appointment, work and travel).

Prospective acceptability of the FoodRx incentive differed considerably between the two groups of participants: those interested in using the FoodRx incentive (n 10) viewed the design and delivery as more acceptable than those who were uninterested in using it (n 5). The two groups of participants also had different socio-demographic characteristics. Those interested in using the FoodRx incentive predominantly identified as men (80 %) and were less than 66 years old, while those who were uninterested all identified as women and were 65 years or older (Table 2). Overall, we identified four themes that aligned with the levels of the sem⁽²⁸⁾.

Table 1 Seven constructs in the theoretical framework of acceptability developed by Sekhon, Cartwright & Francis (2017)⁽²⁰⁾

Construct	Definition
Affective attitude	How an individual feels about the intervention
Burden	The perceived amount of effort that is required to participate in the intervention
Ethicality	The extent to which the intervention has a good fit with an individual's value system
Intervention coherence	The extent to which the participant understands the intervention and how it works
Opportunity costs	The extent to which benefits, profits or values must be given to engage in the intervention
Perceived effectiveness	The extent to which the intervention is perceived as likely to achieve its purpose
Self-efficacy	The participant's confidence that they can perform the behaviour(s) required to participate in the intervention

Table 2 Socio-demographic characteristics of participants (n 15)

Characteristics	People interested in using the FoodRx incentive (n 10)	People uninterested in using the FoodRx incentive (n 5)
Age range (average age)	33–65 years old (54 years)	66–79 years old (74 years)
Gender (women)	20 %	100 %
Race (white)	100 %	100 %
Household size		
Single	20 %	80 %
Two people	30 %	20 %
Three or more people	50 %	–
Education		
High school diploma or lower	50 %	60 %
College, trade school or university	50 %	40 %
Experience with supermarket loyalty point system	70 %	60 %

(i) individual's confidence, views and beliefs regarding the FoodRx incentive design and delivery and its future use (intrapersonal level, personal context), (ii) the shopping routines and roles of individuals in participants' social networks (interpersonal level, social context), (iii) access to and experience with food retail outlets (community level, food retail context) and (iv) income and food access support to cope with the cost of living (policy level, economic context).

Theme 1: individual's confidence, views and beliefs regarding the FoodRx incentive design and delivery and its future use (intrapersonal level, personal context)

Three subthemes captured participants' perceptions of the FoodRx incentive (Fig. 1). Generally, participants considered the incentive acceptable if they felt confident that they could use the incentive, held favourable views of the incentive design and delivery and believed the incentive offered more value than the perceived effort to use it.

Anticipated confidence in using the FoodRx incentive

Participants' acceptability of the FoodRx incentive was higher when they felt confident about using it in the future. All participants in the interested group spoke about the 'simple' or 'straightforward' nature of the eligible food list and the process for earning and redeeming the incentive:

'Really there are not that many rules to follow... it's no different than any other company's loyalty program...you earn up points by buying certain things and you exchange them for a certain amount of money towards groceries. That's pretty straightforward.' (Participant 5, man in his 40s).

However, all participants in the uninterested group felt uncertain about using the incentive successfully due to concerns about shopping in a new environment:

'You know, I am a senior and I've always shopped at the stores closest to me. You go in and you know exactly where everything is. Whereas [partnering store], I really don't know it, and I got to walk around and look for everything.' (Participant 12, woman in her 70s)

All participants in this group stated the FoodRx incentive would be more acceptable to them if it was offered at their preferred, but non-partnering stores, as this would increase their confidence in using it.

Views of the FoodRx incentive design and delivery

Both groups had distinct views of the eligible food list, partnering stores and the supermarket chain's loyalty point system. Most participants in the interested group mentioned that they considered the incentive acceptable because they 'loved' the partnering stores, 'appreciate[d] the variety of foods included' in the eligible food list, and thought the supermarket chains' electronic loyalty point system would allow them to use the incentive without feeling 'singled out' – a feeling they experienced while

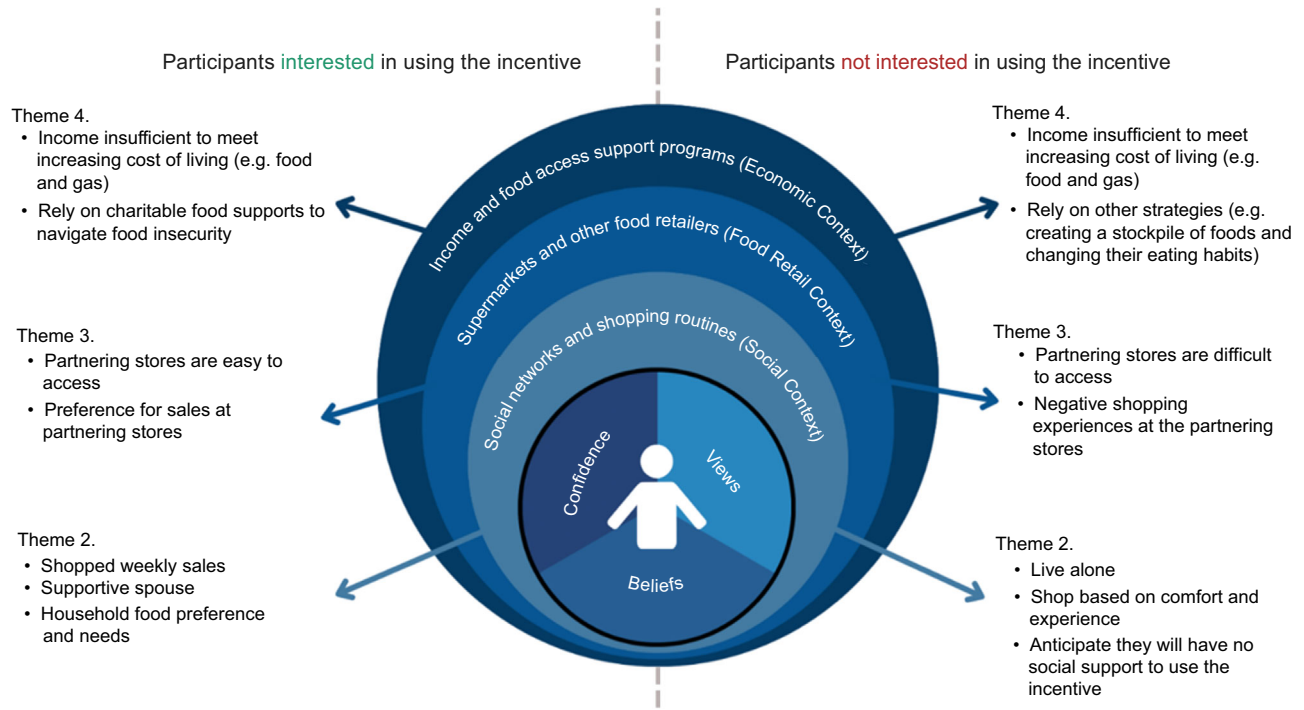


Fig. 1 Summary of differences in participants' social (theme 2), food retail (theme 3), and economic (theme 4) contexts between those who were interested or uninterested in using the FoodRx incentive

using food banks or thought they would experience using physical coupons or vouchers:

'When you get to the till, [the incentive] doesn't identify you as a person who's getting help. It's the same as everyone else uses. Like in the States they have food stamps, which don't get me wrong, I'm a social worker, I think it's great. But when you get to the till people see that you have help, and it makes you feel less than. This way, I'm just giving my card, like everyone else is.' (Participant 10, woman in her 60s)

A few other participants in the interested group expressed indifference towards the partnering store and eligible food list. However, these feelings were not enough to influence their overall acceptability of the FoodRx incentive. Instead, participants in this group conveyed their 'just use it' attitude, where they professed their willingness to complete any steps required to use the incentive even if the steps required extra effort. Participants' 'just use it' attitude stemmed from the self-discipline they applied to their T2DM self-management or their need for food:

'If someone was giving me an incentive card with so much money on it a week to get fresh foods and groceries, I'd go to wherever they say, because I need those fresh groceries. If I had the money to go every week, I would go every week.' (Participant 9, woman in her 50s)

In contrast, individuals who were uninterested found the FoodRx incentive unacceptable because it would mean supporting a supermarket chain they did not like. Similarly, individuals in this group preferred alternatives to the branded items included in the eligible food list, which

lacked the nostalgia, familiarity or flavour of their favourite brands that they grew up with or regularly consumed:

'It's different brands of things from what I eat... it's ones that I don't know. Like, All Bran cereals, I've always had Kellogg. The oats for the porridge have always been Quaker Oats. If there [were] more old-fashioned foods that seniors grew up on, that would be great.' (Participant 4, woman in her 70s)

Even though participants in this group disliked the branded items in the eligible food list, they, like the group that wanted to use the FoodRx incentive, agreed that the incentive 'should only cover healthy foods.'

Beliefs about the value and effort required to use the FoodRx incentive

Participants compared the perceived value of the incentive to the anticipated effort required to use it to determine if the FoodRx incentive was acceptable. The interested group believed \$10.50/household member per week to be a significant financial support that would allow them to 'have the chance to buy better food' that they considered 'expensive' and 'beyond their budget'.

All participants in this group also believed the FoodRx incentive would positively impact their diabetes self-management and health, by motivating them to follow a diabetes-friendly diet and enabling them to buy foods like fruits and vegetables each week to continue earning the incentive. Others in this group also anticipated the FoodRx incentive would have a positive impact on their diabetes because they would experience less stress about not

having enough food or having to choose between paying for medication, gas, bills and food:

'My stress would go down because I'd be spending the incentive money on groceries and then the money that I saved with the incentive program could go towards medications' (Participant 9, woman in her 50s).

In comparison, all participants in the uninterested group believed it was too inconvenient to use given the limited value it offered. For some, this was due to lack of proximity to the partnering stores:

'I live in another town that doesn't have a [partnering] store and gas is getting to be pretty darn expensive. It would cost me more time and money to go to [town name] and buy my groceries there [with the incentive] than having to spend more money here . . . So, for a person that lives in [town name] or really close to store, I think that's fine for them. But I think and my rational mind is saying [the incentive] isn't worth it' (Participant 7, woman in her 70s)

Perceiving little value in the food prescription program, people in this group thought the incentive would have minimal influence on their diabetes self-management and health.

Theme 2: The shopping routines and roles of individuals in participants' social networks (interpersonal level, social context)

All participants spoke of the role of their social networks in their everyday grocery shopping routines and how they influenced their acceptability of the FoodRx incentive. Most participants in the interested group lived with at least one other person (80 %) and reflected on whether the eligible foods list fit their meal preparation plans and their household members' dietary restrictions and (flavour and brand) preferences. Additionally, participants in this group shared their household's approach to finding cheaper food and thought the incentive would fit their shopping routine:

'Well, there would be really no effort [to use the incentive]. Me and [wife's name] would just have to plan to maybe grab more at [the partnering store] and just use the other stores for the door crashers, which is basically what we do . . . So [the incentive] is just basically like hunting for deals like we do all the time.' (Participant 5, man in his 40s).

Married participants who identified as men anticipated their wives would assume primary responsibility for using the FoodRx incentive as they did *'most of the shopping'* and were already frequent users of the supermarket chain's loyalty point system or shopped at partnering stores:

'I'm not a hundred percent on how to use [the supermarket loyalty program]. My wife does most of that . . . I [would] just feed my wife's [account] up to use the incentive. She watches that herself as how many points we accumulate and when we can redeem them.' (Participant 3, man in his 60s).

In comparison, four out of the five participants who were uninterested lived alone. Participants in this group reported having food shopping routines that were often spaced out and sporadic, making the incentive less acceptable as it required a consistent weekly shopping routine:

'You have to go to your groceries every week, a lot of times I don't go every week, but sometimes you do . . . that was another thing that was kind of bothersome for me, you know, you're being forced to do something [weekly] maybe you don't do all the time' (Participant 14, woman in her 60s).

Participants in this group also relied on their social circle outside their home (e.g. children, friends and neighbours) for support to go shopping, including driving to stores or accompanying them as they shopped, as some became exhausted or anxious when shopping alone. This group did not feel comfortable asking or burdening others in their social circle to drive them to an unfamiliar store to use the incentive:

'I can't ask somebody to take me every week to go to a grocery store when I'm not even familiar with [partnering store] . . . [my friend] just started giving me a ride to [non-partnering store] every Friday. It's just too much . . . If I had a ride to get to those stores, the program might have worked for me.' (Participant 15, woman in her 70s).

With limited social support, older women who were uninterested in using the incentive were less likely to see the incentive as appropriate for their context.

Theme 3: access to and experiences with food retail outlets (community level, food retail context)

Participants discussed how factors within the food retail environment influenced their prospective acceptability of the FoodRx incentive. The interested group discussed how the partnering stores were nearby, easy to access by car or on foot and held *'deal days'* and *'door crashers'*. Lower costs at the partnering stores especially enhanced the acceptability of the incentive as participants felt they were saving additional money when using the incentive:

'The [partnering store] has prices [that] are more reasonable than most places so it would work great if I'm using your program there too. It'll be like double the savings' (Participant 1, man in his 60s).

Generally, the uninterested group described how limited access to transportation to travel to supermarkets and fewer partnering stores in their immediate vicinity contributed to lower acceptability of the incentive:

'I don't drive. So, the [non-partnering store] is handy. I can just walk to it right and carry the food home. Or if I can't do that, then a neighbor or a family member would take me grocery shopping . . . So, your program is not really handy for me when I already have other good stores by me.' (Participant 4, woman in her 70s).



Participants in the uninterested group also shared how experiences of poor-quality service at the partnering stores compared with other food retailers they frequented made the FoodRx incentive less acceptable to them. Many participants from this group felt that shopping at partnering stores was an *'overwhelming experience'* that increased their stress and anxiety:

'I do not shop in [partnering store]. I don't like them. They're too big... I do find a lot of times if you're looking for help, there's tons of people around there, like workers and their employees, but to try and track one person down and ask them where something is difficult.' (Participant 14, woman in her 60s)

Theme 4: income and food access support to cope with the cost of living (policy level, economic context)

Participants' acceptability of the FoodRx incentive was contextualised by their concerns and anxieties about the increasing cost of living, their income and experiences with charitable food supports. Participants from both groups discussed how they felt their income was insufficient to keep up with inflation and increases in the cost of living, often having to choose between paying for rent, food, medication and/or toiletries. Participants in the interested group considered the weekly incentive amount as an acceptable supplement to their current low income:

'With your program, I'm going to the grocery store and knowing that 'Hey, I got a little bit of extra money' I can afford a few better foods and don't have to eat stuff that's just the cheapest thing I can find'' (Participant 8, man in his 30s).

Despite the fact that the uninterested group reported they lived on low, fixed incomes inadequate to support *'lonely senior[s] that can't work anymore'* this group found that the incentive amount would be insufficient to meet their needs in this context:

'A lot of us older ladies have a limited amount of money that we have to spend... You either pay your utility bills or you eat... that's coming from a senior... \$10-50 [per week] isn't going to go very far. I could spend that, but I mean, it's a drop in the bucket.' (Participant 12, woman in her 70s).

Experiences with food banks and community food hampers seemed to enhance participants' acceptability of the incentive as interested participants anticipated it would provide greater food choice and variety:

'When I go to the food bank, nine out ten times they give you pasta... the incentive is different, you actually get choices once a week when you get 10 bucks.' (Participant 2, man in his 50s).

In comparison, all uninterested participants avoided using charitable food resources and depended on other strategies, including buying cheaper foods, creating a

stockpile of perishable and boxed foods, changing their eating habits to eat fewer meals each day and going out to eat with friends less frequently. These participants shared that they viewed the incentive as less acceptable as they considered their existing approaches to address food access as sufficient for their needs:

'I personally don't know and can't see it really making a lot of difference. I mean I may not be eating the right food [for my diabetes], but I already have the foods I need.' (Participant 14, woman in her 60s).

Discussion

Using a qualitative descriptive approach, we found distinct differences in factors that influenced program acceptability between those who were and who were not interested in using the FoodRx incentive. Overall, four themes were identified, encompassing all levels of the SEM, that shaped participants' prospective acceptability of the FoodRx incentive, including (i) individuals confidence, views and beliefs regarding the FoodRx incentive design and delivery and its future use (*intrapersonal level, personal context*), (ii) the shopping routines and roles of individuals in participants' social networks (*interpersonal level, social context*), (iii) access to and experience with food retail outlets (*community level, food retail context*), and (iv) income and food access support to cope with the cost of living (*policy level, economic context*).

The first theme consisted of intrapersonal factors, including potential users' confidence, views and beliefs concerning the FoodRx incentive. Generally, uninterested participants considered the incentive unacceptable for them as they felt unsure about their ability to use it successfully, disliked the design and delivery aspects and believed that the value it offered was insufficient to compensate for the extensive effort required to use it. The factors that made the incentive unacceptable to some participants are consistent with factors identified in other qualitative explorations of individuals' reasons for declining to participate in other health interventions^(21,30). All participants explained or justified their anticipated emotional and cognitive response (i.e. their acceptability) to the FoodRx incentive by referring to their experiences in accessing other food supports (e.g. food banks)⁽²²⁾.

Participants also described how factors at the interpersonal level of the SEM influenced the acceptability of the FoodRx incentive, including household members and those outside their homes who were involved in their food shopping routines. Overall, potential users' social networks enhanced their acceptability of the FoodRx incentive if they anticipated receiving support from their network to use it in the future. In our sample, gender roles regarding household food shopping (that typically fell to women) enhanced the acceptability of the FoodRx incentive among men with spouses who anticipated



minimal burden using the incentive. At the same time, older women who completed most of their own shopping considered the incentive burdensome and unacceptable. The distribution of shopping roles among participants and their social networks is not surprising, as women have traditionally taken on household food shopping and meal preparation responsibilities^(31–33). Previous qualitative explorations of users' experience in healthy food prescription programs have found that individuals in participants' social networks can play an important role in helping participants to use the incentive or subsidy^(13–15). Our findings highlight that potential users' social networks influenced their prospective acceptability of a healthy food prescription program and can contribute to their initial willingness to use incentives.

Next, participants spoke of how their food retail contexts influenced the acceptability of the FoodRx incentive, including the proximity of partnering stores and accessibility and quality of services and items sold. Past retail and consumer research has shown that a store's service and fresh food quality, pricing, proximity, product assortment and atmosphere are all crucial factors shoppers consider when choosing which stores to visit^(32,34–36). Additionally, transportation barriers to redemption sites in healthy food prescription programs are common for program users across North America^(9,11–13) and were particularly problematic for the older adults we interviewed who relied on public transportation^(32,35). Our findings suggest that these barriers are known to participants prior to program participation and may reduce their acceptability and desire to participate in a program.

Lastly, participants considered factors at the policy level of the SEM, or their economic context, when discussing their prospective acceptability of the FoodRx incentive. Generally, participants spoke of having insufficient incomes to meet their households' basic needs and the difficulty of coping with the increasing cost of living. The approaches to address household food insecurity that our uninterested participants utilised were consistent with those of older adults in other studies who were reluctant to ask others for help⁽³⁷⁾ or to use food assistance^(38,39). These adults exhibited a 'resilient self-sufficiency'⁽⁴⁰⁾ when experiencing household food insecurity, whereby they relied on their own resourcefulness to access food. Thus, uninterested individuals may not want to use incentives because they do not match their preferred strategies to procure food.

Finally, it is also important to consider the possibility that uninterested individuals may have had fewer social and economic resources to assist them to use the FoodRx incentive compared with interested participants. We found evidence of this when uninterested participants spoke of not having access to their own vehicle, reliable public transportation or the support of friends and family to go shopping. Previous authors have proposed that interventions relying on individual behaviour changes (such as

weekly shopping for specific foods) may lead to programs where potential users who have more advantages (e.g. higher incomes, social support and access to food retailers) are more likely to enroll and use the incentive as intended than those who face relatively more disadvantages (e.g. lower incomes, social support and access to food retailers)^(41–44). While there is limited evidence to suggest that there is unequal uptake of healthy food prescription programs^(45–47), previous qualitative studies have found that participants' economic contexts and access to material resources substantially shaped their experiences in healthy food prescription programs^(14,15).

Our results should be considered in the context of study limitations. First, participants in the two groups had distinct ages and gender identities (i.e. those who were uninterested were all older women), which undoubtedly shaped our findings. Our findings may have differed by purposively recruiting additional individuals who had varying gender identities, ethnicities and ages. Additionally, we did not collect demographic characteristics of individuals who were eligible but declined to take part in this qualitative study. Hence, we are unsure whether those who chose to participate in an interview were similar to those who were eligible but declined to participate. While our sample did not represent all possible prospective users (i.e. of varying gender identities, ethnicities and ages), the lived experiences shared by our participants provide useful insight into considerations made by those who are at-risk of household food insecurity and highlight the importance of all users' context when understanding their prospective acceptability⁽²⁹⁾. Additionally, the transferability of our study findings to other jurisdictions is unknown. Our participants' acceptability of the FoodRx incentive was informed by their experiences in Alberta, Canada, including existing programs offered locally, which may differ from other locales^(48,49). However, it is possible our findings are relevant to those in other cities and provinces/states where there are similarities in the experience of household food insecurity^(12,13).

Conclusion

This study explored the prospective acceptability of a healthy food prescription incentive program from the perspective of potential users who have T2DM and experiences of household food insecurity. We found that intrapersonal factors, including users' confidence, views and beliefs, contributed to their prospective acceptability of the FoodRx incentive. Additionally, we found that gender- and age-based differences in individuals' personal, social, food retail and economic contexts influenced their prospective acceptability of the FoodRx incentive. Future healthy food prescription programs should consider how factors at all levels of the sem influence users' program acceptability and use these data to inform program design and delivery.



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Conflict of interest

There are no conflicts of interest.

Authorship

S.T., D.L.O. and D.J.T.C. designed the study. S.T. and S.D. analysed the data. S.T., D.L.O. and D.J.T.C. interpreted the data and drafted the manuscript. R.F.B., E.S., L.L., M.J.E. and B.M.L. contributed to the study design and interpretation of study findings. All authors revised the manuscript, approved the final version and agreed to be accountable for all aspects of the work.

Supplementary material

For supplementary material accompanying this paper visit <https://doi.org/10.1017/S1368980024000429>

Ethics of human subject participation

This study was conducted according to the guidelines laid down in the Declaration of Helsinki, and all procedures involving research study participants were approved by the Conjoint Health Ethics Review Board at the University of Calgary. Written informed consent was obtained from all participants.

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