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Income security health promotion to address poverty through primary care: A retrospective chart review

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Primary Subject Heading:	General practice / Family practice
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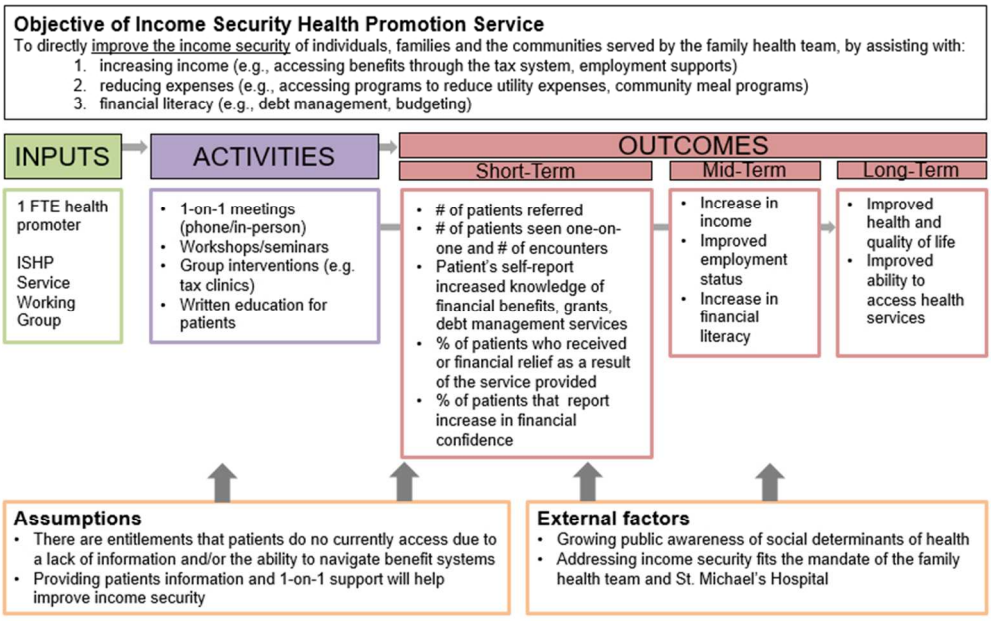

Abbreviated program logic model for the Income Security Health Promotion Service.

Reporting checklist for "Income security health promotion to address poverty through primary care: A retrospective chart review"

STROBE checklist for observational studies

	Item No	Recommendation	Completed?
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	Yes
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	Yes
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	Yes
Objectives	3	State specific objectives, including any prespecified hypotheses	Yes
Methods			
Study design	4	Present key elements of study design early in the paper	Yes
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	Yes
Participants	6	(*a*) *Cohort study*—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up *Case-control study*—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls *Cross-sectional study*—Give the eligibility criteria, and the sources and methods of selection of participants	Yes: for cross-sectional studies
		(*b*) *Cohort study*—For matched studies, give matching criteria and number of exposed and unexposed *Case-control study*—For matched studies, give matching criteria and the number of controls per case	N/A
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	Yes
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one	Yes

		group	
Bias	9	Describe any efforts to address potential sources of bias	Yes
Study size	10	Explain how the study size was arrived at	Yes
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	Yes
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	Yes
		(*b*) Describe any methods used to examine subgroups and interactions	N/A
		(*c*) Explain how missing data were addressed	Yes
		(*d*) *Cohort study*—If applicable, explain how loss to follow-up was addressed *Case-control study*—If applicable, explain how matching of cases and controls was addressed *Cross-sectional study*—If applicable, describe analytical methods taking account of sampling strategy	Yes: for cross-sectional study
		(*e*) Describe any sensitivity analyses	N/A

Continued on next page

Results			**Completed?**
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	Yes
		(b) Give reasons for non-participation at each stage	N/A
		(c) Consider use of a flow diagram	Have developed but did not include, as did not contribute to the manuscript
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	Yes
		(b) Indicate number of participants with missing data for each variable of interest	Yes
		(c) *Cohort study*—Summarise follow-up time (eg, average and total amount)	N/A
Outcome data	15*	*Cohort study*—Report numbers of outcome events or summary measures over time	N/A
		Case-control study—Report numbers in each exposure category, or summary measures of exposure	N/A
		Cross-sectional study—Report numbers of outcome events or summary measures	Yes
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	Yes
		(*b*) Report category boundaries when continuous variables were categorized	Yes
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	N/A
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	Yes: Qualitative analyses
Discussion			
Key results	18	Summarise key results with reference to study objectives	Yes
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	Yes

Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	Yes
Generalisability	21	Discuss the generalisability (external validity) of the study results	Yes
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	Yes

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A novel income security intervention to address poverty in a primary care setting: A retrospective chart review

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A novel income security intervention to address poverty in a primary care setting: A retrospective chart review

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Abstract

Objective: To examine the development and implementation of a novel income security intervention in primary care.

Design: A retrospective, descriptive chart review of all patients referred to the Income Security Heath Promotion service during the first year of the service (December 2013 to December 2014).

Setting: A multi-site interdisciplinary primary care organization in inner city Toronto, Canada, serving over 40,000 patients.

Participants: The study population included one hundred and eighty-one patients (53% female, mean age 48 years old) who were referred to the Income Security Health Promotion service and engaged in care.

Intervention: The Income Security Health Promotion service consists of a trained health promoter who provides a mixture of expert advice and case management to patients to improve income security. An advisory group, made up of physicians, social workers, a community engagement specialist and a clinical manager, supports the service.

Outcome measures: Socio-demographic information, health status, referral information and encounter details were collected from patient charts.

Results: Encounters focused on helping patients with increasing their income (77.4%), reducing their expenses (58.6%) and improving their financial literacy (26.5%). The health promoter provided an array of services to patients, including assistance with taxes, connecting to community services, budgeting and accessing free services. The service could be improved with more specific goal setting, better links to other members of the health care team and implementing routine follow-up with each patient after discharge.

Conclusions: Income Security Health Promotion is a novel service within primary care to assist vulnerable patients with a key social determinant of health. This study is a preliminary look at understanding the functioning of the service. Future research will examine the impact of the Income Security Health Promotion service on income security, financial literacy, engagement with health services and health outcomes.

Article summary

Strengths and limitations of this study:

- This is the first study of a novel intervention to address poverty directly within a primary care team, which entails having a health promoter focused full-time on improving income security.
- This study reports on key lessons learned from implementation, which can inform other interventions focused on social determinants of health.
- The generalizability of our findings is limited by the retrospective and descriptive nature of the study and that this was a single-centre study.
- This study does not report on the impact of the intervention on specific income or health outcomes, which will be examined by prospective, randomized studies.

Introduction

The social determinants of health are contextual factors and social processes that impact the health of individuals and communities and are shaped by the distribution of money, power and resources[1]. One of the most important determinants of health is income[2,3]. Health outcomes follow a clear income gradient: those with lower incomes have shorter lives and experience a greater burden of disease and disability than individuals with higher incomes. This includes but is not limited to higher rates of cardiovascular disease, obesity, diabetes, stroke and some cancers among people who are living on low incomes[4–8]. Living in poverty is also associated with an increased probability of requiring extensive and costly health care services later in life[9,10].

Income security is defined as a person's level of income (absolute and relative to needs), level of assurance a person will receive this income and expectation of income adequacy now and in the future[11,12]. Interventions to improve income security are typically discussed as policy solutions, including reducing unemployment, raising minimum wage levels and raising social assistance rates[13]. However, health providers have become increasingly engaged in discussions about reducing poverty to improve the health of individuals and communities. In Canada, the Ontario Medical Association published a series of articles focused on how physicians can and should address poverty as a health issue[14–16]. The Canadian Medical Association has specifically called for the creation of interventions to address poverty within clinical spaces[17]. The College of Family Physicians of Canada recently issued a clinical practice guideline for addressing social determinants of health, including through work at the individual level on income security[18].

We know that living on a low income is bad for health, but will social interventions to increase income in clinical settings be successful and will they result in better health? Few studies have examined this question directly[19]. Exceptions include evaluations of services that are based in general medical practices in the United Kingdom that help people living on low income access government benefits[20,21]. These services typically involve staff from the Citizen Advice Bureau charity working part-time in a general practice and helping patients access government income benefits. A systematic review of such services found a positive impact on income security for patients through improved access to both lump sum and recurring benefits, estimated at £1026 (US$1867, €1498) in the first year after the intervention, based on the 28 studies that reported financial data [22]. A single randomized controlled trial of these services found that accessing a Citizen Advice Bureau worker in a general practice led to most participants having an increase in benefits, but no significant health differences at 6 months[23]. A recent study of a small, unconditional income supplement provided to low income pregnant women in Manitoba, Canada, found a reduction in preterm births and low birth weight babies in the intervention group[24]. Researchers have hypothesized that improved income security reduces material deprivation and chronic stress, which subsequently improves the physical health of individuals and the social capital of communities [25,26].

In Canada, financial advice programs are occasionally offered by community or social service agencies, or rarely through collaboration between a community organization and a health organization[27]. To our knowledge, there are no clinical services or programs in a primary care setting in Canada that specifically address income as a determinant of health. Primary care organizations are ideal spaces in which to intervene on social determinants of health and improve

health equity[28,29]. Primary care is well situated to reach vulnerable patients and to deliver innovative services to improve income[30]. Primary care providers may be the first point of contact for people in financial difficulty, usually follow people longitudinally, are increasingly accessible and often have connections to social services[31]. Studies to date have focused on understanding barriers to accessing health care for those living in poverty[32], barriers to addressing income security in clinical settings, or improving access to primary care for marginalized populations as a means for reducing inequities in health[33], but few look at specific programs or services within primary care that target social determinants of health as potential health equity interventions[30].

The Income Security Health Promotion service is a novel intervention to help patients achieve greater income stability through the provision of financial advice and support. Evaluation of this service is a priority as there is a need to study primary care interventions that seek to improve health equity through action on social determinants of health[34–36]. In this initial assessment, we conducted a retrospective descriptive chart review of all the patients seen during the first year of the service in order to understand and refine the intervention and also to inform the design of a randomized controlled trial. We report on the patient population, the financial advice and support provided and our lessons learned from the first year of the service.

Methods

Setting

Ontario's Family Health Teams are interdisciplinary centres for the delivery of primary care and employ physicians, nurse practitioners, nurses, dieticians, pharmacists, social workers and other health professionals[37]. The St. Michael's Hospital Academic Family Health Team (the FHT) serves a panel of over 40,000 patients at six clinics located in downtown Toronto. Over 50% of patients are estimated to reside in areas with average incomes in the lowest two income quintiles[38]. Advancing systems of care for disadvantaged populations is one of the three strategic priorities of St. Michael's Hospital[39]. Physicians within the FHT have engaged in advocacy to address poverty as a health concern, including through helping to establish Health Providers Against Poverty in 2005[40] and the Ontario College of Family Physicians' Poverty and Health Committee in 2010[41]. Building on this work, physicians in the St. Michael's Hospital FHT recognized a need for interventions that target poverty in the clinical setting and developed the Income Security Health Promotion service. Provincial funding was obtained from the Ontario Ministry of Health and Long-Term Care for a full-time health promoter to focus on income security and the service launched in December 2013. To our knowledge, it is the first program of its kind in Canada.

Intervention

The income security health promoter (ISHP) provides advocacy and case management services that are similar to those of a social worker, but with a specialized knowledge of income support systems and financial issues and a practice dedicated specifically to helping patients with income security. The ISHP is supported by a manager, staff physicians, social workers and a community engagement specialist, who meet biweekly as an advisory group. Patients are referred to the Income Security Health Promotion service by any member of the primary care team, at their

discretion. Any individual who could benefit from financial advice and services was eligible for the service. There was no minimum income threshold required for referral, but health professionals are encouraged to use a simple, validated screening question to identify patients living at low income: *"Do you have trouble making ends meet at the end of the month?"* [42,43]. The goal of the Income Security Health Promotion service is to help patients achieve greater income stability through the provision of financial advice and services within three domains: 1) increasing income (e.g., accessing benefits through the tax system, employment supports), 2) reducing expenses (e.g., accessing rent-geared-to-income housing) and 3) financial literacy (e.g., debt management, budgeting). A program logic model was developed to provide a common framework for understanding how the service will function and what we propose it will accomplish (**Figure 1**). The logic model illustrates the relationships between the service's inputs, activities and outcome measures and is a tool that guides our overall approach to evaluating the implementation of the service.

Chart Review

We conducted a retrospective chart review of the medical records of patients who had engaged with the Income Security Health Promotion service during its first year. Ethics approval was obtained from the St. Michael's Hospital Research Ethics Board. Patients were included in the study if they were referred to the ISHP and their first encounter was between December 1, 2013 and November 30, 2014. Patients were excluded if they were referred to the ISHP but not seen, if their first encounter with the ISHP was outside the study period, or if they had specifically requested that their chart be made private. A search of the electronic medical record (EMR) at the FHT was conducted in March 2015 to identify all patients with any note on their chart to or

from the health promoter and then each chart was manually reviewed to identify patients that met the study inclusion criteria.

Data were manually extracted from the EMR, including from the Income Security Health Promotion referral form and the ISHP's progress notes. The cumulative patient profile was used to collect sociodemographic and general health information: year of birth, gender, 3-digit postal code, patient status at the FHT, homelessness, number of problems and number of medications. A patient was considered homeless if they had no fixed address, or if it was indicated that they were living on the street, in a shelter, or with friends when they were being seen by the ISHP. As a crude measure of health status, a count of the number of medical problems and the number of medications was performed. In addition to prescription medications, the number of medications also includes items such as vitamins, massage therapy prescriptions and topical creams.

The Income Security Health Promotion referral form was completed by the referring individual and provided the reason for referral, urgency of referral (determined by the referring individual) and current source of income. The referral form could also be used to indicate if there were any barriers to accessing the service.

Most of the ISHP's notes were entered into the EMR using a standardized encounter form that was completed during patient interactions (in the office or over the phone) and includes information about type and length of appointment, appointment, current income and number of people supported, main problems addressed, action plan and plan for follow-up. This form was not used for brief communications such as short follow-up phone calls or if a patient stopped by

to pick up an application form. We analyzed all encounters, both those that used this standardized form and those that did not. All data were manually extracted by one author (MKJ) and entered into a chart extraction form.

In addition, we extracted sociodemographic, health and referral information from the charts of individuals who were referred to the service but not seen by the ISHP, to compare this excluded group to our study population.

Analysis

Descriptive statistics were calculated for all measures. Bivariate analyses using t-tests or Pearson's $\chi 2$ statistic, as appropriate, were conducted to compare our study population with the participants who were referred to the ISHP but not seen. Quantitative analyses were performed using SAS version 9.3. Free text notes extracted from the charts were reviewed by two authors (MKJ, ADP). These notes were analyzed to identify the key categories of problems that were addressed and to identify the main interventions. We also developed illustrative examples of common cases seen by the ISHP and confirmed their representativeness with the ISHP and the advisory group.

Results

Three hundred and twenty-six charts were identified by the initial EMR search as having been referred to the Income Security Health Promotion service since its inception. Of these, 181 met inclusion criteria for the study. A total of 145 patients were excluded from the study population: 69 patients who were referred to the service but were not seen (e.g., did not schedule an

appointment or were no-shows) and 76 patients whose first interaction with the service was outside of the study window.

Patient characteristics and referral information are outlined (**Table 1**). All patients were adults, the mean age was 48 years old and 53% were female. Approximately 4% of patients were transgender. The mean number of health problems and medications in the population was 4.7 and 6.4, respectively. A referral form was completed for 66% of the patients (n=119) and about a quarter of referrals were deemed urgent by the referring individual. Examples of urgent referrals made were for individuals who had recently lost their job or income source, or for individuals who were facing eviction or being pursued by creditors. About 20% of referral forms indicated perceived barriers to accessing the service. These barriers included mobility difficulties, mental illness and geographic barriers. There were no significant differences in the demographics or health status between our study population and the individuals who were referred to but not seen by the ISHP. Compared to the study population, individuals who were referred to the service but not seen were more likely to have a referral form completed by the referring provider ($p<0.01$) and be referred for help with financial literacy ($p=0.03$).

The ISHP interacted with each patient an average of 2.3 times. Most patients interacted with the ISHP once or twice, with fewer patients (16%) requiring four or more appointments to meet their needs. The mean length of time for an encounter was just over an hour (66 minutes) (**Table 2**). Monthly income information was available for 164 patients, with a mean income of $1,302 CAD per household per month, or $907 CAD per person per month. In terms of the problems addressed, 77% of encounters dealt with increasing income, most often applying to basic welfare

(27%), the Ontario Disability Support Program (36%), or helping a patient with filing taxes (28%). Reducing expenses was addressed in 59% of all encounters, with housing (27%), food (15%) and medications (12%) being the most common areas that required help. In 26% of all encounters, the ISHP addressed financial literacy, which primarily involved discussing budgeting and explaining eligibility for benefits.

Most (79%) encounters resulted in the requirement of an action from both the ISHP (79%) and the patient (66%). Approximately 19% were discharged from the service after the first visit and over half (58%) had follow-up planned after the first visit (**Table 3**). An example of a typical case was a man in his thirties with chronic mental illness, who was intermittently receiving basic welfare, had not filed his taxes for several years and had significant debt. The ISHP met with this patient three times and provided information on free tax-filing services and local food banks. She also obtained information from the Canada Revenue Agency to assist with submitting tax documents, provided financial education and counseling on managing his tax refund and referred the patient to legal assistance. Another example of a typical case was a homeless woman in her sixties, who had no income at all when referred and was paying for her medications out-of-pocket. The ISHP met with her six times and assisted with a successful application to Old Age Security and advocated to the pharmacy for a reduction in medication-related costs. A final example was a woman in her forties who had been dependent on her partner who suddenly passed away. The ISHP met with her six times and assisted with an application for basic welfare, assisted with filing taxes, adverted an eviction and helped her access emergency funding for food and clothing. An example of a poor fit for the service included a woman in her forties who had severe mental illness, who was referred for assistance with completing a disability application.

The ISHP was able to meet with her once and was able to successfully advocated for an extended deadline to submit documents. Her symptoms were so severe that she was unable to attend appointments or complete even basic documents, resulting in no change in her circumstances. In summary, the ISHP addressed a diversity of financial issues and provided a broad scope of financial advice, financial literacy and interventions to patients.

Discussion

The Income Security Health Promotion service within the St. Michael's Hospital FHT is a novel primary care intervention to address income as a key social determinant of health. It was developed in response to the call for interventions to address poverty in clinical settings and reduce health inequities in Canada[16,44]. Most patients seen were living with multiple health problems and were taking many medications. A large proportion of individuals were receiving social assistance prior to referral, yet still needed help with increasing their income. A number of patients seen were completely destitute (e.g. living in a homeless shelter, zero income) and required assistance with obtaining basic necessities. The ISHP's activities were diverse and included helping individuals access government benefits, file taxes, access affordable housing, develop financial literacy, learn budgeting, plan for retirement and engage in debt restructuring. The ISHP often consulted external organizations, gathered additional information, advocated for the patient to another organization, or helped with form completion for complex benefit programs. Many patients required help because they faced obstacles to navigating complex health, social and financial systems. Some were newcomers to Canada and faced language

barriers, while others were struggling with mental illness that made it difficult to complete forms and follow-up on applications.

A strength of this study was that it included everyone seen by the Income Security Health Promotion service during its first year in operation. Our descriptive analysis should be an accurate representation of the service on the reported measures. Further, we were able to compare our study population to those who were referred to the service but not seen by the ISHP (e.g., due to missed appointments, or not responding to the ISHP's messages to set up an appointment). The populations were not significantly different in terms of their sociodemographic factors or health status. The excluded population was more likely to be referred for help with health literacy, however and this may indicate general difficulties with communication that would have been a contributing factor as to why they were not seen by the service.

This study also had limitations. As a retrospective chart review, we were restricted to data contained within patient charts. Patient characteristics that are relevant to understanding the functioning of the program were not always available, for example specific disease conditions including presence of mental illness or addictions, family status and employment status. Additionally, the ISHP's encounter form was designed to capture the main themes rather than the intricacies of appointments. We are unable to estimate the reach of this service in meeting the needs of FHT patients who are living on very low incomes, as we do not have data on income from all patients at this time. We were able to capture information on all patients referred and seen during the study period and we detected no significant differences between these groups.

However, the small numbers in each category may mean that we lacked the power to detect small but important differences between these groups. Finally, our study is a preliminary descriptive look at the program and provides a first explanatory insight into the intervention. It does not report on outcomes that measure impact, so it is unknown whether the Income Security Health Promotion service is effective at increasing income or improving health in a primary care setting.

This Income Security Health Promotion service operates in a similar manner to welfare rights advice services that are embedded in general practices in the United Kingdom[22,45,46]. While the ISHP saw a relatively small proportion of all the patients in the FHT living on very low incomes, the number of patients referred and ultimately seen is comparable to these programs. Both programs are similar in their rationales, that income security is an important social determinant of health, patients are usually connected to the service through their health provider and a key goal is to increase access to government benefits[47–49]. Key differences are that the ISHP is integrated into the primary care team and has access to the EMR, rather than being an employee of an external organization. We believe embedding the ISHP into the health team is an important aspect of this service that may improve access, as individuals are already connected with the FHT organization and may experience reduced stigma for accessing financial advice in this setting, as opposed to accessing financial advice from community-based poverty and income support organizations. Further, the ISHP addresses multiple domains of income security, rather than only government benefits. The program also fits within a framework that was developed by Browne et al[50] to identify strategies that organizations can utilize to close the health equity gap. Their framework identifies three distinct levels for which to act: organizational, clinical

programming and provider-patient interactions. Many aspects of the Income Security Health Promotion service are aligned with their identified strategies, such as "enhancing access to social determinants of health" and "revising use of time". This service may therefore contribute to reducing health inequities in the communities that are served by the FHT.

A significant portion of the ISHP's activities involved educating patients. Group education sessions that could reach many patients simultaneously were not conducted during the first year of this program, but could be a key addition to the service. Many patients required help with filing taxes. Estimates from the Ontario Ministry of Community and Social Services indicate that social assistance recipients can increase their annual income by 10-50% through tax filing alone[51]. Directing patients to tax clinics, either delivered by the FHT or by community agencies, would likely improve the efficiency of the program. Some of the ISHP's work involved connecting patients with easily accessible supports. Other health providers in the FHT could be trained by the ISHP to deliver some basic education, in order to reduce demand on the ISHP.

Based on this study, a number of changes to the implementation of the service are proposed. First, given that a large number of patients were difficult to reach, we recommend asking patients when referred about secondary phone numbers, email addresses and contact information of friends and support workers. We also recommend having the ISHP be co-located directly with clinical services so that particularly hard to reach patients can be introduced to the ISHP at clinical appointments. Second, a few referrals were inappropriate or better served by another service (such as clinical pharmacy or social work). We recommend implementing an initial assessment, perhaps conducted by clerical staff, to ensure the appropriateness of the referral, to

identify patient goals and to identify documents required (e.g. previous tax returns). This assessment could also include a triage protocol to identify urgent referrals. Third, in order to ensure that patients have been able to address their financial concerns and to assess the impact of the service, we recommend implementing routine follow-up phone calls with patients at 3 months and 6 months after discharge. This may help ensure patients' action plans are fulfilled. Clearly documenting the impact of the service may assist other team members to understand the service's impact. Fourth, we recommend instituting a detailed checklist for the ISHP to ensure each patient is made aware of all potential interventions, beyond their immediate goals. Fifth, working with patients one-on-one to address their income security can be difficult for the ISHP in the context of a social system that is unable to meet all needs. Despite the best efforts of such a service it cannot solve issues like an inadequate supply of affordable housing or insufficient social assistance rates. We recommend that the service incorporate dedicated time for system-level advocacy in collaboration with others[25].

Remaining questions that could be explored by further implementation research include examining the experience of patients with the service in both the short- and medium-term, using qualitative methods. In addition, examining the views and experiences of physicians and other members of the primary care team with the Income Security Health Promotion service would shed light on how well the health promoters are integrated with the rest of the health care team and whether there is a substantial link made between addressing biomedical issues and income insecurity. It is highly likely that the effectiveness of the Income Security Health Promotion service is related to the context in which it is operates. Future implementation research could focus on organizational and community contextual factors that enable success or act as barriers.

These could include the quality and frequency of communication between ISHP and the health care team, organizational support and alignment with mission and the existence and connection to community services that address income security. The effectiveness of the Income Security Health Promotion service could be examined through quantifying the impact on income security and health outcomes in the short-, medium- and long-term. A pragmatic randomized controlled trial is planned, after changes to the intervention are implemented.

This study is an initial look at the new Income Security Health Promotion service at St. Michael's Hospital Family Health Team in Toronto, Canada. It is an important step on the pathway to understanding whether addressing low income in the clinical setting is good for health. Our findings may help define the utility of and future directions for, this type of novel income security service in primary care settings.

Acronyms

CPP: Canada Pension Plan

CRA: Canada Revenue Agency

EI: Employment insurance

EMR: Electronic medical record

GIS: Guaranteed Income Supplement

ISHP: Income security health promoter

OAS: Old Age Security

ODSP: Ontario Disability Support Program

OW: Ontario Works

FHT: St. Michael's Hospital Academic Family Health Team

WSIB: Workers Safety and Insurance Board

Table 1. Characteristics of patients referred to the Income Security Health Promotion service

		Seen by the service (n=181)	**Referred to the service but not seen (n=69)**	
Patient characteristics		**n (%) or mean (95% CI)**	**n (%) or mean (95% CI)**	**P-value**
Age		47.6 (45.4-49.8)	45.8 (41.7-50.0)	0.43
Gender	Female	96 (53%)	34 (49%)	0.77
	Male	78 (43%)	33 (48%)	
	Transgender^	7 (4%)	2 (3%)	
Homeless		13 (7%)	7 (10%)	0.44
Number of medical problems		4.7 (4.3-5.2)	5.0 (4.2-5.9)	0.49
Number of medications		6.4 (5.7-7.2)	6.1 (4.9-7.3)	0.61
Referral form present		119 (66%)	58 (84%)	**<0.01**
Information provided on the referral form		**(n=119)**	**(n=58)**	
Source of income*	Hourly wage	14 (12%)	12 (21%)	0.11
	Salary	15 (13%)	5 (9%)	0.43
	Social assistance	55 (46%)	28 (48%)	0.80
	Pension	9 (8%)	4 (7%)	0.87

	Workers compensation	1 (0.8%)	0 (0%)	-
	Employment insurance	9 (7%)	3 (5%)	-
	Other	26 (22%)	15 (26%)	0.55
Patient needs help with…*	…increasing income	102 (86%)	52 (90%)	0.46
	…reducing expenses	47 (40%)	29 (50%)	0.19
	…financial literacy	36 (30%)	27 (47%)	**0.03**
Interpreter required		4 (3%)	2 (3%)	-
Literacy concerns		14 (12%)	7 (12%)	0.95
Connected to community resources		26 (22%)	11 (19%)	0.66
Spends a significant portion of income on medications		10 (8%)	8 (14%)	0.27
Barriers to accessing health promotion service		24 (20%)	13 (22%)	0.73
Urgent referral		31 (26%)	18 (31%)	0.49

*does not equal 100% because more than one option allowed; ^includes male-to-female and female-to male transgender patients; **bold-face** indicates significance at the 95% confidence level

Table 2. Details of patient encounters with the Income Security Health Promotion service

		n (%) or mean (95% CI)
Length of time for encounter (n=142)		66 min (61-71 min)
Type of encounter (n=181)	One-on-one in office	130 (71%)
	Phone assessment	79 (44%)
	One-on-one in community	6 (3%)
	Liaising with community workers	6 (3%)
Monthly income ($ CAD) (n=164)		$1,301.90 ($912.95-$1,690.85)
Number of people supported (n=159)		1.53 (1.35-1.71)
Monthly income per person ($ CAD) (n=144)		$906.74 ($744.16-$1,069.32)
Inappropriate referral to health promoter		3 (2%)
Main problems addressed in encounter (n=181)		
Increasing income*	Any income problem	140 (77%)
	Ontario Works (OW- welfare)	49 (27%)
	Ontario Disability Support Program (ODSP)	65 (36%)
	Employment Insurance (EI)/EI sick benefits	21 (12%)
	Workers Safety Insurance Board	3 (2%)

	Canada Pension Plan (CPP)/CPP disability	25 (14%)
	Old Age Security (OAS)/Guaranteed Income Supplement (GIS)	10 (5%)
	Child care benefits	6 (3%)
	Loans	2 (1%)
	Gaining employment	15 (8%)
	Education/completion education	8 (4%)
	Training or re-training	17 (9%)
	Filing taxes	50 (28%)
	Disability tax credit	4 (2%)
Reducing expenses*	Any expense problem	106 (59%)
	Housing	49 (27%)
	Medications or medical supplies	21 (12%)
	Transportation	17 (9%)
	Food	28 (15%)
	Clothing	10 (5%)
	Furniture & household supplies	7 (4%)
	Child care	8 (4%)
	Other goods/services	30 (17%)
Financial literacy*	Any financial literacy problem	48 (26%)
	Banking	12 (7%)
	Saving and retirement planning	11 (6%)

Budgeting	26 (14%)
Referral for credit counselling	9 (5%)
Avoiding fraud	7 (4%)
Bankruptcy	11 (6%)
Debt restructuring and management	11 (6%)

*does not sum to 100% as more than one option could be selected

Table 3. Action plans developed by the Income Security Health Promotion service

Action Plan Details (n=181)		**n (%)**
Action plan for ISHP*	Any actions required by health promoter	143 (79%)
	Provide patient with resources/handouts	69 (38%)
	Consult with external organization	60 (33%)
	Gather additional information	45 (25%)
	Advocate for patient to external organization	48 (26%)
	Plan for accompanying patient	6 (3%)
	Form completion/review/assistance	47 (26%)
	Refer internally to family health team	16 (9%)
	Refer externally	33 (18%)
	Other	14 (8%)
Action plan for patient*	Any action for patient	119 (66%)
	Gather supporting documents	58 (32%)
	Contact external organization	57 (31%)
	Review materials provided	19 (10%)
	Other	38 (21%)
Plan for follow-up		105 (58%)
Discharged		34 (19%)

*does not sum to 100% as more than one option could be selected

Competing interests statement

All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf and declare: no support from any organisation for the submitted work; no financial relationships with any organisations that might have an interest in the submitted work in the previous three years; no other relationships or activities that could appear to have influenced the submitted work

Ethics approval

This study has been approved by the St. Michael's Hospital Research Ethics Board (14-415).

Contributorship statement

Marcella K. Jones assisted with the design of the study, collected the data, analyzed it and helped with drafting and editing the manuscript. Gary Bloch assisted with the design of the study and preparation of the manuscript. Andrew D. Pinto led the design of the study, assisted with the collection and analysis of data and helped with drafting and editing the manuscript.

Data sharing statement

No additional data are available.

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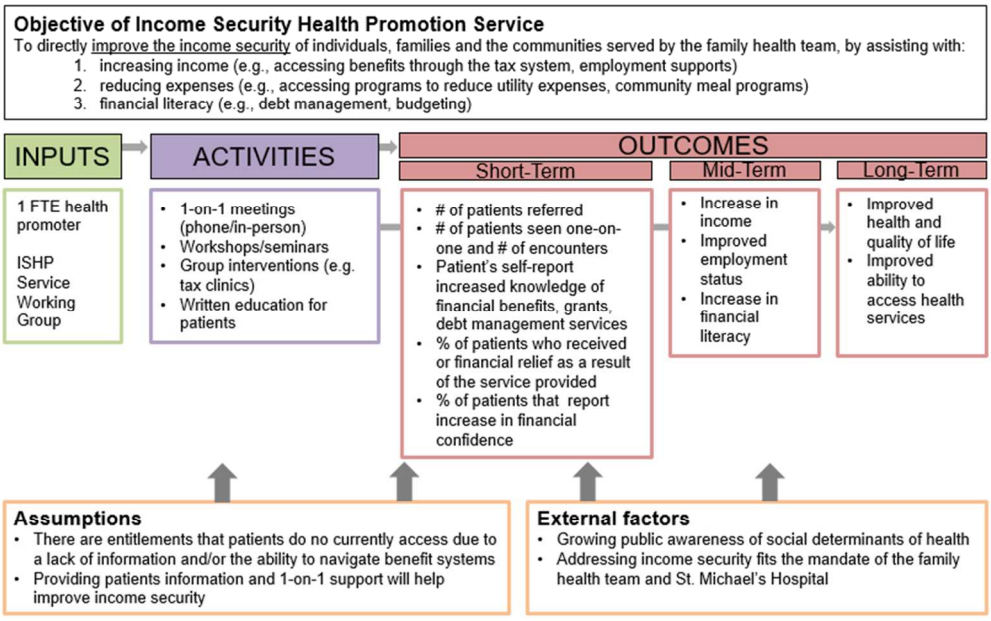

Abbreviated program logic model for the Income Security Health Promotion Service.