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## How Equity-Oriented Health Care Affects Health: Key Mechanisms and Implications for Primary Health Care Practice and Policy

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*Original Scholarship*

## How Equity-Oriented Health Care Affects Health: Key Mechanisms and Implications for Primary Health Care Practice and Policy

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### Policy Points:

- A consensus regarding the need to orient health systems to address inequities is emerging, with much of this discussion targeting population health interventions and indicators. We know less about applying these approaches to primary health care.

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- This study empirically demonstrates that providing more equity-oriented health care (EOHC) in primary health care, including trauma- and violence-informed, culturally safe, and contextually tailored care, predicts improved health outcomes across time for people living in marginalizing conditions. This is achieved by enhancing patients' comfort and confidence in their care and their own confidence in preventing and managing health problems.
- This promising new evidence suggests that equity-oriented interventions at the point of care can begin to shift inequities in health outcomes for those with the greatest need.

**Context:** Significant attention has been directed toward addressing health inequities at the population health and systems levels, yet little progress has been made in identifying approaches to reduce health inequities through clinical care, particularly in a primary health care context. Although the provision of equity-oriented health care (EOHC) is widely assumed to lead to improvements in patients' health outcomes, little empirical evidence supports this claim. To remedy this, we tested whether more EOHC predicts more positive patient health outcomes and identified selected mediators of this relationship.

**Methods:** Our analysis uses longitudinal data from 395 patients recruited from 4 primary health care clinics serving people living in marginalizing conditions. The participants completed 4 structured interviews composed of self-report measures and survey questions over a 2-year period. Using path analysis techniques, we tested a hypothesized model of the process through which patients' perceptions of EOHC led to improvements in self-reported health outcomes (quality of life, chronic pain disability, and posttraumatic stress [PTSD] and depressive symptoms), including particular covariates of health outcomes (age, gender, financial strain, experiences of discrimination).

**Findings:** Over a 24-month period, higher levels of EOHC predicted greater patient comfort and confidence in the health care patients received, leading to increased confidence to prevent and manage their health problems, which, in turn, improved health outcomes (depressive symptoms, PTSD symptoms, chronic pain, and quality of life). In addition, financial strain and experiences of discrimination had significant negative effects on all health outcomes.

**Conclusions:** This study is among the first to demonstrate empirically that providing more EOHC predicts better patient health outcomes over time. At a policy level, this research supports investments in equity-focused organizational and provider-level processes in primary health care as a means of improving patients' health, particularly for those living in marginalizing

conditions. Whether these results are robust in different patient groups and across a broader range of health care contexts requires further study.

**Keywords:** health equity, cohort studies, models (theoretical), social determinants of health, primary health care, quality of care, primary care.

**H**EALTH INEQUITIES ARE UNJUST AND AVOIDABLE differences in health and well-being between and within groups of people.<sup>1,2(p266)</sup> These inequities are evident in mortality and morbidity outcomes at individual and population levels,<sup>3,4</sup> including chronic illnesses and disability, with important implications for individual quality of life and health system costs.<sup>5,6</sup> Promoting health equity is both a social justice and a practical issue that requires not only addressing the immediate health needs of individuals, communities, and populations but also tackling current and historical injustices manifested in underlying social structures, systems, and policies—the root causes of inequities.<sup>7-10</sup>

Health inequities are increasing worldwide,<sup>10-13</sup> including in Canada, despite a strong social safety net and a publicly funded health system that provides access to some core medical and nursing care.<sup>14,15</sup> While some attention has been given to addressing health inequities at systems levels, particularly within population and/or public health contexts,<sup>7,9,10</sup> efforts to define and measure the characteristics and assess the implications of equity-oriented health care (EOHC) for health care providers, organizations, and patients are limited. Importantly, although the provision of EOHC is widely assumed to lead to improvements in patient outcomes, research supporting this claim is lacking.<sup>9,16</sup>

In the absence of evidence about the impacts of EOHC on health outcomes, decision makers may be less inclined to take up health equity-promoting interventions, particularly those that may be costly and/or disruptive to implement.<sup>17</sup> In this article, we examine the relationship between patients' perceptions of EOHC and selected patient-reported health outcomes by testing a theoretical model informed by current theory and evidence. Using longitudinal data from 395 patients drawn from a cohort of 567 patients recruited from 4 primary health care clinics in Canada, our analysis is a first step in identifying the direct and indirect relationships between EOHC and patient health outcomes over time and, specifically, identifying selected mediators of this process.

## Primary Health Care and Health Inequities

Primary health care has been identified as a key site for population health interventions that address the social determinants of health with the intention of decreasing inequities.<sup>18,19</sup> There have been recent calls for revitalizing primary health care globally using various strategies such as restructuring systems to emphasize prevention; implementing needs-based allocation of resources for care that is accessible and publicly funded; encouraging multisectoral collaboration and action to influence the social determinants of health; and routine monitoring of health inequities.<sup>7,20</sup> These recommendations address systems-level changes that could provide a critical foundation for reducing the impacts of structural conditions and barriers linked to inequities. These recommendations, however, offer only limited guidance or support for primary health care organizations and for health care providers who interact with patients to address inequities at the point of care. As reiterated in the recent Institute for Healthcare Improvement (IHI) Report,<sup>10</sup> although health care organizations alone do not have the power to affect the multiple determinants of health, they do have a responsibility to address health inequities directly during clinical interactions in order to improve patients' health and quality of life. Newman and colleagues<sup>21</sup> argue that approaches that integrate attention to individual-level change to reduce health inequities concurrently with those that address the impacts of higher-order structural conditions show considerable promise in reducing health inequities.

We now have abundant evidence that compared with the general population, people who live in marginalizing conditions are at increased risk of a wide range of acute and chronic health problems.<sup>22,23</sup> We use the term "marginalizing conditions" here to draw attention to the social, political, and economic conditions contributing to health and health care inequities and to resist the tendency to define marginalization as a characteristic of individuals or groups rather than the conditions in which they live. For example, mental health issues such as anxiety, depression, and substance use, along with experiences of trauma (including interpersonal, community, and past violence), are more prevalent in populations experiencing socioeconomic disadvantage<sup>24</sup> and these differences arise through multiple mechanisms, including chronic stress,

environmental risks, and discrimination.<sup>25</sup> Chronic pain, for example, is often experienced as concurrent for those with histories of violence and mental health issues.<sup>26-29</sup> In primary health care settings, these health issues often intersect to shape people's overall health and quality of life.<sup>30,31</sup> At the same time, even in high-income countries, people living with both social inequities and poor health have the least access to care, and are more likely to experience underresourced and fragmented services.<sup>32</sup>

There is also consistent evidence that people who experience health and social inequities are more likely to report both negative experiences of health care, including stigma and various types of discrimination, and a poor fit between services that are offered and their needs.<sup>10</sup> Furthermore, negative health care experiences have been linked to delays in seeking care in varied populations, including people experiencing homelessness or poverty;<sup>33</sup> people living with mental illness<sup>34</sup> or chronic illness;<sup>35</sup> those with histories of violence or trauma;<sup>36</sup> and those identifying as lesbian, gay, bisexual, transgender,<sup>37,38</sup> or Indigenous.<sup>39,40</sup> There is an urgent need to develop and test the impacts of primary health care approaches that explicitly attend to issues of equity and to identify the mechanisms by which such care may improve health and quality of life and potentially reduce health inequities. Understanding the pathways leading from more EOHC to better patient health outcomes may yield important insights about equity-oriented process indicators that could be used to monitor quality of care.

## **Conceptualizing Equity-Oriented Health Care (EOHC)**

Building on and extending the notion of patient-centered care, we define EOHC as “an approach that aims to reduce the effects of structural inequities (such as poverty), including the inequitable distribution of the determinants of health (e.g., income and housing) that sustain health inequities; the impact of multiple and intersecting forms of racism, discrimination, and stigma (e.g., related to mental illness, chronic illnesses, non-conforming gender and sexual identities, etc.) on people's access to services and their experiences of care; and the frequent mismatches between dominant approaches to care (e.g., an emphasis on scheduled appointments versus same day or drop in appointments to accommodate

patients' needs) and the needs of people who are most affected by health and social inequities."<sup>41</sup> This conceptualization of EOHC is consistent with current understandings of health equity<sup>9,10,16</sup> and draws explicitly on our team's previous research describing the key dimensions of equity-oriented primary health care services that are particularly relevant when providing care to populations affected by health and social inequities. These overlapping key dimensions have been described elsewhere.<sup>40-42</sup> We summarize them here with some examples to illustrate how they extend more conventional concepts:

- *Trauma- and Violence-Informed Care (TVIC)* extends beyond trauma-informed practice to explicitly acknowledge and address the intersection and cumulative effects of interpersonal (eg, child maltreatment, intimate partner violence) and structural (eg, poverty, racism) forms of violence on people's lives and health.<sup>43</sup>
- *Culturally Safe Care (CSC)* moves beyond culturally sensitive approaches to explicitly address inequitable power relations, racism, discrimination, and ongoing effects of historical and current inequities within health care encounters.<sup>40</sup>
- *Contextually Tailored Care (CTC)* expands the individually focused concept of patient-centered care to include offering services tailored to the specific health care organization, the populations served, and the local and wider social contexts.

Fundamentally, EOHC is about creating safe and respectful environments while tailoring health care to fit the needs, priorities, history, and contexts of individual patients and populations served. Both individual health care providers and the organizations in which they work are responsible for delivering EOHC. Health care providers must adopt ways of providing care that are consistent with the key dimensions just described and health care organizations also are responsible for developing structures, systems, and policies to enable this care.<sup>42,44</sup> At the point of care, health care providers can use a variety of strategies to implement these key dimensions (see Table 1) and enact these strategies in many different ways.

There is some overlap among EOHC and more mainstream concepts, including recovery-oriented practice<sup>45</sup> and patient-centered care (PCC), although EOHC and PCC have different theoretical roots and aims. A narrative review and synthesis of the empirical, descriptive, and discursive literature regarding PCC show that despite having



**Table 1. Examples of Strategies for Enacting Equity-Oriented Health Care**

Key Dimension	Examples of Strategies for Enactment in Practice
Trauma- and Violence-Informed Care	<p>Develop awareness of the high prevalence of trauma and violence in patient populations and the impacts on physical and mental health.</p> <p>Create care spaces and interactions that are physically, emotionally, and culturally safe.</p> <p>Create opportunities for patient choice and control such as asking permission before touching and making requests, not commands.</p> <p>Convey openness to talking about sensitive issues such as mental health problems, substance use, and experiences of violence.</p> <p>Acknowledge all patient concerns as legitimate, even in the absence of observable clinical findings.</p>
Culturally Safe Care	<p>Build staff awareness of the impact of discrimination, stereotyping, and stigma on patients' health and access to health care.</p> <p>Develop strategies for actively counteracting such processes such as ensuring that the clinical environment is welcoming, inviting, and comfortable for patients; display welcoming signs in as many local languages as possible.</p> <p>Recognize that patients who are at the greatest risk of experiencing health and social inequities may be affected the most by power inequities. Therefore, develop ways of ensuring that all patients are treated with courtesy and respect.</p> <p>Seek and integrate feedback from patients about their experiences of care in continuous quality-improvement processes.</p>
Contextually Tailored Care	<p>Within policy and funding constraints, prioritize services that specifically address the local population's demographics and needs.</p> <p>Routinely inquire about access to the determinants of health such as food, shelter, clothing, and the impact of financial strain.</p> <p>Offer practical assistance to reduce barriers to accessing health and social services or other resources.</p> <p>Offer health-promoting recommendations and strategies that are appropriate to the social contexts of patients' lives such as those that are affordable and feasible.</p>

no single definition, 3 common themes are (1) patient participation and involvement, (2) the relationship between the patient and the health care professional, and (3) the context in which the care is delivered.<sup>46</sup> PCC aims to heighten providers' attention to the importance of understanding the perceived needs and priorities of individual patients in order to guide clinical decisions.<sup>47,48</sup> However, PCC also can be narrowly conceptualized as moving from generalized care to person-specific care of an individual with a disease or condition. PCC generally uses a consumer approach to health care aimed at improving patient satisfaction, although the patient's and provider's perceptions of quality care may differ widely, leading to calls to evaluate the effects of interventions targeting patient experience on patient outcomes.<sup>49</sup>

In contrast, EOHC begins with an explicit focus on mitigating the power imbalances, systemic barriers, and dismissive attitudes that people living in marginalizing conditions often encounter when interacting with the health care sector, and it offers health care providers and leaders concrete strategies to enhance an *organization's* capacity to provide EOHC.<sup>42</sup> Ultimately, EOHC is founded on the assumption that compared with the general population, those who face the greatest inequities need more and different types of support to reduce the impacts of the systematic barriers and inequities they experience. Thus, EOHC advocates tailoring to inequities in the specific populations served so that patient care is centered *in the context* of the individual's life circumstances, the provider-patient relationship, the specific organization, and the wider society.

## Effects of Equity-Oriented Health Care on Patient Health

As an emerging concept, there is limited evidence that providing EOHC (or any of its key dimensions) leads to improvements in patient health, although there is some support for positive relationships between concepts that are similar to EOHC and patient outcomes. Specifically, the results of a systematic review of studies examining PCC and health outcomes<sup>47</sup> were mixed, with some studies supporting significant relationships between specific elements of PCC and some outcomes (ie, patient satisfaction and self-management) but other studies finding no

relationships. There is little evidence that PCC is related to clinical outcomes.<sup>47,50,51</sup> A number of researchers have suggested that PCC does not directly affect patient health outcomes but works indirectly through other factors, particularly positive perceptions or satisfaction with care.<sup>48,52</sup> However, the processes linking PCC with health outcomes are poorly understood. Research is needed to identify mediators and moderators of this relationship.<sup>47</sup> These gaps also exist with respect to understanding how EOHC shapes health outcomes. Similarly, despite the growing number of calls for and enactment of cultural safety and trauma- and violence-informed care, there is limited evidence of their impacts on health outcomes.<sup>40,53-55</sup>

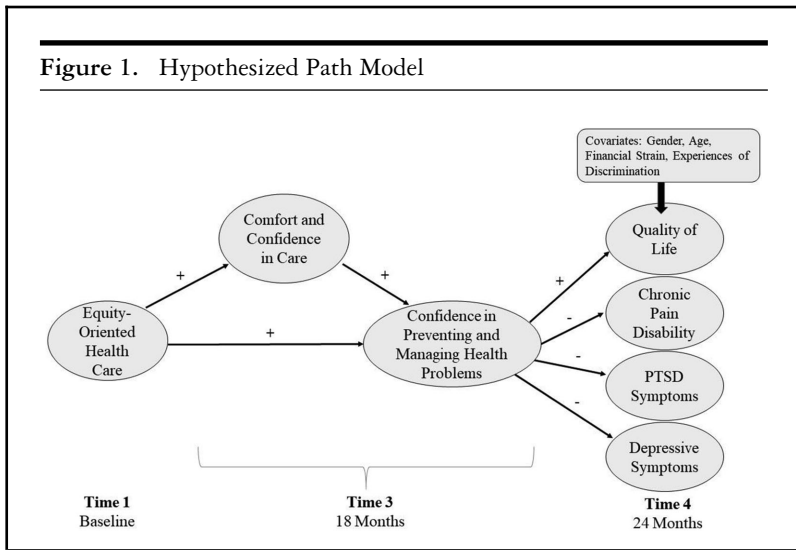
## Equity-Oriented Health Care and Patients' Perceptions of Care

Given that EOHC emphasizes creating a safe and respectful environment, with care tailored to be optimally relevant to the context of people's lives, we would expect patients to experience that care as *supportive* and *appropriate* to their needs, leading to greater *comfort* in seeking care and *confidence* that the care they receive will be helpful to them. In a primary care study, Stewart and colleagues found that patients' perceptions that their physicians "found common ground" with them was strongly associated with key outcomes such as mental health and recovery from illness.<sup>52</sup> There is substantial evidence that trust in the provider, a related concept, is an important predictor of patients' engagement in health care over time.<sup>56,57</sup> However, no studies have empirically examined whether patients' experiences of EOHC are characterized by a sense of comfort, trust, or confidence in their providers. As we stated earlier, there is extensive evidence that people at the greatest risk of experiencing health and social inequities often experience dismissal, stigma, and discrimination in health care encounters and that care that actively aims to counteract these processes can have a positive impact. Receiving care from providers who attempt to tailor care to patients' social circumstances or to counteract the potential harms of interacting with the health care system may help create a sense of mutual respect and trust that can be a foundation for engaging with health care over time. However, these kinds of mechanisms and processes have not been adequately studied.<sup>10,58</sup>

As comfort and confidence in the care received increase, patients may gain confidence in their capacity to manage their own health issues and priorities. This is closely linked to self-efficacy,<sup>59</sup> a consistent predictor of engaging in health behavior that is shaped by opportunities for performance, modeling, and encouragement from others and is ameliorated by emotional arousal such as anxiety or discomfort.<sup>60-62</sup> EOHC may help shape patients' self-efficacy and, consequently, their actions to improve their health. "Agency," defined as individuals' capacity to exercise their power, may be constrained by social structures, yet individual actors may also shape their social contexts through acts of resistance.<sup>63-65</sup> Thus, all people exercise agency, even in the face of significant social inequities. While health care alone cannot erase the harm of inequities on people's health and the quality of their lives, Metzler and Hansen argue that "structural competency"—an awareness of how social, political, and economic structures may affect clinical interactions and an ability to envision and implement structural interventions—should be integrated into health professional education and practice as foundational to reducing health inequities.<sup>66</sup> EOHC is an approach that fits within these recommendations, whose effects need to be systematically tested.

## Theoretical Model

Based on a review of the literature and our theoretical understanding of EOHC, we developed a path model to examine whether experiencing more EOHC improves patients' self-reported mental and physical health, as well as the process that explains such effects (Figure 1). The hypothesized relationships among the variables included in the model are represented by arrows. *Equity-oriented health care* is proposed to improve patients' *health outcomes* (*quality of life, chronic pain disability, posttraumatic stress disorder (PTSD) symptoms, and depressive symptoms*) by enhancing patients' perceptions of *comfort and confidence in care*, leading to greater *confidence in preventing and managing health problems*. The health outcomes included in this model are among the most common and disabling for people who have experienced trauma, violence, and social inequities.<sup>27,30,31</sup> Selected variables were also included as covariates of health outcomes: *age* and *gender* as demographic characteristics related to health outcomes, and *financial strain* and *experiences of discrimination*,



particularly powerful structural factors that negatively affect the health of people living with social inequities.<sup>3,15,22</sup>

Given that health outcomes are shaped by a complex set of factors, we did not hypothesize that EOHC would affect health outcomes directly. Rather, we sought to explain the pathways between the level of EOHC and patients' health in ways that accounted for patients' experiences of care, how these experiences shaped their capacity for dealing with often substantial health problems, and the role of selected factors outside the clinical encounter in determining health. If they could be identified as mediators, these intermediate steps in the pathway from EOHC to health outcomes could provide important markers for monitoring short-term gains made within health care settings through the provision of EOHC.

## Method

### *Design*

We conducted a longitudinal study to examine perceptions of health care experiences and self-rated mental and physical health among patients accessing primary health care in 2 Canadian provinces over a 2-year period. We asked patients to complete structured interviews composed of

self-report measures and survey questions at 4 points in time (baseline, 12, 18, and 24 months later) to measure their perceptions of the care they received in the clinic settings, their comfort with and confidence in providers and services, and specific self-reported health outcomes. These data from patients were collected as part of a larger multiple-case study exploring the process and impacts of an organizational health equity intervention (EQUIP Healthcare) on staff as well as the organizational capacity to implement equity-oriented care.<sup>42</sup> The EQUIP intervention included a combination of staff education and a facilitated organizational change project but did not include any direct intervention with patients. The EQUIP intervention and its effects on staff and organizations are described elsewhere.<sup>41,42</sup> Although this article does not evaluate that intervention, it uses the patients' data to test a theoretical model regarding the relationships between the patients' perceptions of the extent to which the care they received was equity-oriented and selected health outcomes.

### *Sample and Setting*

In the larger study, a cohort of 567 patients was recruited from 4 primary health care clinics, each of which had a mandate to serve people living in marginalizing conditions. For the analysis presented here, we used data from a subsample of 395 patients who provided data at the final data-collection time point. The clinic sites were located in rural, remote, and urban settings in 2 Canadian provinces (British Columbia and Ontario) and served a combined population of 12,000 patients. Consistent with Canada's publicly funded health care delivery model, these clinics provide a range of health services free of cost to patients, both in the clinics and on an outreach basis. At each site, health services are offered by an interdisciplinary team of health care providers that include various combinations of physicians, nurses and nurse practitioners, social workers, dietitians, counselors, pharmacists, and, in one clinic, access to Indigenous Elders.<sup>42</sup>

Patients were eligible to participate in this study if they were adults (18 years of age or older), were able to understand and speak English, had made at least 3 visits to one of the clinics in the previous 12 months, and intended to continue accessing services at the clinic for the 2 years following their recruitment. Our goal was to recruit a sample of patients who had some connection with the clinic, both so that they would have formed an opinion about their health care experiences and as a strategy,

given the high mobility of many patients served by these clinics, to minimize attrition over time.

All patients who met the inclusion criteria and came to the clinic to access services on purposively selected days were invited to participate. To enhance representativeness, both those patients who had appointments and those who dropped into the clinic for other reasons were invited to take part. Information about the study was posted in the reception and health care areas in each clinic approximately one month before recruitment began. Administrative staff at each clinic provided information to patients who presented for care and directed those who were interested in learning more about the study to speak to a research assistant (RA) located in the clinic's reception area. The RA provided a verbal description of the study to those who were interested, screened them for eligibility, invited eligible patients to take part, and obtained their informed written consent. Those who were ineligible were thanked for their interest in the study.

### *Measurement*

We used 7 self-report scales to measure the variables included in the model. In each case, higher scores reflect higher levels of the concepts being measured. Single items were used to capture selected covariates included in the model.

*Equity-oriented health care* was measured using the Equity-Oriented Health Care Scale (E-HoCS), a 12-item self-report index developed from item response theory using data from the full EQUIP patient cohort (M. Ford-Gilboe, unpublished data, 2018). Initially, we developed items to tap aspects of EOHC amenable to patients' self-reports and then refined them using cognitive interviews with a sample of patients. We asked the patients to rate how often in the previous 12 months their health care providers had engaged in each of 12 actions on a 5-point scale ranging from "never" to "always." Sample items include "try to make you feel as comfortable as possible"; "seem open to talking about sensitive issues such as grief, mental health problems, substance use, or abuse experiences"; "ask you about basic resources that affect your health, such as food, clothing, or shelter"; "help you work on any barriers you have to accessing health care"; "give you advice that is suitable for your everyday life"; "have a negative attitude toward you because of mental health concerns." The E-HoCS total score is a count of the number of

items rated by patients as “always” occurring (for 10 positively worded items) and “never” occurring (for 2 negatively worded items), with a range of 0 to 12. Scores on the E-HoCS reflect the degree or level of equity-oriented health care, from lower to higher.

*Comfort and confidence in care* was measured using a 7-item scale developed for this study made up of items drawn from existing surveys<sup>67</sup> and those developed for this study. We asked the participants to rate their experience of care at the clinic in the previous 6 months on a 5-point scale, and then we averaged their responses to create a mean score (range 1 to 5), in which higher scores indicate more positive perceptions of care. The 7 items tapped into different aspects of comfort and confidence in care: comfort talking with providers about personal problems or concerns (2 items); having enough time with the health care provider (1 item); confidence in the health care provider (2 items); fit of care provided with patient needs (1 item); and overall rating of care received (1 item). Cronbach’s alpha for this scale was .88.

*Confidence in preventing and managing health problems* was measured using 2 items developed for this study based on recommendations for the development of self-efficacy scales.<sup>68</sup> We asked the patients to respond to 2 questions (“How certain are you that you can manage your health problems?” “How certain are you that you can take steps to prevent problems with your health?”) on a scale that ranged from 0 (cannot do) to 10 (highly certain can do). The mean score of these responses (range 0 to 10) was used in this analysis. Cronbach’s alpha in this sample was .79.

*Quality of life* was measured using the European Health Interview Survey-Quality of Life (EUROHIS-QOL) 8-item index.<sup>69,70</sup> The scale includes items measuring past 2-week overall quality of life, general health, energy, daily life activities, esteem, relationships, finances, and home, drawn from the original World Health Organization Quality of Life (WHOQOL-BREF) assessment.<sup>71</sup> The EUROHIS has demonstrated reliability and validity across a variety of countries, has acceptable convergence with physical and mental health measures, and discriminates well between healthy individuals and those with chronic conditions.<sup>69</sup> Each item uses a 5-point response scale, with the total summed score for all items divided by 8 to reach a final score ranging from 1 to 5. Sample items are “How satisfied are you with the conditions of your living place?” and “Do you have enough energy for everyday life?” Cronbach’s alpha in this sample was .83.



We measured *chronic pain disability* using 3 items that tapped pain disability in the past 6 months drawn from von Korff's 7-item chronic pain scale (CPS).<sup>72</sup> We asked the patients to rate, on scales ranging from 0 to 10, the extent to which pain interfered with their daily activities (0 = no interference, 10 = completely interfered), changes in ability to take part in activities due to pain (0 = no change, 10 = extreme change), and changes in ability to work due to pain (0 = no change, 10 = extreme change). Using standard scoring, we computed the score for pain disability (range 0 to 100) by multiplying the mean of the 3 disability items by 10. The chronic pain grade (CPG) scale has demonstrated strong reliability and validity among primary care patients<sup>72</sup> in the general population<sup>73</sup> and among women who have experienced intimate partner violence.<sup>74,75</sup> Cronbach's alpha for the pain disability score in this study was .91.

We measured *PTSD symptoms* using the PTSD checklist, Civilian Version (PCL-C).<sup>76,77</sup> The PCL-C is a 17-item self-report measure designed for use in community samples to assess the probability of meeting DSM-IV diagnostic criteria for PTSD. The PCL-C asks patients to rate how bothered they have been by each symptom of stress over the past month using a 5-point Likert-type scale, ranging from 1 (not at all) to 5 (extremely). The total summed scores ranged from 17 to 85, with higher scores indicative of greater symptomatology. The PCL-C has demonstrated validity and excellent internal consistency reliability in many different populations.<sup>78</sup> Cronbach's alpha in this study was .94.

We measured *depressive symptoms* according to the Center for Epidemiologic Studies Depression Scale, Revised (CESD-R).<sup>79</sup> The CESD-R is a 20-item self-report measure of symptoms reflective of the DSM-IV criteria for depression. We asked the patients to rate how often they had experienced each symptom in the past 2 weeks using 5 options ranging from "not at all or less than 1 day" (0) to "nearly every day for 2 weeks" (4). The total scores were computed by summing the responses to applicable items (range 0 to 60). The CESD-R correlates highly with the original scale and demonstrates good to excellent face and construct validity, as well as excellent internal consistency ( $\alpha = .90-.96$ ).<sup>79,80</sup> Cronbach's alpha in this study was .94.

For *model covariates* we measured *age* by a single self-report item, and we also measured *gender* by self-report where "female" was coded as 1 and "male" or "transgender" was coded as 0. To measure *experiences*

of *discrimination*, we used a question adapted from the Recent Everyday Racial/Ethnic Discrimination Module Field Test.<sup>81</sup> Patients were asked, “In the past 6 months, have you ever felt discriminated against in your daily life (outside of this clinic)?” with response options of “never,” “sometimes,” and “often,” which were recoded to a dichotomous variable (never = 0, sometimes or often = 1) for analysis. Finally, we measured *financial strain* using the Financial Strain Index,<sup>82</sup> a 14-item summated rating scale that has demonstrated reliability and validity across varied populations. Participants were asked to rate the difficulty they had in meeting their financial commitments in 14 areas (eg, housing, transportation, debt repayment) on a 5-point scale ranging from 0 (very difficult) to 4 (not at all difficult). The total score was computed by reverse scoring and summing responses to all items (range 0 to 56), with higher scores reflecting greater financial strain.

### *Data Collection, Honoraria, and Ethics Approval*

Each participant was invited to complete 4 structured interviews, lasting from 30 to 75 minutes, at baseline and approximately 12, 18, and 24 months later. The investigators and trained research assistants conducted the interviews in a private room at the clinic, using standard protocols developed to promote safe participation, comfort, and retention. For example, interviews were conducted at a pace directed by the patient, and the staff routinely checked in to ensure that the patient was comfortable and offered breaks, snacks, and drinks. Honoraria (\$20, \$25, \$30, and \$35 for interviews 1 through 4, respectively) were provided at the beginning of each interview to minimize coercion to “complete” the interview in order to receive the “payment” and to acknowledge the time and effort required to complete the interviews. In view of the high prevalence of violence and trauma experienced by patients in these settings, we held a structured debriefing<sup>83,84</sup> at the end of all interviews to review signs of a stress response and actions that could be taken if the patient felt they needed support or assistance following the interview’s completion. The Research Ethics Boards of the University of British Columbia (Protocol # H12-02994), the University of Western Ontario (Protocol # 103357), and the University of Victoria (Protocol # J2012-92) gave their ethical approval of the project, and each clinic’s leaders oversaw the approval processes at their site.

## Data Analysis

We summarized all the variables using descriptive statistics appropriate to the level of measurement. The sample of 395 people used in this analysis includes those from the full sample ( $n = 567$ ) who provided data at Time 4. Baseline differences in demographic and outcome variables between those included in ( $n = 395$ ) and excluded from ( $n = 172$ ) the analysis were tested with chi-square and t-tests. No differences were found.

A minimal amount of data were missing, with 9.6% of the sample missing 1 variable and 8.9% missing 2 or more variables. The missing data on age ( $n = 9$ ) were replaced with the sample mean age. The missing data on the Time 3 variables of *experiences of discrimination* ( $n = 31$ ), *financial strain* ( $n = 36$ ), *comfort and confidence in care* ( $n = 61$ ), and *confidence in preventing and managing health problems* ( $n = 34$ ) were replaced with either the mean of the person's scores at Times 2 and 4 or the value at Time 2 or 4 if only one was available.

We used path analysis to test the theoretical model using STATA v.14. Path analysis tests all hypothesized relationships simultaneously. This is preferred to a regression approach, which estimates each path in the model separately and can lead to an inflated error rate. *Equity-oriented health care (EOHC)* was measured at baseline and is a proxy for "usual care" in these clinics, as it reflects patients' perceptions of the health care received in the 6 months before starting this study. *Comfort and confidence in care* and *confidence in preventing and managing health problems* were measured at Time 3 (18 months after baseline), and the *health outcomes (quality of life, chronic pain disability, PTSD symptoms, depressive symptoms)* at Time 4 (24 months after baseline). The model allowed the outcomes at Time 4 to be correlated. *Gender* and *age* (measured at Time 1) and *financial strain* and *experiences of discrimination* (measured at Time 3) were also included as covariates for each health outcome.

## Results

Table 2 shows the sample's demographic characteristics, along with selected Canadian national and/or provincial population estimates to enable comparisons. The mean age of patients was 45.8 years (range 18 to 94,  $SD = 14.6$ ). Nearly 60% were female and about half ( $n = 197$ , 49.2%) reported being in a relationship with a partner.

Table 2. Demographic Characteristics of the Sample (N = 395)

Characteristic	Sample Characteristics		Population Comparison %
	n	%	
Gender:	395		
Male	160	40.5	49% <sup>85</sup>
Female	233	59.0	51% <sup>85</sup>
Transgender	2	0.5	
Aboriginal Identity:	391		
Yes	163	41.7	4.4% <sup>86</sup>
No	228	58.3	
Employment Status:	379		
Employed <sup>a</sup>	74	19.5	60.9% <sup>87</sup>
Unemployed	234	61.7	7.8% <sup>87</sup>
Other <sup>b</sup>	71	18.7	
Highest Educational Level Completed:	386		
Less than high school	164	42.5	12.7% <sup>88</sup>
Completed high school	60	15.8	23.2%
College certificate or diploma	127	32.9	38.3%
University degree	35	9.1	25.9%
Receiving Social Assistance:	116	29.4	Ontario <sup>c</sup> 3.6% <sup>89</sup>
			BC <sup>d</sup> 1.2% <sup>89</sup>

*Continued*

Table 2. Continued

Characteristic	Sample Characteristics		Population Comparison %
	n	%	
Receiving Disability Assistance:	153	38.7	Ontario 2.2% <sup>89</sup> BC 2.0% <sup>89</sup>
Difficulty Living on Total Household Income <sup>e</sup> :	388		Prevalence of low income in adults 18 to 64: 14.4% <sup>92</sup>
Very difficult	136	35.1	
Somewhat difficult	132	34.0	
Not very difficult	72	18.6	
Not at all difficult	48	12.4	
Shelter Use (past 12 months) <sup>f</sup> :	384		
Yes	67	17.4	0.08% <sup>f,90</sup>
No	317	82.6	

<sup>a</sup>Employed status refers to individuals working full or part time, as well as those doing seasonal work.

<sup>b</sup>The majority of responses in this category are retired, receiving assistance, stay-at-home mom, student, and occasional cash work.

<sup>c</sup>Calculation based on Ontario's population in 2011: 12,851,821 ([https://www12.statcan.gc.ca/census-recensement/2011/as-sa/fogs-spg/Facts-pr-eng.cfm?Lang=](https://www12.statcan.gc.ca/census-recensement/2011/as-sa/fogs-spg/Facts-pr-eng.cfm?Lang=Eng&GK=PR&GC=35)

<sup>d</sup>Calculation based on BC's population in 2011: 4,400,057 ([https://www12.statcan.gc.ca/census-recensement/2011/as-sa/fogs-spg/Facts-pr-eng.cfm?Lang=](https://www12.statcan.gc.ca/census-recensement/2011/as-sa/fogs-spg/Facts-pr-eng.cfm?Lang=Eng&GK=PR&GC=39)

<sup>e</sup>Participants were asked, "Overall, how difficult is it for you to live on your total household income right now?"

<sup>f</sup>Calculation of number of persons age 15+ living in a shelter in 2011 (Statistics Canada, 2011 Census of Population, Statistics Canada Catalogue no. 98-313-XCB2011024, Table: Selected Collective Dwelling and Population Characteristics (52) and Type of Collective Dwelling (17) for the Population in Collective Dwellings of Canada, Provinces and Territories, 2011 Census.<sup>90</sup>

Table 3. Descriptive Statistics for Variables Included in the Model (N = 395)

Variable	Time Point	Range		Mean (SD) or % (N)
		Possible	Actual	
Equity-Oriented Health Care	1	0-12	0-12	7.54 (3.02)
Comfort and Confidence in Care	3	1-5	1.66-5.00	4.28 (0.71)
Confidence in Preventing and Managing Health Problems	3	0-10	1-10	7.57 (1.96)
Quality of Life	4	1-5	1.13-5.00	3.46 (0.82)
Chronic Pain Disability	4	0-100	0-90	31.14 (28.85)
PTSD Symptoms	4	17-85	17-85	36.79 (16.57)
Depressive Symptoms	4	0-60	0-60	16.47 (14.26)
Covariates:				
Age	1	18+	18-94	45.8 (14.6)
Gender (female)	1			59.0% (233)
Financial strain	3	0-56	14-56	32.88 (12.26)
Experiences of discrimination	3			38.6% (152)

Almost 42% identified as Indigenous, a rate about 10 times that of the population. The extent of social inequities evident in this sample was marked compared with population estimates. For example, more than 60% were unemployed (compared with 7.8% in the general population), and 42.5% had not completed secondary school (compared with 12.7% in the general population). Rates of receiving social assistance or disability benefits exceeded population estimates by 8- to 24-fold (29.4% and 38.7% of the sample, respectively).

Table 3 gives descriptive statistics for all variables included in the model. On average, mean levels of *EOHC* and *confidence in preventing and*

*managing health problems* were in the moderate range, while *comfort and confidence in care* was fairly high (mean = 4.3 on a scale ranging from 1 to 5). The average scores for *quality of life*, *chronic pain disability*, *depressive symptoms*, and *PTSD symptoms* were all in the midrange, but the use of standard cut scores available for 3 of the 4 measures shows high levels of health problems in this sample. Specifically, 49.3% of the sample were living with levels of disabling chronic pain significant enough to affect their everyday lives (Pain Grade 3 or 4). With regard to mental health, 42.0% of the sample had levels of *PTSD symptoms*, and 50.3% had *depressive symptoms* consistent with a clinical diagnosis. In addition, 38.6% reported sometimes or often experiencing discrimination from others outside health care.

Table 4 presents the correlation matrix showing the associations among the variables included in the model. As expected, moderate to strong associations were observed among the 4 health outcomes ( $r = .41$  to  $.83$ ). The degree of association between covariates and health outcomes varied. *Age* and *gender* showed no to weak associations with the 4 health outcomes. In contrast, *financial strain* ( $r = .320$  to  $-.461$ ) and *experiences of discrimination* ( $r = .115$  to  $-.268$ ) were moderately correlated with all 4 outcomes.

Figure 2 shows the results of testing the final model. The model fit significantly better than a fully saturated model ( $\chi^2 = 63.73$ ,  $p < .001$ ) and explained 47.7% of the variance in the data. All of the hypothesized paths in the model were significant, with the exception of the path from *EOHC* to *confidence in preventing and managing health problems*. However, the indirect effect of *EOHC* on *confidence in preventing and managing health problems* was significant. Overall, the model explained 27.8% of the variance in *quality of life*, 24.8% in *PTSD symptoms*, 19.6% in *depressive symptoms*, and 12.6% of the variance in *chronic pain disability*.

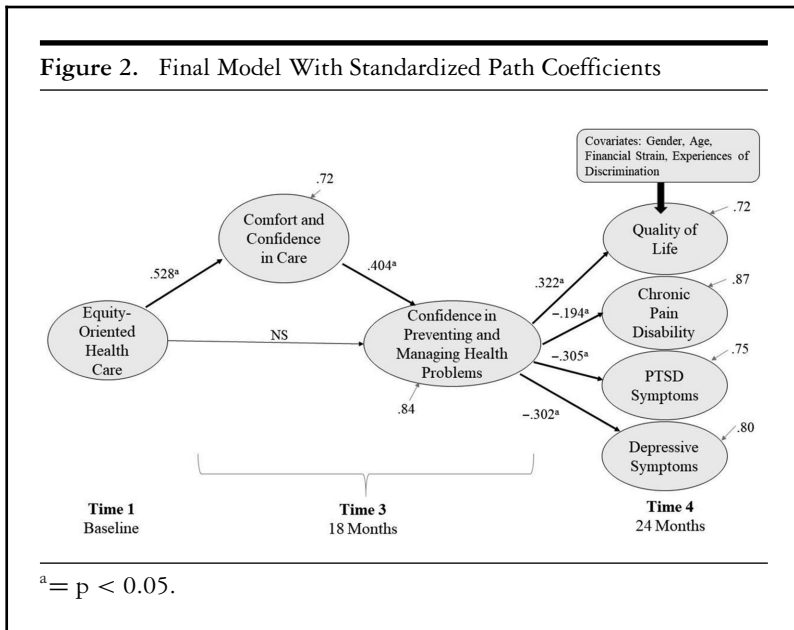
More *EOHC* at baseline was directly associated with greater *comfort and confidence in care* 18 months later (Time 3) ( $\beta = .5284$ ,  $p < .001$ ) and indirectly related to *confidence in preventing and managing health problems* 18 months later (Time 3) ( $\beta = .213$ ,  $p < .001$ ). In turn, greater *confidence in preventing and managing health problems* at Time 3 was significantly associated with better *quality of life* ( $\beta = .322$ ,  $p < .001$ ), less *chronic pain disability* ( $\beta = -.194$ ,  $p < .001$ ), and fewer *PTSD symptoms* ( $\beta = -.305$ ,  $p < .001$ ) and *depressive symptoms* ( $\beta = -.302$ ,  $p < .001$ ) 24 months after baseline (Time 4), controlling for *age*, *gender*, *experiences of discrimination*, and *financial strain*. The indirect effects of *comfort and confidence in care*

Table 4. Correlations Among Variables Included in the Model (N = 395)

	EOHC	Comfort/ Confidence in Care	Confidence Preventing/ Managing Health Problems	Quality of Life	Chronic Pain Disability	PTSD Symptoms	Depressive Symptoms	Age	Gender	Financial Strain
EOHC	1									
Comfort/ Confidence in Care	.524**	1								
Confidence Preventing/ Managing Health Problems	.198**	.409**	1							
Quality of Life	.063	.250**	.437**	1						
Chronic Pain Disability	.010	-.062	-.261**	-.502**	1					
PTSD Symptoms	-.074	-.231**	-.418**	-.634**	.433**	1				
Depressive Symptoms	-.098	-.259**	-.401**	-.671**	.405**	.830**	1			
Age	-.005	.075	.114*	.100*	.054	-.130**	-.120*	1		
Gender	.048	-.011	-.045	.040	-.040	.004	.061	-.195**	1	
Financial Strain	-.045	-.205**	-.304**	-.461**	.320**	.439**	.374**	-.114*	.126*	1
Discrimination Experiences	-.104*	-.180**	-.215**	-.268**	.115*	.266**	.250**	.084	.048	.281**

\*  $p \leq 0.05$ ; \*\*  $p \leq 0.01$





through *confidence in preventing and managing health problems* were also significant for *quality of life* ( $\beta = .130, p < .001$ ), *chronic pain disability* ( $\beta = -.078, p < .001$ ), *PTSD symptoms* ( $\beta = -.123, p < .001$ ), and *depressive symptoms* ( $\beta = -.1223, p < .001$ ).

## Discussion

The results of this study suggest that making an explicit effort to provide equity-oriented health care (EOHC) in primary care contexts may improve patients' health outcomes over time. Using longitudinal data from a cohort of 395 patients facing significant health and social inequities, our study demonstrates that patients who experienced more EOHC had greater comfort and confidence in the health care services they received, which led to higher levels of confidence in their ability to manage and prevent health problems. Higher levels of confidence, in turn, strongly predicted improvements in depressive symptoms, PTSD symptoms, and quality of life; the relationship with

pain disability was less strong, although still statistically significant. To our knowledge, this study is the first to provide evidence of causal linkages between level of EOHC, an emerging concept, and patients' self-reported health outcomes through a process that includes both patients' experiences of health care and their capacities to address health concerns. These results address a significant gap in understanding how attention to equity at the point of care can positively shape patients' health, extending the evidence supporting the benefits of health equity interventions typically delivered at a population level to also include equity-oriented clinical encounters with patients in primary health care settings.

These promising results raise a number of issues related to the potential for primary health care organizations and providers to develop a capacity for EOHC and also regarding the structures that could support such an undertaking. Strategies to promote equity in patients' care encounters can be inexpensive and easy to implement. Even small shifts such as changing signs displayed in a space or adjusting language and tone used with patients to convey acceptance and respect can begin to enhance patients' comfort and confidence, particularly for those who live with significant adversity, stigma, and discrimination, while also improving staff members' confidence in their work.<sup>41</sup>

Despite being inexpensive to implement, these types of changes require both providers' and organizations' foundational understanding of and commitment to equity-oriented health care and its key dimensions (trauma- and violence-informed care, cultural safety, and contextually tailored care). As we have reported elsewhere,<sup>40,41</sup> at a minimum, a process of organizational change, which includes staff education and a review of organizational practices and policies to bring them in line with the key dimensions of EOHC, can be a powerful driver of change but also can disrupt the way that care is conceived and provided, at least in the short term.

The concept of disruption emerged strongly in our implementation of the EQUIP intervention, one approach for promoting the uptake of EOHC, and is fully explored in a companion article.<sup>41</sup> Briefly, we learned that organizations engaging in this process should expect, plan for, and respond constructively to short-term disruptions by focusing on the positive and productive aspects of disruption and linking positive disruption to concepts such as innovation, ingenuity, and interdependence in efforts to reap the collective benefits of EOHC for both clients

and staff. Despite short-term disruptions, the potential to enhance the health care experiences and health of those people at greatest risk of poor health justifies adopting EOHC universally.

Implementing EOHC has potential to increase marginalized patients' access to primary and preventive care in ways that can improve their health outcomes and substantially reduce their health care costs.<sup>5,6</sup> The ability to achieve long-term improvements in health for populations experiencing health and social inequities could substantially reduce the social and systems costs of disability while improving quality of life. For example, Padula and colleagues have shown that following patients' preferences even when they depart from clinical guidelines is cost-effective.<sup>91</sup> Importantly, our results suggest that improving access to care is not enough, that even in the context of publicly funded universal health care, *how health care is arranged and delivered* matters to patients and influences health outcomes. Nonetheless, changes like these may be difficult to maintain in systems that undervalue issues of equity in favor of efficiency without concomitant attention to effectiveness.<sup>7</sup>

Metzl and Hansen<sup>66</sup> call for those in health care to develop *structural competence*, involving not only understanding and addressing the effects of structural arrangements on health and health care but also including *structural humility* in which providers recognize the limits of their ability to influence these arrangements. While the focus of EOHC is not shifting the social determinants of health at a population level, at the individual level, providers can be encouraged to deliver care that explicitly links patients to appropriate social and economic supports and to see this as an important part of their role. We should also note that key individual-level contextual factors, including financial strain and experiences of discrimination, continued to exert negative effects on health. Financial strain was the strongest predictor of poor health outcomes, with experiences of discrimination also playing a significant role. These results are important for 2 related reasons. First, health care leaders and providers need to be aware of the powerful influences of income and discrimination on health and to integrate poverty reduction and antidiscrimination strategies as a routine part of good care.<sup>7</sup> Second, they must manage their own expectations of what can be achieved, so as not to be overwhelmed by the scale of the challenges of achieving equitable health outcomes for all.

The concept of EOHC, including trauma- and violence-informed care, cultural safety, and tailoring to context, has allowed us to operationalize the key social justice principles underpinning the broad concept of health equity into strategies relevant at the point of care.<sup>92</sup> Further work is needed to more fully understand the influence of harm reduction approaches in primary health care, a philosophy and a set of services focused on preventing the harms of substance use, which align and overlap with these key dimensions of EOHC.<sup>41</sup>

## Limitations and Further Research

While the current study provides statistical evidence of the associations between concepts in the model in a specific population, the concept of EOHC as we have defined it is still quite new. Future research is needed to test models like these with varied populations and to test whether equity-oriented health care is effective in shifting patients' immediate and longer-term outcomes using comparative designs. Given that experiences of discrimination in everyday life were moderately associated with both the levels of EOHC and comfort and confidence in care in this study, whether EOHC can ameliorate some of the negative effects of experiences of discrimination needs to be more fully examined.

In addition, the Equity-Oriented Health Care Scale (E-HoCS) was designed for this study. While it is a promising measure, it requires further testing in varied settings and populations and its potential utility as a tool for continuous quality improvement (CQI) needs to be studied. Furthermore, although responsibility for EOHC rests with both individual health care providers and the organizations in which they work, because the E-HoCS is based on patients' self-reports, it captures their perceptions of clinical encounters with staff and does not necessarily examine the organizational context in which this care is provided. Finally, whether EOHC adds benefit to more privileged patients over and above high-quality, patient-centered care (however defined) is not known.

The evidence for EOHC is just starting to emerge; much more research is needed to continue to examine its efficacy and effectiveness for patients, providers, organizations, and systems. We conducted this study

in clinics with an explicit commitment to serving those living in highly marginalizing conditions and a commitment to equity—characteristics that may not be shared to the same extent by more mainstream primary health care services. Although these values may also affect the nature of “usual care” provided in these clinics, as we have described elsewhere,<sup>93</sup> these clinics also struggled with challenges, including staff recruitment and retention and support for professional development. As a result, at the beginning of this study, few staff had engaged in education or training related to the key dimensions of EOHC. We do not know with certainty whether or how these clinics’ particular characteristics affect our results. Testing the model in other contexts will be an important step in understanding the processes through which EOHC may affect patients’ reported health outcomes in a range of settings.

## Conclusion

Despite calls to integrate attention to equity in health care provision, the lack of systematic and supportive policies, frameworks, and structures for EOHC delivery and monitoring<sup>94</sup> makes action difficult.<sup>95</sup> Adopting a systems approach is critical to supporting such change. Indeed, as we describe elsewhere,<sup>93</sup> funding and policy contexts profoundly shaped the possibilities for EOHC in our participating clinics. But as evidence emerges demonstrating that EOHC leads to improvements in key patient health outcomes, the case for equity will be easier to make. As an approach to care, equity-oriented health care has a potential “win-win-win” payoff: patients receive better care and have better health; staff and organizations provide better care, potentially leading to such things as improved staff retention; and systems and society benefit from possible reductions in costs and inequities and improved social well-being. Systems approaches that integrate attention to equity at the point of care across sectors, with population-level action on the determinants of health, may offer a promising way forward.

We are seeing considerable interest—at both practice and policy levels—in the concept of EOHC across primary health care and other sectors as we begin to disseminate the results of the EQUIP study through an online educational platform called the “Equipping for Equity Modules” (<https://equiphealthcare.ca/modules/>). These modules are available

at no cost and provide information about the core features of EOHC, as well as multimedia tools and learning strategies to support individual providers and practices/organizations in adopting EOHC. This interest seems to be a promising indicator of receptivity to these concepts and to key findings from this study on the part of health care providers, organizations, and policymakers alike.

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