

Measuring Health Confidence to Assess the Impact of Social Health Interventions in Health Care

Lessons from Primary Care Teams

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Abstract

Issue: There are no common standards for measuring the effectiveness of social health interventions, which include helping people navigate essential resources and making referrals to social service providers. Emerging research suggests that addressing people's essential resource needs may increase their confidence in managing their own health.

Goals: To examine the value of using a patient-reported health confidence measure to monitor and improve efforts to address essential resource needs in primary care settings.

Methods: Experiences in using the health confidence measure and data from primary care teams who participated in an 18-month learning collaborative.

Key Findings: Measuring and reporting on patients' health confidence was difficult for all primary care teams in the collaborative. For some teams, there was a strong association between social health interventions and increased access to essential resources and greater health confidence. This association was not observed for caregivers of pediatric patients, who reported higher levels of confidence managing the health of pediatric patients at baseline. Changes in levels of health confidence and in access to essential resources were not strongly associated.

Conclusion: Levels of health confidence increased for some patients receiving social health interventions. We need a deeper understanding of how self-reported health confidence changes over time for patients receiving social support in primary care settings.

Introduction

Professional medical associations, through their policy statements and clinical guidelines, increasingly endorse the use of social health interventions that help patients navigate essential resources and refer them to social services.¹ However, a lack of common measurement standards makes it difficult to assess the impact of such interventions.^{2,3,4}

Having confidence in managing your own health has been associated with better health outcomes and patterns of service utilization (e.g., fewer hospital admissions and emergency department visits).^{5,6,7} Patient-reported measures of health confidence include elements of several instruments:

- **What Matters Index:** A 5-item index that identifies an individual's fundamental needs by measuring 1) confidence to self-manage health problems, 2) level of pain, 3) emotional problems, 4) polypharmacy, and 5) adverse medication effects.⁸
- **Health Confidence Score:** A 4-item measure that assesses an individual's feelings about caring for their health across four dimensions: 1) knowledge, 2) self-management, 3) access, and 4) shared decision-making.⁹
- **Patient Activation Measure:** A 10- or 13-item survey that assesses an individual's knowledge, skills, and confidence in managing their own health and health care.¹⁰
- **Self-Efficacy for Managing Chronic Disease Scale:** A 6-item scale that measures an individual's self-efficacy for managing chronic disease.¹¹

Emerging research suggests that increases in health confidence and related concepts may be an important outcome of social health interventions,¹² and England's National Health Service recently incorporated social prescribing and the Patient Activation Measure.¹³

To examine the association between health confidence and social health interventions, 20 primary care teams implementing social health interventions in a range of settings — academic medical institutions, community health centers, and adult and pediatric practices — participated in an 18-month learning collaborative.¹⁴ Each reported monthly on measures that assessed patients' health confidence and their access to essential resources such as safe housing or nutritious food (for a complete description of measures, see [How This Study Was Conducted](#) on page 6).

We hypothesized that patients' health confidence would increase as they received greater access to needed resources. To accommodate a range of workflows within a frame of measuring for improvement, we gave teams a choice of measuring health confidence before and after time-limited social health interventions (“pre-post”) or measuring health confidence at routine intervals in convenience samples of patients receiving social health interventions as part of ongoing care. Six teams implemented pre-post measurement approaches and nine implemented sampling measurement approaches. Five teams were not able to implement health confidence measurement because of the challenges of doing so, discussed below.

In this brief, we share the results from 15 sites that implemented a patient-reported health confidence measure, factors associated with changes in health confidence outcomes, and the implications for efforts to integrate social health interventions into primary care.

Collaborative to Advance Social Health Integration (CASHI) was a Breakthrough Series style learning collaborative conducted from April 2017 through October 2019 and was comprised of 20 nationally distributed primary care teams in a mix of urban, rural, and suburban settings.

The cohort included Federally Qualified Health Centers, integrated health systems, academic medical centers, children's hospitals, community (safety net) hospitals, Accountable Care Organizations, and one free clinic. Multidisciplinary teams from these organizations worked collectively towards the following aim: By October 2019, participating healthcare organizations will integrate social health interventions into primary care such that:

- There is an **increase** in the percentage of patients who report **they have the essential resources to be healthy**
- **75% or more** patients report they are confident that they can **control and manage most of their health problems**.

Key Findings

Relationship Between Resource Navigation and Health Confidence

Our findings support emerging evidence that primary care-based social health interventions may improve patients' access to essential resources and health confidence.

Teams that reported pre-post data found a strong association between the intervention and improvements in access to essential resources and health confidence. Among 73 patients at one site, there was an average three-point increase (on an 11-point scale) in having the essential resources to be healthy and a two-point increase in having the confidence to control and manage most of their health problems after the intervention (Exhibit 1). Similarly, among 26 patients at another site, average essential resource access and health confidence scores increased by two points and one point, respectively (Exhibit 2). By contrast, clinics that relied on convenience samples of patients receiving continuous social health interventions did not see changes over time in either measure. Teams' small and differing sample sizes limited our ability to compare data across sites.

EXHIBIT 1.

Average and individual ratings for patient-reported access to essential resources and health confidence at pre- and post-intervention, CHI Saint Joseph Berea Outcome, January–July 2019

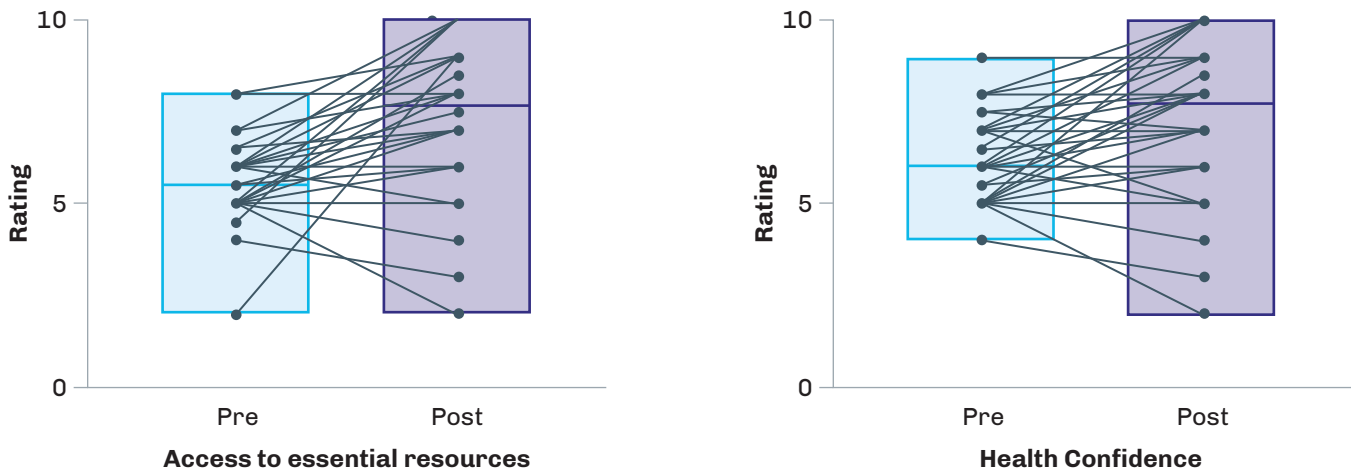
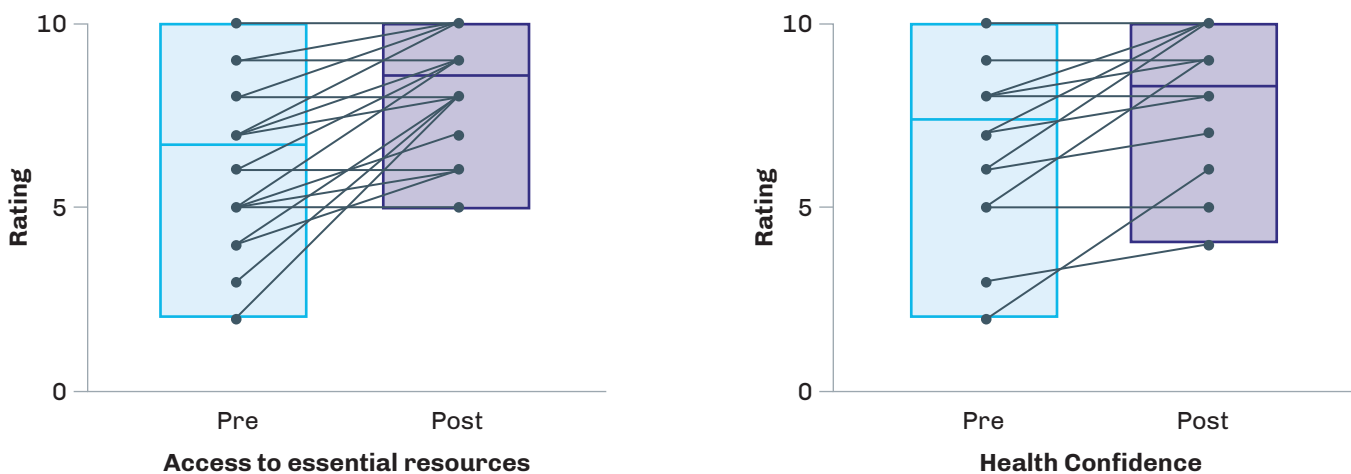


EXHIBIT 2.

Average and individual ratings for patient-reported access to essential resources and health confidence at pre- and post-intervention, CHI Health Nebraska, March–July 2019





Different Results for Different Populations

We found different results among different patient groups. Parents or caregivers of pediatric patients consistently reported high ratings for health confidence and essential resource access. Among the five pediatric teams that reported on the health confidence measure between August 2018 and February 2019, aggregate monthly data showed a median rating of 8.9 on the 11-point scale. In contrast, aggregated monthly data from the 10 other teams (among the 15 whose results we report on here) that reported on health confidence in adult populations had a lower median rating (7.2).

Frontline staff with experience administering this measure hypothesize that parents and caregivers fear the stigma and/or consequences of reporting low confidence in managing their child's health. One pediatric clinic serving families with complex social needs reported that parents and caregivers gave different answers when asked about themselves than when asked about their role as caregivers: in a small sample (n=36), parents and caregivers reported less access to essential resources and lower health confidence scores for themselves (mean=8.8 and 8.8, respectively) than for their children (mean=9.3 and 9.6, respectively).

Changes in Health Confidence Not Strongly Associated with Changes in Access to Essential Resources

Among 73 patients at one site with pre-post measures of health confidence and access to essential resources, changes in one measure were not strongly associated with changes in another (Exhibit 3).

Similarly, there was a weak association between changes in health confidence and access to essential resources among 26 patients at another site (Exhibit 4). Team members hypothesized that health confidence was influenced primarily by strengthened relationships with the care team rather than by access to essential resources. Adults in some practices reported very high levels of health confidence early in interventions — that is, before they received referrals to essential resources.

EXHIBIT 3.

Change in essential resource access rating vs. change in health confidence rating, CHI Saint Joseph Berea, January-July 2019.

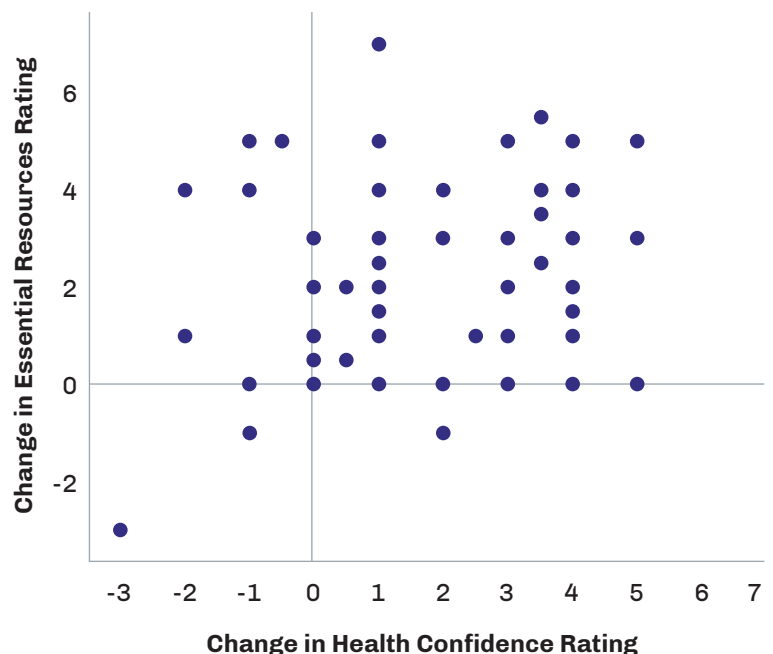
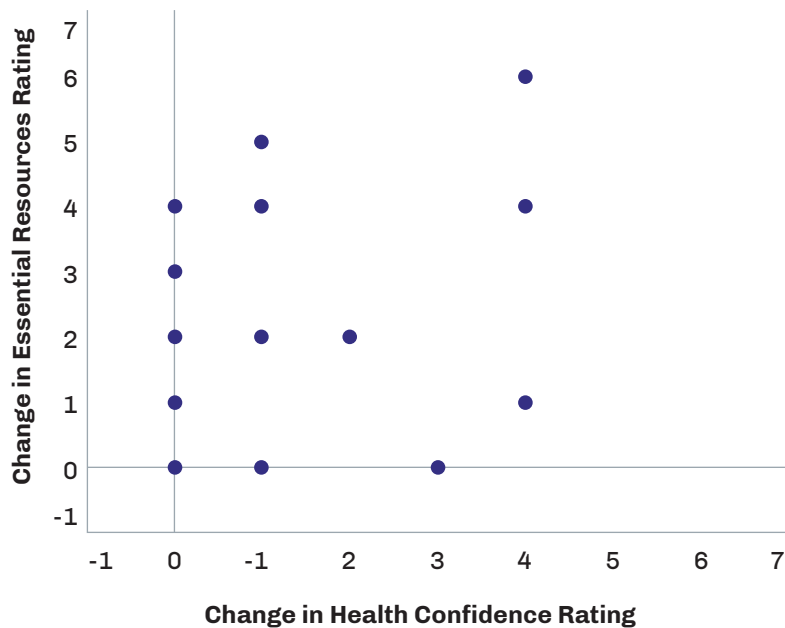


EXHIBIT 4.

Change in essential resource access rating vs. change in health confidence rating, CHI Health Nebraska, March-July 2019.



and-pencil administration of the measures into clinical workflows and high burden of data collection and reporting on clinic staff) and only for a sample of their patients. Five clinic teams were not able to implement health confidence measurement because they lacked the staffing and resources needed to administer the measures. Teams using pre-post measurement approaches faced challenges in administering the measure to a sufficient number of patients before the social health intervention had been implemented and then in contacting those patients afterwards. Teams using sampling approaches reported similar challenges with respondent attrition.

Discussion

Our findings support the theory that integrating social health interventions into health care can lead to improved health confidence, which has been linked to improved health outcomes. In one study, increasing levels health confidence were strongly associated with improvements in multiple health outcomes including quality of life, disability related to chronic pain, post-traumatic stress disorder symptoms, and depression symptoms.¹² A study from the United Kingdom found that social prescribing, when health professionals refer patients to social supports, was associated with improvements in health confidence and well-being.¹⁴

It is interesting that changes in health confidence were not associated with changes in access to essential resources, even though each improved on average. This is consistent with findings from a randomized control trial of community resource navigation in which caregiver-reported health and essential resource access both improved but were not associated with each other.¹⁵ The mechanism by which social health interventions improve health confidence or self-reported health may be via improvements in patients' relationships with their care teams, rather than via improvements in access to essential resources.

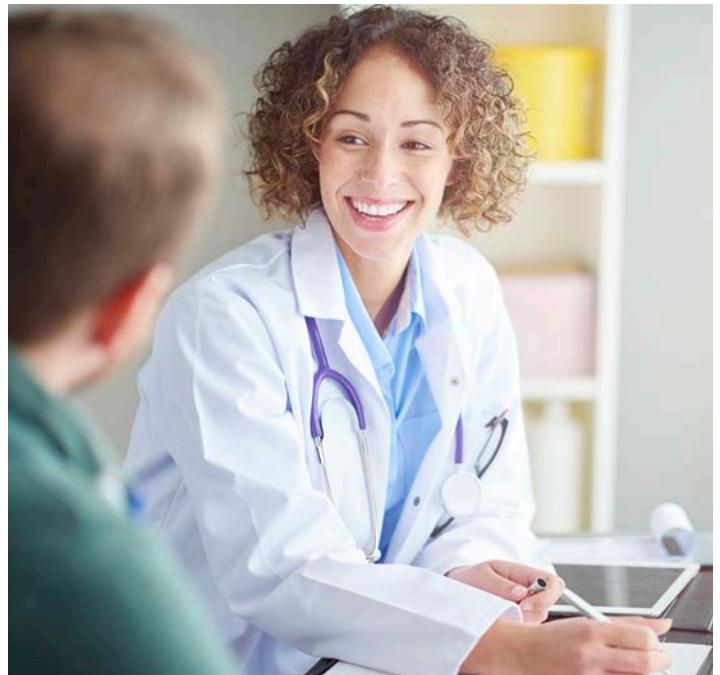
Implementing the health confidence measure and other patient-reported outcome measures (PROMs) can be difficult and time-consuming.¹⁶ Clinics integrating social health interventions should ensure they invest in the capacity to collect and use PROMs, which are necessary for understanding the changes that social health interventions aim to achieve. In addition, clinics should include Patient and Family Advisory Council members and frontline staff in decisions about the use of PROMs. Electronic health record vendors should include PROMs in modules related to health-related social needs. Other commonly used measures such as "closing-the-loop" on a referral or health care utilization do not adequately capture outcomes that are meaningful for patients.

Several teams interpreted declines in these measures as markers of patients' increased trust and willingness to express vulnerability with their care team. However, teams at these practices did not report sufficient data to demonstrate whether health confidence scores increased after trust was earned or whether scores remained low. One pediatric team posited that lower levels of health confidence among parents and caregivers in their clinic for socially complex families, where patients receive a greater level of care than in traditional primary care settings, indicated that patients trusted their care team.

Health Confidence is Difficult to Measure and Report

Overall, measuring and reporting health confidence was difficult for primary care teams. Regardless of their measurement approach, the 15 teams did so late in the 18-month collaborative due to data collection challenges (e.g., difficulty integrating paper-

Although we did note improvements in health confidence associated with social health interventions, sample sizes were small and the meaning of these changes was not always clear. While promising, there is clearly much more to learn about measurement of health confidence in connection with social health interventions. This is an area in which quality improvement projects like ours can be valuable in generating hypotheses for larger scale research and evaluation. Future research to better understand the value of health confidence measurement in social health interventions should test different measures beyond the health confidence questions from the What Matters Index,⁸ including the Health Confidence Score,⁹ as well as related constructs such as patient engagement and patient activation. Investigators should study health confidence in different populations, and examine the effects of scripts and context, including the strength of the therapeutic relationship and the use of motivational interviewing techniques, on health confidence measures.



Conclusion

Improvements in health confidence have been associated with improvements in health outcomes and can be measured with one of several free, validated, and short survey instruments. The experience from our Collaborative to Advance Social Health Integration adds to emerging evidence suggesting that social interventions may contribute to patients' health and well-being via increases in their level of confidence to manage their own health. Primary care clinics integrating social health interventions should consider measuring patients' health confidence as an indicator of impact. Researchers should continue to develop the evidence base about connections between health confidence and social health interventions.

How This Study Was Conducted

The data in this issue brief are drawn from the Collaborative to Advance Social Health Integration, an 18-month Breakthrough Series Collaborative supported by the Commonwealth Fund and Health Leads. Twenty primary care teams received a \$10,000 stipend to support their projects and fund travel to in-person learning sessions. Teams tested, adapted, and implemented changes to improve their social health interventions and reported monthly on outcome, process, and balancing measures (Appendix). Teams manually input their data in a cloud-based platform or shared Excel spreadsheets. Teams also submitted monthly narrative reports describing updates to their program activities, progress on their improvement work, challenges and barriers, and lessons learned.

Teams administered the essential resource access and health confidence outcome measures either in person using a paper version of the instruments or by phone using a script; both were available in English and Spanish. We gave teams a choice of testing and implementing either a pre-post or convenience sampling model. In the pre-post model, teams administered the outcome measures to small cohorts of patients (≤ 20 per month) before and after receiving time-limited social health interventions. This approach was more time-intensive but enabled teams to measure improvement at the patient level by tracking how individual patients' ratings changed over time. In the convenience sampling model, teams administered the outcome measures at routine intervals in convenience samples of patients receiving social health interventions as part of ongoing care. This approach allowed teams to measure improvement at the population level, which was less time-intensive but also provided less insight into changes in individual patient ratings. Six teams implemented pre-post measurement approaches and nine implemented sampling measurement approaches. We used aggregate and individual team run charts to analyze data variation and monitor process improvements over time.

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Appendix

Measures and Rationales for Measure Selection

TYPE	MEASURE	RATIONALE FOR MEASURE SELECTION
Outcome	Average and individual ratings of patients or caregivers who respond to the question, "Where are you in having the essential resources (for your child) to be healthy? Examples of essential resources include food, housing, and transportation." (11-point scale)	Innovation measure developed by collaborative faculty. Intended to be administered alongside the health confidence measure to test out hypothesis that as patients' and families' essential resource needs are met, they will become more engaged in managing their other health issues.
Outcome	Average and individual ratings of patients or caregivers who respond to the question, "How confident are you that you can control and manage most of your (your child's) health problems?" (11-point scale)	Clinically validated and effective proxy for patient engagement. Used in a variety of clinical settings. Derived from the What Matters Index (WMI). ⁹
Outcome	Average and individual ratings of caregivers who respond to the question, "In general, how would you describe this child's health?" (5-point scale)	Optional alternative for the health confidence measure for pediatric teams based on front-line staff feedback that caregivers' ratings of health confidence may be inflated due to stigma associated with reporting low confidence in managing their child's health problems. Used in Gottlieb et al. 2016 study of social needs screening and intervention. ¹⁷ Derived from the National Survey of Children's Health (NSCH) instrument.
Process	Percentage of patients screened for essential resource needs	Indicator of whether critical program activities are performing as planned.
Process	Percentage of patients who requested personalized support and received at least one link to community support within 7 days of screening	Indicator of whether critical program activities are performing as planned.
Process	Average rating of patients or caregivers who report on how much their navigator focused on the goals and topics that matter most to them (11-point scale)	
Process	Average rating of patients or caregivers who report on how much their navigator heard, understood, and respected them (11-point scale)	Self-reported assessment of the encounter with the navigator and a proxy for the patient- or caregiver-navigator relationship, an integral part of social health interventions. Derived from the Partners for Change Outcome Management System (PCOMS).
Process	Average rating of patients or caregivers who report on how well their navigator's approach worked for them (11-point scale)	
Process	Average rating of patients or caregivers who report on how right the overall navigation session was for them (11-point scale)	
Balancing	Percentage of staff who would recommend the practice as a great place to work (4-point scale)	Indicator of whether changes designed to improve program activities are causing new problems in other parts of the system.

About The Authors

Adrianna Saada, M.P.H., is the director of quality improvement at Health Leads, a national nonprofit that fosters innovative partnerships among community-based organizations including social service, health care, and public health groups and to advance health equity. She is an Institute for Healthcare Improvement–certified Improvement Advisor with experience designing and executing quality improvement initiatives in health care settings. Prior to joining Health Leads, Ms. Saada advised a learning collaborative to implement best practices for contraceptive care at Federally Qualified Health Centers in New York City. She has a background in conducting qualitative and survey research on women and children’s health issues in university and hospital settings. Ms. Saada holds a B.A. from Mount Holyoke College and an M.P.H. from the *Ecole des Hautes Etudes en Santé Publique*.

Damon Francis, M.D., is the chief clinical officer of Health Leads, a national nonprofit that fosters innovative partnerships among community-based organizations including social service, health care, and public health groups and to advance health equity. He is especially interested in the ways we can align care focused on individuals with strategies to achieve community health. In addition to his role at Health Leads, Dr. Francis provides clinical care and leads a Federally Qualified Health Center serving people experiencing homelessness at Alameda Health System in Oakland, California. He received his M.D. from the University of California, San Francisco, where he is now a member of the volunteer faculty.

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