# Identifying Personal Strengths to Help Patients Manage Chronic Illness

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# Abstract

## Background

Most health care focuses on patients' risk factors, diseases, and deficits. Identifying, amplifying, and applying patients' strengths is a potentially transformative strategy for motivating positive change and expanding resources for chronic disease management and prevention. However, there has been little research on effective methods for discovering patient strengths, bringing them into health care encounters in which they might be helpful, or assessing their impact on patient-oriented outcomes.

## Objectives

1. Identify patient-identified personal strengths relevant to chronic illness management.
2. Develop a strengths-focused, computer-supported interactive, tailored patient assessment tool.
3. Engage patients, caregivers, and primary care clinicians in identifying mechanisms by which leveraging patient strengths in different ways may improve processes and patient-oriented outcomes of care.
4. Quantitatively simulate the effect of alternate, strengths-based approaches in practice on patient-oriented outcomes and provider resources as compared with that of usual deficit-/disease-focused care.

## Methods

The study was conducted in 2 phases by researchers from Case Western Reserve University, the University of North Carolina, the University of Oslo, and Cleveland, Ohio; primary care physicians; nurse practitioners; nurses; social workers; and patients with multiple chronic illnesses. In phase 1, we conducted focus groups and individual interviews of 76 patients from safety net practices. In phase 2, we invited particularly insightful participants to join a Design Team of patients, caregivers, and health care professionals, and purposively expanded the group to include diverse perspectives relevant to understanding how to incorporate patient strengths in primary health care, for a total of 19 participants. The Design Team had ten 2-hour meetings

and conducted small pilot studies to refine a list of strengths and a new computer tool for assessing them. The Design Team also identified clinical situations in which patient strengths would be particularly helpful, developed design criteria, and attempted to model patient-oriented outcomes of a strengths-based approach in health care.

## Results

Patients from disadvantaged backgrounds found it difficult to articulate their strengths. However, interviews that started with positive life experiences, or that introduced participants to a newly developed computerized Strengths Collector tool that began with video stories, helped patients identify their strengths relevant to improving chronic disease management and prevention. Relevant patient strengths were related to personal attributes, interpersonal relationships, and community resources.

Participants identified 6 scenarios in which a strengths-based approach might be particularly helpful: diabetes management, high use of health care, chronic pain management, group health care visits, when patients feel a need to get “unstuck,” and when clinicians sense that focusing on strengths would be a useful way to reframe care.

Design criteria for implementing a strengths-based approach related to overcoming an external context focused on delivering commodities of disease care; organizational factors affecting relationship development; professional skills, roles, and philosophies; and the ease of implementing the strengths-based intervention.

Because of limited published data on outcomes from a strengths-based approach, we were unable to quantitatively model outcomes.

## Conclusions

Through stories and examples, patients from disadvantaged backgrounds can identify strengths relevant to improving their health. A strengths-based approach may be particularly helpful in uncovering previously hidden motivations and resources in health care situations that require ongoing behavior change.

## Background

A major challenge in health care is to provide services that fully engage patients and caregivers and, in so doing, motivate positive behavior change. Clinicians need an array of tools to meet the epidemic of chronic and behaviorally mediated disease, for which both the cause and the solution have as much or more to do with lifestyles than with medical diagnoses and treatment.[1] Therefore, a growing number of evidence-based interventions for preventing or ameliorating disease focus on patients' behaviors and motivations.[2] In reaction to unsustainable health care costs and the evolving epidemiology of health and illness, the health care system in the United States is focusing more on population health,[3,4] chronic disease self-management,[5,6] and interprofessional approaches to health care and education.[7]

The traditional medical arsenal of diagnosis, prescription, and advice addresses only a small portion of what is needed to meet the current and emerging health care needs resulting from chronic illness. Additional tools and ways of connecting with resources outside of health care are needed to effectively prevent and manage chronic illness[8] and to activate patients stressed by health and other life challenges.[9]

Conventional disease management may be especially inadequate for the growing number of people living with multiple chronic conditions.[10,11] Patients with multiple chronic conditions are the norm rather than the exception in primary care,[12] and interventions to fully engage this population are limited.[13,14] A recent report, sponsored by the Patient-centered Outcomes Research Institute (PCORI), multiple government agencies, and patient advocacy groups, *Understanding the Context of Health for Persons With Multiple Chronic Conditions: Moving From What Is the Matter to What Matters*, emphasizes the need for a "person-driven, goal-directed research agenda" and the need for relevant research methods that are "participatory, flexible, multilevel, quantitative and qualitative."[15]

Health care traditionally follows a deficit-focused model that emphasizes problems—diseases, risk factors, and unhealthy behaviors.[16] This model is helpful for diagnosis and treatment of acute conditions and for diagnosis of chronic conditions. However, a focus on deficits can be demotivating and counterproductive in addressing long-term problems for which

the patient needs to make lifestyle and other changes over time. A different frame may sometimes be needed to contend with problems such as managing chronic illness, supporting preventive behavior change, dealing with chronic pain or addiction, or even getting unstuck from a perpetual health care cycle of monitoring and nagging.

In contrast to the deficit-focused model, a strengths-based approach—one that focuses on a patient's assets—can potentially address ongoing problems that otherwise might seem intractable.[17-19] Rotegard and colleagues define health assets as "the repertoire of potentials—internal and external strength qualities in the individual's possession, both innate and acquired—that mobilize positive health behaviors and optimal health/wellness outcomes."[20] Strengths might include social support (eg, family, friends, a faith community), resources in the community (eg, programs, clinicians, useful transportation support), knowledge (eg, health literacy, facility in navigating health systems), or individual skills or attributes (eg, persistence, creativity, love of cooking). Knowing a patient's strengths could help personalize treatment plans. Furthermore, when patients identify and act on relevant strengths, they may unleash previously hidden potential to improve their health.

Strengths-based approaches have emerged in social work,[19,21] community development,[22] positive psychology,[23] nursing,[24,25] business,[26,27] and other fields,[28,29] but, with a few notable exceptions,[30-32] they have had limited formal exposition in health care. Strengths-based approaches are rooted, and sometimes hidden, in a variety of theories from these disciplines including the Biopsychosocial Framework,[33,34] the Broaden-and-Build Theory,[35] Salutogenesis,[36] and Intentional Change Theory.[27] However, how to apply these theories in health care, particularly in primary care, where most patient care is provided,[37] is not well established.

Primary care has great potential to be a force for integrating, personalizing, and prioritizing care[38-42] within a fragmented, depersonalized, and often wasteful health care system.[43,44] Primary care also has been associated with a reduction in inequality in health care and health.[45,46] Although a strengths-based approach is relevant to all patients, it might be most transformative for disadvantaged and vulnerable populations, for whom attaching additional

deficit labels may be particularly harmful and for whom identifying and tapping into hidden strengths may be particularly refreshing and valuable.

Therefore, we aimed to determine how to elicit strengths from people from disadvantaged backgrounds, and to consider how these strengths might be most effectively brought into primary health care to enhance patient-oriented outcomes, as compared with the usual deficit-focused care. We aimed to meet the following objectives:

1. Identify patient-identified personal strengths relevant to chronic illness management.
2. Develop a strengths-focused, computer-supported interactive, tailored patient assessment tool.
3. Engage patients, caregivers, and primary care clinicians in identifying mechanisms by which leveraging patient strengths in different ways may improve processes and patient-oriented outcomes of care.
4. Quantitatively simulate the effect of alternate, strengths-based approaches in practice on patient-oriented outcomes and provider resources as compared with that of usual deficit-/disease-focused care.

## Participation of Patients and Other Stakeholders

Using recommendations from prior literature,[47] we share below the types and number of stakeholders involved, and how we conceived and achieved the balance of stakeholder perspectives. We describe the methods used to identify and recruit stakeholders, and the methods, modes, and intensity of engagement. Consistent with PCORI criteria for reporting and a recent systematic review,[47] we describe the perceived or measured impact of engagement on the relevance of the research question; the study design, processes, and outcomes; the study rigor and quality; the transparency of the research process; and the adoption of research evidence into practice.[47]

Stakeholders from prior PCORI-supported research (ie, patients, caregivers, and primary care clinicians with payer, policy, training, and health care system experience)[48] were informally involved in designing the research proposal submitted to PCORI for this study.

In our experience, patients from disadvantaged backgrounds living with multiple chronic conditions would be most likely to benefit from a strengths-based approach; additionally, we assumed that primary care settings, with their focus on the whole person, would be particularly well suited to implementing this approach. We therefore built on local connections from prior PCORI-supported research and from practice-based research networks, including the Safety Net Providers Strategic Alliance,[49,50] to engage a sample enriched for participants with relevant lived experience.

Our project had 2 phases. For phase 1, which involved focus groups and individual interviews to identify patient strengths, we recruited patients through posters displayed in 3 community health center sites on the east and west sides of Cleveland.

For phase 2 of the project, which involved formation and ongoing meetings of Design Team, we recruited a diverse sample of patients, caregivers, and staff from primary care practices by following 2 steps. First, we ascertained the willingness of participants in phase 1 to participate (all but 1 were interested), and invited those who were articulate and thoughtful, and seemed able to participate in a group that included physicians. We also attempted to

maximize diversity in participants' medical history, social background, race, ethnicity, and sex. Second, we invited a diverse sample of clinicians and practice staff from our practice-based research networks, the Research Association of Practices and the Safety Net Providers Strategic Alliance. For this step, we focused on people who exhibited a reflective, participatory manner and were respectful of differences; we also invited individuals who brought additional viewpoints that supplemented their clinical expertise, such as health care systems experience or work for an insurance company, purchaser, payer, policymaker, or training institution. At the first meeting of the Design Team, we asked participants which important and relevant voices were not represented, and on the basis of their suggestions, we invited additional participants.

As shown in Table 1A, our phase 1 focus groups and individual interviews were conducted with a diverse sample of 76 participants. As shown in Table 1B, our phase 2 Design Team consisted of a diverse group of 19 participants; 10 were invited to the team primarily as patients or caregivers and 9 primarily as health care professionals, but all brought unique and rich perspectives that defied classification into a single category. We did not formally collect descriptive information, but participants brought experience living with multiple chronic conditions, single serious illnesses, disability, addiction, and poverty; caring for ill family members; and engaging with and/or providing social work, nursing, and medical services in diverse settings.

## Table 1. Selected Participant Characteristics by Study Phase

1A. Participants in Phase 1: Initial Focus Groups and Interviews

| Race | Male (N) | Female (N) | Total (N) |
|---|---|---|---|
| American Indian/Alaska Native | 0 | 0 | 0 |
| Asian | 1 | 0 | 1 |
| Black/African American | 10 | 31 | 41 |
| Hawaiian/Pacific Islander | 0 | 0 | 0 |
| White | 7 | 13 | 20 |
| Multirace | 0 | 1 | 1 |
| Unknown | 2 | 11 | 13 |
| *Total* | *20* | *56* | *76* |
| **Ethnicity** | **Male (N)** | **Female (N)** | **Total (N)** |
| Hispanic (Latino/Latina) | 1 | 5 | 6 |
| Non-Hispanic | 17 | 38 | 55 |
| Unknown | 2 | 13 | 15 |
| *Total* | *20* | *56* | *76* |

1B. Participants in Phase 2: Ongoing Design Team

| Race | Male (N) | Female (N) | Total (N) |
|---|---|---|---|
| American Indian/Alaska Native | 0 | 0 | 0 |
| Asian | 0 | 0 | 0 |
| Black/African American | 1 | 4 | 5 |
| Hawaiian/Pacific Islander | 0 | 0 | 0 |
| White | 5 | 9 | 14 |
| Multirace | 0 | 0 | 0 |
| Unknown | 0 | 0 | 0 |
| *Total* | *6* | *13* | *19* |
| **Ethnicity** | **Male (N)** | **Female (N)** | **Total (N)** |
| Hispanic (Latino/Latina) | 0 | 1 | 1 |
| Non-Hispanic | 6 | 12 | 18 |
| Unknown | 0 | 0 | 0 |
| *Total* | *6* | *13* | *19* |

Data in the tables show that the Design Team in phase 2 of the study contained a smaller percentage of African American participants than the focus groups and interviewees in phase 1. This could be the result of a number of factors. One possible factor is a high representation of African Americans among the patients served by the safety net practices from which the patients were drawn, in an attempt to achieve good representation of people from socioeconomic disadvantage. Use of selection criteria that included diversity and ability to articulate complex views in a diverse group, and possible implicit bias among the academic team making the selection also could be factors. In addition, expansion of the initial group from patients and caregivers to also include in the Design Team health care professionals, among whom African Americans are less well represented, could have contributed to the differing racial mix.

Design Team members participated intensely in the study. They brought their lived experiences, participated actively in large and small group activities during ten 2-hour Design Team meetings, and tested ideas developed during the meetings in their own professional circles, bringing the results of this experience back into the group research process. They interacted in person and remotely with the Norwegian team that developed the Strengths Collector tool and with the University of North Carolina team that developed the design criteria for a strengths-based approach to health care.

Table 2 shows results of evaluations of the process completed by Design Team participants during their final meeting. In general, these results showed that participants felt the group process was successful, had a strong sense of the importance and potential of a strengths-based approach to make a difference for health care and health, and believed much more work will be needed to make a strengths-based approach practical in the current health care system.

## Table 2. Design Team Members' Evaluations of the Process

| Evaluation Item | Rating* | |
|---|---|---|
| | Mean | Median |
| Everyone had an opportunity to be heard. | 4.25 | 4.5 |
| We made decisions as a group. | 4.125 | 4.5 |
| We worked well together. | 4.25 | 5 |
| I was able to contribute. | 4.25 | 4.5 |
| We learned from each other. | 4.25 | 5 |
| We learned something useful. | 4.25 | 5 |
| We developed trust with each other. | 3.88 | 4.5 |
| We accomplished something. | 4.38 | 5 |
| We were able to agree on important elements of a strengths-based approach. | 4 | 4 |
| We identified what matters about patient strengths in health care. | 3.6 | 4 |
| We were successful in generating solutions for the health care system. | 3.5 | 3.5 |
| We developed insights into patient-centered outcomes and how health care can foster them. | 3.75 | 4 |
| What we discovered could make a difference for improving health care and health. | 4.25 | 5 |
| What we discovered might make a difference for me in my life. | 4 | 5 |

* 5 = very much; 1 = not at all.

These stakeholder assessments parallel the informal assessments of the academic researchers on the team and show a generally successful group process. They reflect both the progress in meeting study objectives and the challenges of limitations in the relevant scientific literature and of attempting to develop a novel approach that disrupts the usual time- and money-driven, deficit-focused approach to health care in the United States.

One Design Team participant, a clinician, was an outlier with respect to his ratings as compared with the average ratings shown in Table 2, giving ratings of only 1 or 2 (low) on the 5-point Likert scale. He had identified himself on his evaluation form, and the principal investigator met with him after the final meeting. The clinician provided very helpful advice to talk less during meetings, and to make greater use of small subgroup sessions during Design Team meetings to give people more time to speak and to foster more group creativity. The principal investigator and the clinician also discussed the challenges of using a participatory

group process while simultaneously trying to meet prespecified objectives—that is, fostering the group process and meeting the needs of (in our case, very diverse) group members, while also making progress in accomplishing the task. The correct balance changes from moment to moment and differs for individuals in the group. Too much focus on the group process makes people more likely to drift away because they don't feel like they are accomplishing anything together. Too much focus on the task can make people feel unheard and more likely to drift away because they don't have enough chance for social interaction or to be heard.

# Methods

## Study Design

This section provides an overview of how we attempted to meet the 4 study objectives:

1. Identify patient-identified personal strengths relevant to chronic illness management.
2. Develop a strengths-focused, computer-supported, interactive, tailored patient assessment tool.
3. Engage patients, caregivers, and primary care clinicians in identifying mechanisms by which leveraging patient strengths in different ways may improve processes and patient-oriented outcomes of care.
4. Quantitatively simulate the effect of alternate, strengths-based approaches in practice on patient-oriented outcomes and provider resources as compared with that of usual deficit-/disease-focused care.

To meet these objectives, we conducted a 2-phase study. Phase 1 used focus groups and individual interviews to meet objective 1. Phase 2 involved collaborative engagement of stakeholder and academic partners to meet objectives 2, 3, and 4.

In phase 1, to meet the first study objective of identifying patient-identified personal strengths relevant to chronic illness management, we used an iterative cross-sectional design involving appreciative inquiry[51-55] focus groups and individual interviews. Some of the stakeholders from this phase continued on to participate in the next phase.

In phase 2, to refine the results of objective 1 analyses, and to meet objectives 2, 3, and 4, we engaged a stakeholder Design Team and content expert academic partners working together in an iterative process. This phase entailed developing and refining a strengths-focused, computer-supported, interactive, tailored patient assessment tool; elucidating a strengths-based approach to health care; identifying situations in which such an approach might be most helpful; and assessing the anticipated patient-oriented outcomes with this approach as compared with those seen with the usual deficit-focused approach to care.

The study protocol was registered with HSRProj.

## Study Team Formation

The academic team from Case Western Reserve University coordinated the overall project. The academic team from the University of Oslo/Oslo Hospital brought expertise and evolving experience in strengths-based approaches and communication to all parts of the project, and took the lead in developing the computerized strengths assessment tool (to meet objective 2), building on their previously developed platform.[56-59] The academic team from the University of North Carolina participated in all parts of the project, but provided particular expertise in design and simulation modeling (to meet objectives 3 and 4).

Patient participants for the initial appreciative inquiry focus groups and individual interviews were purposively[60] recruited from signs posted at Cleveland safety net practices caring largely for underserved populations. Health care professionals were recruited from 2 primary care practice-based research networks: the Safety Net Providers Strategic Alliance[49,50] and the Research Association of Practices.[61] This strategy allowed us to focus on patients from disadvantaged populations with high rates of chronic illnesses, and to engage clinicians experienced in caring for them as well as having the larger systems perspectives needed for understanding, implementation, and dissemination.

From among these initial participants, and from a sample of participants in our prior PCORI project who had been involved in conceptualizing this project, we identified a diverse Design Team of patients, caregivers, and health care professionals, aiming to engage diverse participants living with or caring for others with multiple chronic conditions and people with varied experiences of health, health care, and community and health care system contexts. At the first Design Team meeting, we asked what other voices or expertise needed to be at the table to meet the study objectives, and we recruited a few additional participants accordingly.

Participants were compensated for their time, as allowed by our institutional review board (IRB).

## Study Setting

The study setting of Cleveland, Ohio, represents a community with robust health care

systems, strong communities, and high levels of health inequality and socioeconomic disadvantage. The practice-based research networks, particularly the safety net practices, allowed us to achieve diversity in stakeholders while focusing on patients and caregivers dealing with multiple chronic conditions and socioeconomic challenges, and clinicians with experience caring for diverse patients and knowledge of diverse systemic perspectives.

The academic partners of Case Western Reserve University, the University of North Carolina, and the University of Oslo provided expertise in, respectively, participatory and primary care research methods, systems dynamics modeling and design methods, and computer-assisted, patient-centered communication.

## Interventions

We worked together to develop and evaluate the feasibility of different approaches to bringing patient strengths into health care. This involved discovering how to elicit patient strengths, including development and refinement of a computerized tool to derive a patient-generated list of strengths. In developing the intervention, we also examined when using a strengths-based approach might be particularly helpful; elucidated what such an approach might look like, who could perform the various tasks, and what relationship development is needed for this approach to health care; and explored what the patient-oriented processes and outcomes might be.

We then attempted to compare this strengths-based approach with the usual deficit-focused approach for various care scenarios, contrasting the processes of care and patient-oriented outcomes as evidenced in the scientific literature for the 2 approaches.

## Follow-up

Loss to follow-up was not relevant for the first phase, in which people participated only once. During the 2 years of the Design Team process, we did lose one patient participant, whose chronic illnesses progressed to the point that she was no longer able to travel to participate in meetings.

## Study Outcomes

A main study outcome was the difference in patient-oriented outcomes seen with strengths-based versus deficit-focused health care; this was a focus of the Design Team's deliberations and was supported by the University of North Carolina's academic team's literature reviews and analyses. Through group discussion and small pilot investigations between meetings, the Design Team considered the scenarios in which a strengths-based approach would be particularly helpful. As the team designed the strengths-based approaches (outlined in Tables 3 and 4), they used their diverse experience and relevant literature to identify patient-oriented outcomes pertinent to the evolving understanding of strengths-based approaches. This process involved ongoing iteration which included understanding what relevant patient strengths are, how strengths can be elicited from patients and incorporated into different health care scenarios, and what relevant outcomes of this process would be.

## Data Collection and Sources

The phase 1 focus groups and individual interviews used an appreciative inquiry approach. Appreciative inquiry focuses on people's positive lived experiences and uses the energy from those peak experiences to imagine and work toward a more positive future.[54,62-64] These focus groups and interviews iteratively worked to apply appreciative inquiry principles by asking participants to consider times in their lives when their best attributes were brought forth in a way that made a difference. Perhaps because of this positive approach, all but one of the participants in the focus groups expressed an interest in participating in the Design Team. As described above, all but one Design Team member, who had to drop out because of progression of her chronic illness, stayed on the team through the 2 years of meetings.

The University of North Carolina members of the team, aided by 2 reference librarians, performed multiple literature searches to inform the Design Team process. These searches aimed to quantify the effects of various aspects of a strengths-based approach on relevant patient-oriented outcomes identified by the team.

For example, among many search strategies, refined with medical reference librarian assistance, one of the more selective and focused (resulting in 112 items) was the following:

((("Patients/psychology"[Mesh] OR ("Patients"[mesh] AND ("Health Services Needs and Demand"[mesh] OR "Physicians, Primary Care"[Mesh] OR "Primary Care Nursing"[Mesh] OR "Primary Health Care"[Mesh] OR "Patient Care Team"[MeSH])) OR ("Patients"[Mesh] AND "Health Knowledge, Attitudes, Practice"[Mesh])) AND ("strength based" OR "strength-based" OR "strengths based" OR "strengths-based" OR "health asset" OR "health assets" OR "inner strength" OR "inner strengths" OR "individual strength" OR "individual strengths" OR "ego strength" OR "personal strengths" OR "personal strength" OR "personality strength" OR "character strength" OR "character strengths" OR capabil* OR resilience or "strength"[ti] OR "strengths"[ti] OR "assets"[ti]))

## Analytical Approaches

In phase 1 of the study, the academic team from Case Western Reserve University met after each focus group and individual interview to review and then discuss transcripts and notes. Using a combination of template,[65] editing,[66] and immersion crystallization[67] techniques, the team identified themes[68] related to identifying categories of patient strengths, how to ask about strengths, and when strengths might be helpful in clinical situations. Emerging themes and insights were used on an ongoing basis to refine the focus group and interview protocol. The academic teams from the University of Oslo and the University of North Carolina provided input by email and telephone. The combined academic teams refined their analyses and planned phase 2 of the study during a multiday research retreat.

In phase 2 of the study, similar analytic methods were used between the Design Team meetings to iteratively make sense of emerging findings and to use that understanding to plan future meetings and to provide supportive materials for the team. During this phase, the team from the University of Oslo used insights from the Design Team meetings to develop and iteratively refine a computerized tool to elicit patient strengths (later named by the Design Team as the Strengths Collector). In addition, the team from the University of North Carolina reviewed video recordings of Design Team meetings using editing[66] and immersion crystallization[67] techniques to identify themes[68] related to meeting objectives 3 and 4. The academic team used additional retreats to synthesize emerging findings and to begin work on scholarly output to be further refined with the Design Team.

The Design Team held ten 2-hour meetings and conducted small pilot investigations between meetings. The content and homework (ie, tasks and small pilot investigations conducted by team members between meetings) for each meeting are outlined in Table 3.

## Table 3. Design Team Meeting Content and Homework

| Meeting | Content | Homework |
|---|---|---|
| 1 | Introduce the project, people, and phase 1 findings.<br>Articulate hopes and fears for the project.<br>Ask who else should be at the table. | Review the list of strengths, and bring any reactions, additions, or changes.<br>Look for strengths in others and yourself and jot them down in a project notebook. |
| 2 | Develop strengths categories.<br>Consider how to ask about strengths. | Try different ways of asking others about their strengths. |
| 3 | Reflect on how to ask different kinds of people in different situations about their strengths.<br>Review the evolving strengths list, asking what to keep, make clearer, cut out, or add.<br>Consider, from a patient's point of view, when you would want your strengths brought into health care. | Pay attention to situations when it might be helpful to bring patient strengths into health care. |
| 4 | Trim and refine a list of patient strengths.<br>Consider, from a health care practice point of view, situations in which it might be helpful to bring patient strengths into health care. | Consider scenarios when it might be most helpful to bring patient strengths into health care. |
| 5 | Try out the Strengths Collector tool (with Norwegian developers) using iPads.<br>Consider applying for a PCORI Engagement Award. | Try out the Strengths Collector tool with friends, family, or patients, and record impressions. |
| 6 | Make further refinements for the Strengths Collector tool.<br>Consider prior work on when the Strengths Collector could be used, and work through how to use it. | Try out the Strengths Collector tool in different settings and with different kinds of people. |
| 7 | Develop multiple, specific examples of how we could use the Strengths Collector tool in primary care. | Use worksheets to develop another example in detail. |
| 8 | Review and refine possible products from the team's work.<br>Consider the University of North Carolina's collaborators' review of the Design Team process.<br>Identify audiences for the work, and voices needed for the next phase.<br>Consider involvement in the next phase; plan future meetings. | Bring in a picture showing what bringing patient strengths into health care means to you, or what it means to use strengths to make a better life. |
| 9 | Develop communication strategies for different stakeholders.<br>Make final refinements to the Strengths Collector tool. | None |
| 10 | Review what we've done and what we've learned.<br>Refine our collective understanding of patient strengths, how they might be brought into health care, and what the likely results would be.<br>Decide on next steps.<br>Consider everyone's interest/involvement in next steps. | Review summary materials. |

Table 4 provides examples of the types of activities that occurred during meetings, which alternated between large and small group discussion and quiet time for personal reflection.

**Table 4. Examples of Design Team Activities**

- Writing down hopes and fears for the project, then sharing, posting, and sorting them during the first meeting and revisiting them during the final meeting
- Brainstorming missing stakeholders' voices
- Individual and group sorting of the evolving list of patient strengths
- Trying out strengths discussions with people in each team member's circles
- Group discussion:
  - What have you learned from asking your friends, family, and patients about strength?
  - What have we learned about patient strengths?
  - From the patient's point of view, when should patient strengths be brought into health care?
- Voting to narrow down the list of strengths
- Testing and feedback to refine the Strengths Collector tool
- Discovering the "who, what, when, where, why, how" of a strengths-based intervention
- Role playing strengths-based interventions
- Brainstorming which processes and outcomes might be important for different stakeholders

During its 10 meetings and small pilot investigations conducted between meetings, the Design Team worked to refine the strengths list and the new computer tool for assessing patient strengths. The Norwegian members of the team developed and iteratively modified the computer tool. Each participant was given an iPad containing the tool, to use in the small pilot investigations that involved asking people about their strengths, and sometimes applying them to improving their health or health care. The Design Team then identified clinical situations in which patient strengths would be particularly helpful, and developed design criteria that would be useful for implementing or for making a business case for a strengths-based approach in health care. Academic partners provided literature tie-ins and analyses between meetings and subsequently to develop scientific and communications output.

## Conduct of the Study

The study was approved by the Case Western Reserve University IRB. Despite challenges, we closely followed the approved protocol for objectives 1 through 3, and we attempted to follow the protocol for objective 4. For meeting objectives 1 and 2, the challenges in helping people discover and report their strengths led to important findings on the process of strengths elicitation, and to helpful refinements in the Strengths Collector tool. In working to meet objective 3, an important discovery was the challenge for the Design Team to produce design criteria and to specify details in the process and in patient-oriented outcomes, as much of the process and outcomes depends on the specifics of patients' strengths and situation. The challenge of defining a generic approach speaks to the need to tailor strengths-based approaches to the individual patient. The main deviation from the original study plan was due to the discovery of very limited quantitative details in the scientific literature on patient-oriented outcomes from a strengths-based approach. We needed quantitative data on outcomes to be able to construct models. The literature proved to be sparse and largely unhelpful in this regard (Hassmiller et al, unpublished data); as a result, we were unable to quantitatively model outcomes, as had been planned to meet objective 4.

# Results

In this section, we share the challenges of helping patients discover their strengths and how we responded to those challenges in developing a computerized Strengths Collector tool. Then we describe the features of a strengths-based approach, and situations in which it may be particularly useful. Finally, we elaborate on what we learned about designing approaches for bringing patient strengths into health care and share a video example.

## Eliciting, Identifying, and Classifying Patient Strengths

Patients from disadvantaged backgrounds found it difficult to articulate their strengths, particularly when directly asked what their strengths were. However, interviews that focused on times when things went well in their lives helped patients identify strengths that might be relevant to improving chronic disease management and prevention. Once an example was brought to mind, they often could then identify particular attributes that they brought to bear

to deal with a challenge or to make a positive change.

For example, when we asked patients to "Think about a time when you drew on strengths within or outside you to create a positive change in your health," we got answers that focused on doctors, shots, pills, tests, costs, or waiting rooms. When we asked the patients to "Think about a time in your life when something good happened—it may be because of who you are, or the people around you or community resources made a difference," patients told us great stories about using their strengths—they just never used the word *strength*. Stories and examples also aided understanding.

Helpful starting-point questions included the following:

- What are you proud of?
- What makes you successful?
- When do you feel you can make the best healthy choices?
- What do other people say about you?
- What have you been working on? What have you been doing?
- What did you do well?

A manuscript by the lead interviewer articulates her personal experience in learning to elicit people's strengths, and the epiphany of taking an approach that focuses on specific instances when things went well in someone's life (Aungst et al, unpublished data).

Parallel work by the academic team, conducted in anticipation of modeling patient-centered outcomes, examined the literature to identify strengths-based aspects of established methods for changing health behaviors (Martukovich et al., unpublished data). Three approaches relevant for primary care are motivational interviewing,[69,70] solution-focused brief therapy,[71] and chronic disease self-management.[72] In motivational interviewing, a collaborative counseling style is based on partnership, compassion, acceptance, and evocation to elicit and strengthen motivation to change.[73] In solution-focused brief therapy, the counseling style focuses on patients' successes, strengths, and resources by exploring and understanding exceptions to their problems, and inspiring patients to envision their desired future and to do

more of what is working.[74,75] In chronic disease self-management, a peer group develops and maintains positive behavior changes and helps patients manage illnesses by building self-efficacy through weekly meetings where patients develop and receive feedback on action plans.[76,77] A strengths perspective also is formatively used in social work,[21] nursing,[24,25] and positive psychology.[23]

**Figure 1. Word Cloud of Patient-identified Personal Strengths**


A refined list of patient-identified personal strengths falling into 3 categories—personal attributes, supportive relationships, and community resources—is shown in Table 5 and highlighted in the word cloud in Figure 1. The more items in a category in Table 5, the more prominent that category was in discussions and interview comments.

## Table 5. Patient-identified Strengths—to Help With Chronic Illness, Behavior Change, or Life Events

Personal Attributes

1. I make it a priority to take care of myself.
2. I set goals for myself.
3. I have a deep faith.
4. I have determination and persistence.
5. I have made changes in the past with good outcomes.
6. I have a positive attitude most of the time.
7. I recognize warning signs when I need to change something in my life.
8. I actively participate in my own health care.
9. I use humor.
10. I am a good listener.
11. My life feels meaningful.
12. I enjoy learning new things.
13. I am flexible.
14. Most days, I feel grateful.
15. I am accepting of those things that I cannot change.
16. I take things one step at a time.
17. I am a people person.
18. I know what I need to do to reduce my stress.
19. I can be patient when I need to be.
20. I try to help others.

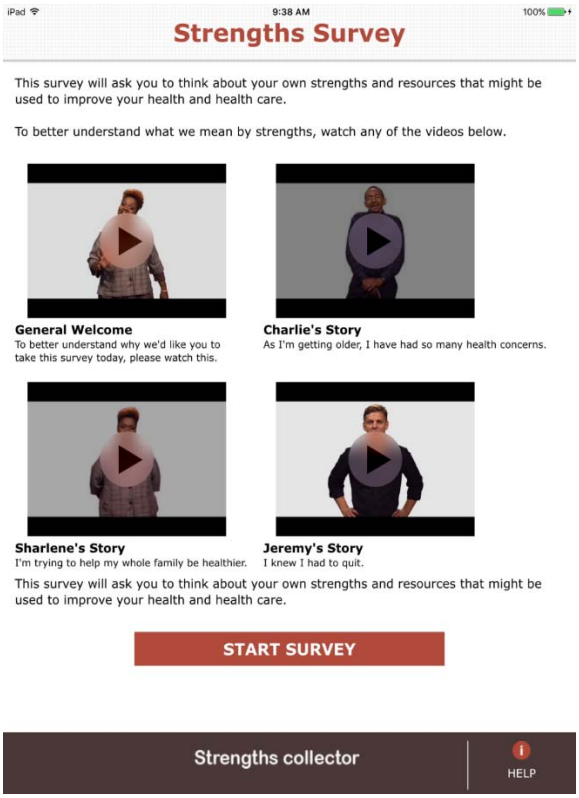
Supportive Relationships

21. I have a good relationship with a health care professional (doctor, nurse, social worker, psychologist).
22. I have people in my life who motivate me to be healthy.
23. I have people I can talk to who have similar experiences and concerns.
24. I have family or friends I can count on.
25. I have someone in my life who supports my decisions.
26. I have someone in my life who looks out for my health care needs.

Neighborhood, Community, Health Care Resources

27. I feel at home in my community.
28. I have a place go when I am concerned about my health.
29. I understand how to find my way around the health care system.
30. I am open to using resources in my community.

Figure 2A. Screen Shot of Strengths Collector Tool: Personal Video Introductions

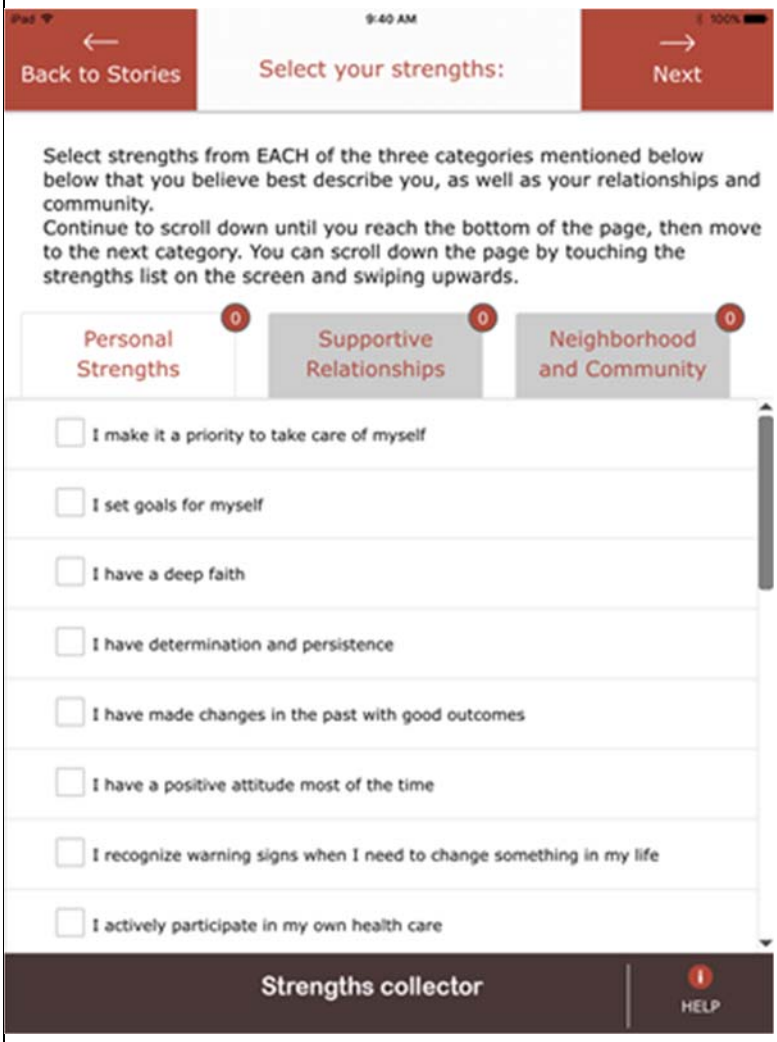



It is a paradigm shift to bring patient strengths into health care settings that already feel time-pressured because of the emphasis on deficit-focused, disease- and risk factor–based care. To drive a wedge into this usual paradigm, we developed an interactive computer tool to elicit patient strengths outside of the time pressures of the health care encounter, so that a patient-developed and -prioritized list of strengths could be a starting point for a different kind of health care built on patients' strengths. This tool, named the Strengths Collector by the Design Team, was created by the Norwegian members of the team, based on iterative input from the Design Team. It was built on a technology platform developed previously for a highly successful tool designed to elicit patient symptoms.[57-59] It functions on an iPad, to enable easy use in a clinical setting.

When tested by the Design Team, the initial prototype required a fair amount of interpersonal interaction to help users understand the strengths concept, articulate their own strengths, and then envision how those strengths might be applied to health care and health.

Therefore, the team developed scripts for 4 types of patients who begin engaging with the tool in different ways. As shown in Figure 2A, these 1- to 2-minute stories were videotaped with professional actors, and serve as the front end of the computerized Strengths Collector tool. After viewing one or all of the video vignettes, the person using the tool is asked to rate the degree to which each item on a list of strengths describes him or her, as shown in the screenshot in Figure 2B. Users are also are given the chance to write in additional strengths. The tool then presents the resulting list of strengths and asks the user to rate the degree to which they are relevant to the reason for his or her health care visit. The tool then presents a prioritized list to the patient, and if desired, to the patient's health care provider.

**Figure 2B. Screen Shot of Strengths Collector Tool: Strengths Selection Page**




The tool is available in the public domain at the Apple App Store (https://itunes.apple.com/us/app/strengths-collector/id1324951675?mt=8). As noted, it is particularly suited for use on an iPad.

## Characteristics and Patient-oriented Outcomes of a Strengths-based Approach

The Design Team identified the following characteristics of a strengths-based approach

to health care:

- Has as its primary focus a person's strengths rather than his or her deficits
- Encourages the assessment of potential resources, formally or informally
- Creates a holistic image of the person for both the person and the health care provider
- Is activating and motivating for patients and health care providers
- Identifies strengths for the person, which can catalyze action that draws in new possibilities
- Encourages the use of assets to promote health and well-being
- Contributes to equal, trusting partnerships between the patient and the clinician and other members of the health care team
- Can inform and energize a personalized care plan that uses strengths to achieve goals

Patient-oriented outcomes from a strengths-based approach relate to greater engagement in health care, furthering understanding on both sides of the clinician–patient relationship, and greater motivation and meaning for needed behavior change. These outcomes include the following:

- Patients are empowered, understand how strengths can be used to change behaviors and manage chronic illness, and can advocate for themselves.
- Clinicians gain a holistic understanding of the patient by considering the patient's priorities and values.
- Patients and clinicians can communicate and trust each other, which helps them build a relationship.
- Patients gain greater motivation and instrumental help with challenging behavior change, which improves adherence to evidence-based clinical care guidelines that are relevant to what is important in their life.
- In the long term, health care systems can better serve patients by providing culturally sensitive and supportive care.

We also identified the possibility of negative outcomes. These relate not so much to the identification of patient strengths, which was universally a positive experience in both phases of the project. Rather, the possibility of adverse effects relates to what might happen if sufficient respect is not paid to the identified patient strengths. If a person's strengths are trivialized by the health care provider, or if they are used in a heavy-handed or dismissive way to coerce or insist on challenging changes without sufficient support, the result could paradoxically be reduced motivation. Peoples' strengths often are held close to their hearts, so a strengths-based approach requires sensitive application to be safely used.

## Situations in Which a Strengths-based Approach May Be Useful

The Design Team identified situations in which a strengths-based approach might be particularly useful. Table 6 shows these situations from the point of view of the patient, the clinician or practice, the clinician and patient together, and the health care system or organization, based on the type of visit. Each of these points of view can be a useful starting point for a strengths-based discussion.

The situations described in Table 6 span a wide variety of people and circumstances. What they have in common is a sense that the usual approach based on what is wrong—risk factors, diseases, or poor health habits—isn't working, and that changing the focus to assets, rather than deficits, might be helpful. Applying a strengths-based approach could be as simple as a physician asking a patient about a time when something went well in his or her life, and then reflecting together with the patient about how that experience might be brought to bear on the current circumstances. It could be as complex as a patient asking for a different kind of conversation, and then the physician and patient developing a series of reflections, small experiments, and shared learning together over time.

## Table 6. When to Consider Bringing Patient Strengths Into Health Care

From a Patient Point of View

- When the need isn't about health care
- When you want/need to be looked at as a person beyond your obvious weaknesses
- When you need help dealing with the unknown or something tough in your life
- When you've been invalidated by other health care providers (wronged, hurt, badly treated)
- When things aren't going well in relationships in your life
- When getting ready for a challenge
- When working toward a long-term goal
- When you're the caregiver
    - Need to have my strengths recognized and brought to bear
    - Need to recognize strengths in the weakened patient
- When you have conflicts
    - Within yourself
    - With others

From a Clinician or Practice Point of View

- When the health care professional can take time
- When the physician doesn't have a label for what is wrong or what needs to happen next
- When you want to use the sandwich technique—something good, then something bad, then something good
- When there is trust, or when trying to build trust
- When the clinician or staff member senses the time is right

From a Clinician and Patient Point of View

- When the relationship
    - feels stuck, or needs a reboot or a new plan of action
    - is not achieving the results you'd hoped
- When clinician and patient agree they're facing something tough
- When clinician and patient want to have a different kind of conversation
- When reflection is needed to understand what is going on or to guide action
- When encouragement or motivation is needed

From a Clinician and Patient Point of View, by Visit Type

- First visit—sets up the relationship as a partnership (not one person fixing)
    - Meet and greet
    - Sets up future interactions
    - Understands me as a person
- End of visit—wrap-up
    - What's next?
    - The physician has medical expertise and prescriptions—but to develop a plan, we need to know what the patient is bringing to the table
    - Power to get better
- Behavior change, chronic disease management, or prevention visit
- Conversation with someone other than the physician—nurse, physical therapy, health coach

The Design Team also identified 6 specific scenarios in which a strengths-based approach might be particularly helpful, as shown in Table 7.

## Table 7. High-yield Scenarios for Bringing Patient Strengths Into Health Care

- **Diabetes management**—Health care visits to help manage diabetes, likely involving multiple members of a primary health care team, such as a physician or nurse practitioner, nurse, nutritionist, or health coach
- **High users of health care**—Patients who are being provided with extra services because they use a lot of health care, particularly emergency department visits or hospitalizations
- **Chronic pain management**—Either the patient or the health care provider feels "stuck"—as though the current way of helping the patient live with his or her ongoing pain is not working, or the patient would like to find a nonpharmacologic long-term approach to manage pain
- **Group health care visit**—Visits in which 6 to 10 patients meet to learn from each other about how to improve their health or manage an illness, and also receive some individualized care
- **Patient-initiated scenario**—A different way of approaching health care, in which patients themselves seek out a strengths-based care session to get "unstuck"
- **Clinician-initiated scenario**—The clinician subtly works assessment and consideration of patient strengths into ongoing health care

There are many other possible scenarios in which a strengths-based approach might be helpful. Many of these relate to subtle circumstances best discerned by individual patients, clinicians, other health care professionals, or caregivers. However, the Design Team felt these 6 scenarios represented situations in which a strengths-based approach is likely to provide value from diverse stakeholder perspectives.

## Design Criteria for Implementing a Strengths-based Approach

Figure 3 depicts the process used to develop design criteria—the steps that must be taken to successfully bring patient strengths into health care. In this process, Design Team members used an iterative process over time that involved refining the categories of strengths,

defining situations and approaches in which bringing these strengths into health care might be helpful, and considering patient-oriented outcomes that might be affected by a strengths-based approach. The bullet points at the bottom of the figure show aspects of the process of a strengths-based approach; the bullet points on the right side of the figure show patient-oriented outcomes identified by the Design Team as likely to emerge from applying those processes. These can be used as a starting point for future empirical research to test the effects of strengths-based approaches on patient-oriented outcomes.

**Figure 3. Designing Strengths-based Care: Bringing Together Evidence and Stakeholder Perspectives**

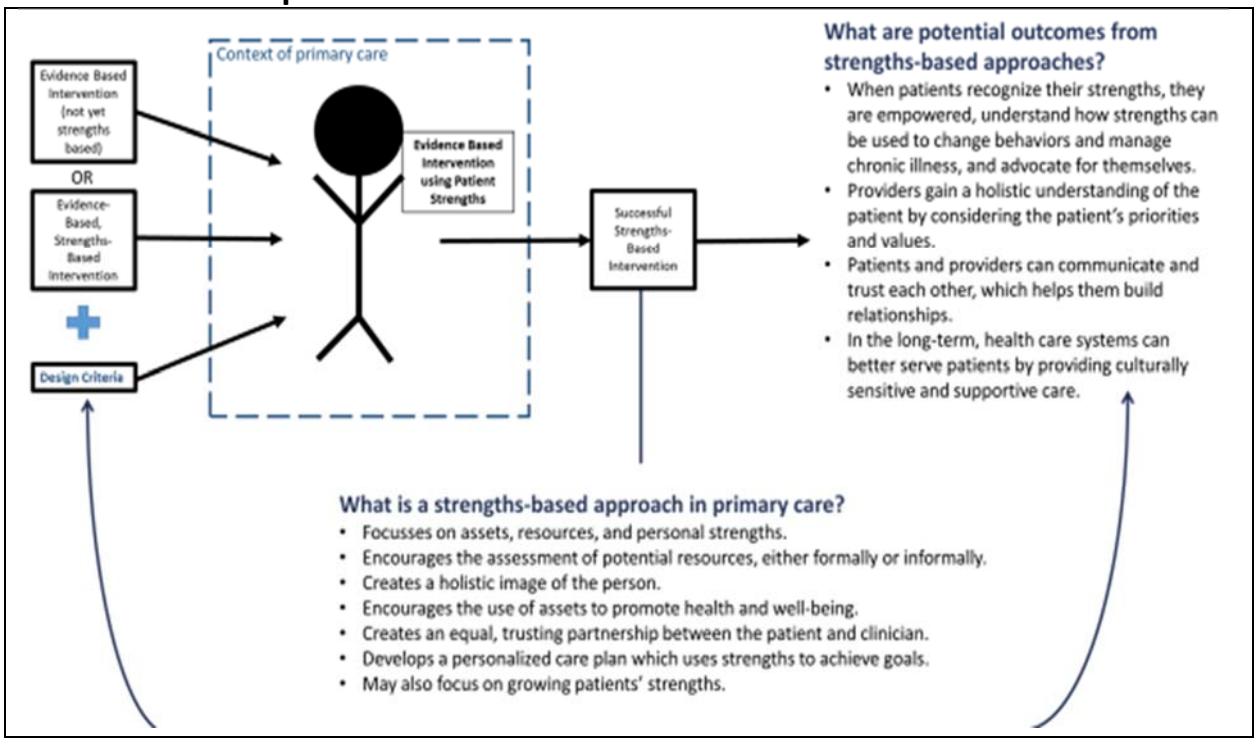



Table 8 outlines important design criteria—factors to be considered—in planning strengths-based interventions in primary care. These relate to the external context and incentives, organizational processes and systems, aspects of the involved professions and their philosophies of care, and the nature of the strengths-based intervention. These criteria can be used to design a strengths-based intervention across a wide variety of contexts and situations (Karmali, in preparation).

## Table 8. Design Criteria for Strengths-based Interventions in Primary Care

- External context
  - Dominant paradigm
  - Stakeholder buy-in
  - Incentives
  - Infrastructure
  - Technological advances
  - Policy and legislation
  - Economic climate and government financing
  - Public awareness
- Organizational factors
  - Relationships: clinician–patient
  - Relationships: clinicians–others
  - Processes and systems
  - Resources
  - Culture
  - Skill mix
- Professional factors
  - Competency
  - Roles
  - Philosophy of care
  - Attitude toward change
- Intervention
  - Nature
  - Implementability
  - Safety and data privacy

Table 9 shows a simple application of the design criteria to 4 scenarios—patients living with chronic low back pain, patients living with diabetes, high/frequent users of the emergency department, and patients wanting to have a different kind of conversation. This application uses a modification of the PICOTS framework—Patient population (for the particular scenario), Intervention (a strengths-based approach), Comparator (usual, deficit-focused care), Outcomes, Timeframe (duration of the intervention), and Setting.[78,79] For each scenario, the Design Team specified 3 settings: a single primary care visit, longitudinal primary care, and settings outside of a visit with a single primary care clinician. These depictions are not intended to be proscriptive, but to give a sense of how the same strengths-based approach might play out if used in these

diverse ways.

## Table 9. Application of Design Criteria to Various Scenarios, Using the PICOTS Framework[78,79]

Table 9A. Scenario: Chronic Low Back Pain Management

| Aspect | Setting | | |
|---|---|---|---|
| | **Single Primary Care Visit** | **Longitudinal Primary Care** | **Outside Setting** |
| Population | A person with ongoing or recurrent back pain, who may be continuing to use narcotics, despite education, back school, and physical therapy; hasn't incorporated regular preventive exercises and activity modification; still wants the doctor to "fix me"; may have painful life events | Same as for single visit | Group visit: people with chronic pain willing to work in group |
| Intervention | Strengths Collector tool, focused discussion of strengths related to implementing 1 or 2 interventions that might help, but require ongoing motivation | Focus on using strengths as multiple lever points for improving pain and for reducing the impact of pain on what is meaningful to the person | Individuals use the Strengths Collector tool, reflect, share, discuss, develop action plans, and hold each other accountable; may be in a non–health care setting |
| Comparator | Renew narcotics prescriptions and refer to physical therapy | Conflict over narcotic use and addiction, or person becomes high user of health care or doctor shops | Non–strengths-based back school |
| Outcomes | Success in using technique, blunting of progression | Increased insight, sense of control, self-management options, learning to live despite pain—reducing impact of pain on meaning and quality of life | Increased self-management options, self-efficacy, learning to live despite pain—reducing impact of pain on meaning and quality of life |
| Timeframe | Weeks | Months | Many months |

Table 9B. Scenario: Diabetes Management

| Aspect | Setting | | |
|---|---|---|---|
| | **Single Primary Care Visit** | **Longitudinal Primary Care** | **Outside Setting** |
| Population | A diabetic patient who has used the Strengths Collector tool | Ongoing conversation | Diabetes Pathway: person with uncontrolled diabetes |
| Intervention | "It might be interesting to think about how this strength might help you _____," → short conversation (1-3 minutes) | "Can you use the time until our next visit to think about how your strength in _____ might help you ____?" | Multiple visits with a nurse diabetes educator—using knowledge-based education and motivation |

| | | | |
|---|---|---|---|
| Comparator | Check for and advise about overcoming deficits | Repeatedly check for and advise about overcoming deficits | Multiple visits with a nurse diabetes educator—using knowledge-based education |
| Outcomes | Patients feel more invested, motivated, engaged | Change in active coping/resilience, self-efficacy, attention/cognitive processing, self-regulation/motivation, social support → physical activity, diet, medication adherence, preventive care → HgbA1c and diabetes complications decrease | Same as for comparator above |
| Timeframe | May lead to a different conversation now and behavior change some time in the future | Check in during most visits (every 2-4 months), anticipating improvement in behaviors/outcomes over time | Check in during nurse educator visits, and check in during most primary care visits, anticipating improvement in behaviors and outcomes over time |

Table 9C. Scenario: High Users of the Emergency Department

| **Aspect** | **Setting** | | |
|---|---|---|---|
| | **Single Primary Care Visit** | **Longitudinal Primary Care** | **Outside Setting** |
| Population | People identified as a problem to the system; not connected to primary care | People identified as a problem to the system. (often high unmet psychosocial needs, often multiple medical problems); connected to primary care; have problem not easily resolved by increasing access to care | People identified as a problem to the system. (often high unmet psychosocial needs, often multiple medical problems, often difficult to solve access barriers) |
| Intervention | Use Strengths Collector tool—acknowledging strengths can create calmness, pause, relaxing, "aha moment," opening up, personal story, talking—discussing strengths to build a relationship | Use Strengths Collector tool, guided conversation (could be acknowledging strengths or using strengths)—"Maybe instead of going to the ED to get fixed, you have some strengths you can draw on instead." | Home based; use Strengths Collector tool as basis for care plan |
| Comparator | Providing more disease management for (often multiple) diseases; shaming interactions | Providing more disease management for (often multiple) diseases; shaming interactions | Deficit-based hot spotting; providing more disease management for (often multiple) diseases; shaming interactions |

| | | | |
|---|---|---|---|
| Outcomes | Increased efficacy, sense of being heard, engagement; increased use of primary care | Increased efficacy, sense of being heard, engagement; increased use of primary care; decreased ED use | Increased efficacy, sense of being heard, engagement; increased use of primary care; decreased ED use |
| Timeframe | Next primary care visit | 6 to 12 months | 6 to 12 months |

Table 9D. Scenario: Patient-initiated ("I want to have a different kind of conversation.")

| **Aspect** | **Setting** | | |
|---|---|---|---|
| | **Single Primary Care Visit** | **Longitudinal Primary Care** | **Outside Setting** |
| Population | Patient who responds to an invitation (eg, poster, flyer, discussion) to have a different kind of conversation | Patient who had an initial conversation about strengths who wants to continue—to learn different ways to use his or her strengths, and to have a different relationship with clinician | Patient who wants to take a positive approach to his or her health |
| Intervention | Use Strengths Collector tool; reflect on report, share with clinician; discussion to get to know this side of patient, and how this new self–clinician understanding might be focused on ___ (10 minutes patient; 1-3 minutes during visit). | In-depth exploration of previously hidden, untapped resources over time; cocreating a proactive patient-driven care plan | Individuals use Strengths Collector tool, reflect, share, discuss, develop action plans, hold each other accountable |
| Comparator | Usual care—focused on what is wrong and what is not working | Usual care—box-ticked prescribed care plan | Educational sessions about health |
| Outcomes | Patient feels more invested, motivated, engaged in health care and his or her health; clinician sees the patient differently; changed relationship → more patient-centered care, less medicalization, using larger range of health services, etc; gets out of a rut; together they explore new options | Greater continuity of care; more proactive care versus learned helplessness | Better health behaviors; better able to navigate health care and use a broader range of non–health care community support |
| Timeframe | May lead to a different conversation now; behavior change some time in the future | Ongoing | Monthly for 6 to 8 months; some may continue |

Abbreviations: ED = emergency department; HgbA1c = glycated hemoglobin; PICOTS = Population, Intervention, Comparator, Outcomes, Timeframe, Setting.

## An Implementation Example

An example of the implementation of a strengths-based approach can be seen in the video available at https://vimeo.com/196765613. This video (a screenshot is depicted in Figure 4) shows the enactment of the patient-initiated scenario, in which a patient sees a poster in the waiting room inviting a different kind of conversation. As prompted by the poster, she asks the receptionist what to do, and is given an iPad containing the Strengths Collector tool. The Strengths Collector tool produces a prioritized list of her strengths that is given to her clinician, and a different kind of conversation and plan for her chronic disease management ensue. Both the patient and the clinician are more hopeful and differently engaged after the encounter. The general approach is applicable to the other scenarios, and to involving other staff members.

## Figure 4. Screen Shot From an Enactment of a Patient-initiated Scenario

# Discussion

## Decisional Context

Our study findings reveal the transformative potential of a strengths-based approach to uncover previously hidden motivations and resources in health care situations that require ongoing motivation and wide support for behavior change. They also bring to light the limitations in current evidence regarding the effect of a strengths-based approach on patient-oriented outcomes.

We identified 3 domains of patient strengths and generated a list of example strengths within those domains that are grounded in the experience of people from disadvantaged backgrounds. Participants additionally developed techniques for helping patients identify their strengths relevant to improving their health or health care, particularly in the realms of chronic disease management and prevention. We have also developed and refined a computerized Strengths Collector tool, and placed it in the public domain in the Apple App Store.

The study also identified aspects of a strengths-based approach that may be useful in its application and articulated 6 scenarios in which engaging patient strengths in health care may be particularly fruitful. We additionally identified patient-oriented outcomes that may result from applying a strengths-based approach to health care, but we were unable to unearth sufficiently relevant quantitative outcomes to develop models comparing strengths-based versus deficit-focused health care.

Realizing the transformative potential of a strengths-based approach will require a paradigm change from the usual deficit-focused health care. Such a paradigm shift may be best targeted toward situations in which the limits of a disease- or risk factor–based approach, and the promise of an asset-based approach, are readily apparent. We have identified 6 such scenarios—diabetes management, high use of health care, chronic pain management, group health care visits, when patients feel a need to get “unstuck,” or when clinicians sense that focusing on strengths would be a useful way to reframe care. We encourage others to consider and experiment with these and other situations in which a focus on assets may be more

productive than a focus on deficits.

It is not easy for patients from disadvantaged backgrounds to identify their strengths. Negativity of thought patterns, experience with cumulative disadvantage, adverse health care experiences, and being raised to not self-aggrandize all conspire to deemphasize strengths. However, through stories and examples, patients from disadvantaged backgrounds can identify strengths relevant to improving their health care and health. In the focus groups and individual interviews, participants typically thanked us for the opportunity to consider their strengths. Even outside of a health care application, the mere process of identifying and reflecting on sometimes hidden strengths may have therapeutic value in itself, by engendering a sense of worth, efficacy, hope, and connection.

These patient-identified strengths relate to personal attributes, interpersonal relationships, and community resources. The computerized Strengths Collector tool that we developed and placed in the public domain may be useful in starting a different kind of health care conversation that launches a positive path toward improving chronic disease management and prevention. Respecting the intensely personal nature of patient-identified strengths requires sensitive consideration of the vulnerability that a person shows in articulating his or her strengths. Future interventions will likely benefit from a training component to ensure that health care professionals are equipped to sensitively and effectively help patients build a different kind of conversation, self-identity, and future story, based on using the strengths within themselves and in their connections to others.

We hypothesize, on the basis of the developmental work described here, that improved health care and health from a strengths-based approach will be mediated through greater patient empowerment, motivation, and engagement, and through stronger relationships with family, friends, community resources, and clinicians. We further hypothesize that these mediating factors from a strengths-based approach will result in more empowered, engaged patients who are enabled to manage ongoing illnesses in ways that tie care processes to what is meaningful in their lives. More personalized, engaged care; healthier behaviors; adherence to care aspects that tie into meaning; and better overall health are likely patient-oriented

outcomes of a strengths-based approach.

The Design Team stakeholders identified the potential healing effects of a more holistic understanding of the patient by considering the patient's priorities and values, richer communication, and trust that links motivation and instrumental help with challenging behavior change, leading to greater adherence to those evidence-based clinical care guidelines that are relevant to their lives. The resulting transformed relationships could serve as a salve for an increasingly burned out health care workforce, as well as for an increasingly isolated, depersonalized, and fragmenting patient experience of health care.

Systems support will be required if a strengths-based approach is to achieve a regular place in the health care armamentarium. The 6 scenarios we identified and the design criteria revealed in this research would be a good place to start. In addition, the video shared here provides a model for clinicians, practices, and patients who wish to begin experimenting with trying out a strengths-based approach and learning what works in what situation for which patient. Further research is needed to empirically test a strengths-based approach and to assess the resulting patient-oriented, health care team, and health care system outcomes.

## Study Results in Context

This research, focused on primary care, advances work from positive psychology,[23] social work,[21] and nursing,[24,25] and articulates the potential befits of a strengths-based approach. Brief discussions in this report, and a longer treatment in another manuscript (Martukovichet al, unpublished data) depict how 3 approaches—motivational interviewing, solution-focused brief therapy, and chronic disease self-management—that have made some inroads into primary care might be adapted to selectively use a strengths-based approach in the places where most patient care is provided.[37] The limited evidence on patient-oriented outcomes among these approaches did not allow us to make a business case for a strengths-based approach, but the practical work accomplished in this PCORI study makes it possible to conduct further empirical research and reflective implementation, and pursue ongoing learning.

Relating to the list of strengths uncovered in this work, a recent concept analysis of

patient strengths based on an extensive literature review[80] identified internal strengths in relational, motivational, protective, and volitional domains, and external strengths in the domains of support, expectations of others, and physical and environmental elements. These categories are somewhat similar to our personal, interpersonal, and community strengths domains.

Other research and theory is congruent with the idea that a strengths-based approach in health care would require a fundamental shift in perspective—to increase focus on patients' assets, resources, and personal strengths as opposed to the currently more dominant consideration of patients' emotional, behavioral, and/or physical deficits.[34,81] From previous descriptions of a strengths-based approach,[19,21,23,25,29,82-85] 5 key themes have been emphasized across fields that amplify our findings and put them into context:

(1) All individuals possess strengths.[19,21,29,82,83,85-89] Strengths-based approaches promote the belief that strengths are present within every individual, family, and community, and that each environment contains potential resources.[21] According to positive psychology, a patient's strengths are not considered to be epiphenomenal, derivative of, or less real than their faults, but rather are deserving of equal attention when promoting psychological well-being[89]—and, we believe, in advancing preventive and chronic illness care and overall health. Highlighting an individuals' positive abilities may make them more likely to further develop them and other capacities.[85]

(2) Strengths-based approaches create a holistic view of the person.[19,21,24,25,29,82,83,86,87,90] In strengths-based nursing and medical care, clinicians acknowledge and understand each patient, holistically, as a unique individual.[24,25] The patient's environment can give rise to individual strengths and be filled with untapped resources.[24,25] Different environments can bring out or inhibit a patient's strengths, and contribute to the uniqueness of a person.[24,25] This enlarging of the view of the person was a consistent theme in our research as well.

(3) Strengths-based approaches assess potential resources from the patient's perspective.[19,21,25,29,34,82-87,90] Numerous methods of assessing strengths have been reported, and several examples of empirically validated assessments can be found in the literature.[91-95]

Strengths can be assessed in clinical settings using a variety of approaches, including, but not limited to, the following:

- Administering validated strength assessment scales and inventories
- Using open-ended clinical interview questions aimed at eliciting strengths
- Interviewing friends, family, and coworkers about an individual's strengths
- Using standardized measures of resilience when a person is under duress
- Encouraging individuals to use strengths to develop deeper levels of engagement with the world around them
- Using narrative techniques such as storytelling to depict positive, strengths-filled moments
- Honing an individual's ability to convert intangible strengths into tangible behaviors[86,96]

A particular value of the Strengths Collector tool that we developed is that it provides patients with an opportunity to consider, articulate, and reflect on their strengths, and then to prioritize them for engagement within the context of a health or health care issue. This experience has the potential to be both motivating and empowering.

(4) Strengths-based approaches can help create an equal, trusting partnership between the patient and clinician.[21,29,81,82,86,87] In strengths-based approaches, the clinician must periodically step aside from the expert role in favor of a more collaborative approach that considers patients to be the experts on their own lives. These approaches offer clinicians a chance to develop "a more egalitarian working relationship based upon their strengths and resilience."[81] Additionally, facing and overcoming life's hardships can be viewed as an opportunity to avoid judgments or placing limits on a patient's full capacity.[21] One of our hopes for a strengths-based approach in primary care is to allow primary care clinicians to refocus on relationships—a fundamental aspect of primary care[41,97-99] that is undervalued and diminished by "productivity" pressures in the current health care system.[100]

(5) Personalized care plans can achieve goals by focusing on opportunities and possibilities.[21,25,29,82,83,86] The ultimate objective of strengths-based approaches is to empower patients to achieve self-identified goals and to take responsibility for their health.[24] Social work

defines strengths-based approaches as "a way of viewing the positive behaviors of all clients by helping them see that problem areas are secondary to areas of strength."[83] For example, in strengths-based mental health care practices, resources that are routinely present are used to develop a personalized plan that meets the patient's specific needs.[101] Additionally, solutions can be developed based on what patients do successfully.[83] The use of strengths in the scenarios identified in this research and the development of additional scenarios using the articulated design criteria have great potential to create engaging and motivating personalized care plans.

## Implementation of Study Results

A recent review by Lau and colleagues[102] puts our work into the context of understanding the diverse factors that influence the implementation of complex interventions in primary care. The design criteria that we developed articulate the relevant external context and incentives, organizational processes and systems, aspects of the involved professions and their philosophies of care, and nature of the strengths-based interventions. These criteria provide a starting point for additional implementation science research, as well as for patients, clinicians, practices, and health care systems interested in early implementation and rapid-cycle learning.

As discussed in the explication of the design criteria, the barriers to implementing strengths-based approaches are substantial in the current system, which measures and incentivizes delivery of commodities of health care[103] and thus unintentionally devalues investment in relationship aspects of care.[100] We believe, however, that the selective implementation of strengths-based approaches in situations in which the current system often is ineffective—such as in the 6 scenarios defined—can start to create overlapping ripples of demand for greater use of these approaches. The first are likely to come from patients, caregivers, and clinicians who see the transformative power of patient strengths. If those directly involved in strengths-based care see value, they may stimulate later change from health care system leaders who see the potential for cost savings and better outcomes. Further empirical research is needed, however, to conduct implementation with diverse patients in

diverse health care situations and settings, and to evaluate impact on patient-oriented outcomes.

## Generalizability

We focused on assessing strengths in patients from disadvantaged backgrounds and applying a strengths-based approach in the primary care setting. The results may generalize to other populations and settings, and findings from collaborating studies in Norway (Kristjansdottir et al., in press),[80,104-106] a country with a more robust safety net and less socioeconomic inequality, suggest that it may be easier to elicit strengths from people having more advantaged backgrounds. But the challenges of overcoming the tradition and philosophy of deficit-focused care appear to transcend socioeconomic boundaries.

Similarly, strengths-based approaches undoubtedly are applicable to situations other than the 6 high-yield scenarios identified in this research. Although we would recommend further empirical research starting with these scenarios, the design criteria certainly can be applied to identify other situations in which bringing patient strengths into health care could have a positive effect on patient-oriented outcomes.

Our findings may be transportable to specialty settings, particularly those that have a whole-person or relationship focus to their patient care, and those that have less time pressure than most current primary care settings. They may be less transportable to acute care settings or to narrow specialties or those that don't provide longitudinal care. The findings may be easiest to implement in primary care settings that allow more time for relationship development, such as direct primary care,[107,108] but the challenges of breaking into the current "productivity"-oriented environment, and its workflows focused on cranking people through protocols, are likely to be substantial.

## Subpopulation Considerations

As previously noted, our study findings are focused on patients from disadvantaged populations, for whom it may be a challenge to elicit strengths, but who may have the most to gain from a strengths-based approach. Our findings also are particularly applicable to people

living with chronic illness, for which long-term health behavior change is a vital part of treatment.[109] The large and growing number of patients with multiple chronic conditions,[110] which is the norm rather than an exception in primary care,[12] are particularly likely to benefit,[13,14,111,112] as are frequent users of emergency or other health care, whose needs may not be well served by deficit-focused approaches.[113,114] Patients for whom health behavior change could result in significant health benefits also are prime potential beneficiaries of a strengths-based approach to health care.[8]

Related work by Norwegian colleagues has examined strengths elicited from patients with cancer[115] and from patients receiving care in intensive chronic disease management programs (Kristjansdottir et al, in press). Differences in culture, ethnicity, and social and health care systems, as well as the types of diseases under treatment, make comparisons challenging, but overall, the more advantaged Norwegian patient populations appeared to have an easier time identifying personal strengths and attributes.

In a study of Norwegian patients' insights into the design of technology to support a strengths-based approach to health care, patients with different chronic conditions (eg, chronic pain, morbid obesity, and chronic obstructive pulmonary disease) were interviewed and formed design teams.[106] In this setting of universal health care and strong social services, patients recommended using technology in preconsultation settings (eg, at home) to help identify strengths and attain personal health-related goals. Patients recommended preparing in advance for strengths-based consultations and empowering patients to take a more active role. They suggested using technology to elicit patient strengths in specific contexts that include individual or group consultations with health care providers, individual clinical consultations, and also encounters outside health care settings (eg, self-management programs). For functionality and design, they recommended providing examples of strengths reported by other patients with chronic conditions and offering an option to extend the list with personal examples. They recommended offering an option to briefly summarize health-related history, and using intuitive, easy-to-use but also engaging user interface design. Like our US patients, the Norwegian patients with chronic disease felt that technology could facilitate meaningful patient–clinician

communication that not only focuses on symptoms and problems, but also takes into account patients' strengths and resources.[106] Ongoing work by the Norwegian team to develop a more game-like Strengths Collector tool could advance the tool developed for this PCORI research, by making assessment of strengths interesting to a wider range of people, including young people.

## Study Limitations

It was challenging for the Design Team to envision specific strengths-based interventions and to detail their components, in part because of the great benefit of tailoring care to the particulars of the individual.[116] The need for a strengths-based approach to focus on context led to design criteria that lack details—a weakness for modeling processes and outcomes, but a strength in recognizing the benefits of personalization and in avoiding false specificity, and for creating broadly generalizable principles that can be applied and reinvented in different contexts.

Our biggest challenges were limitations in the scientific literature of information needed to assess the quantitative impact of strengths-based approaches on patient-centered outcomes. As a result, we were unable to fully meet objective 4—comparative effectiveness analyses of strengths- versus deficit-based approaches to health care. These gaps in evidence are a call for further research on the relationship between strengths-based approaches and patient-oriented outcomes. We had hoped to be able to use the parameters of a strengths-based approach, identified by our stakeholder Design Team in meeting objective 3, to define the various components of this approach based on literature relating the engagement of patient strengths in health care to patient-centered outcomes. Then we planned to iteratively feed this information back to our Design Team to ultimately develop a business case for the use of operationalizable strengths-based approaches to influence patient-centered outcomes. The aforementioned limitations in the literature forced us to work more by analogy, using aspects of approaches that in the literature have some components of a strengths-based approach, and some linking to patient-centered outcomes. We reframed some of the planned scholarly output to reflect what can be learned from the literature (Hassmiller et al, unpublished data), as well as what we learned from our participatory approach with our stakeholder Design Team (Karmali et al,

unpublished).

## Future Research

The approaches and scenarios identified in this study would benefit from further refinement and evaluation in other settings, and they need empirical evaluation in real-world practice, with assessment of important contextual factors. A reasonable approach would be to begin with pilot studies, and then proceed to more definitive trials with sufficient numbers of participants to detect moderate and small effect sizes of strengths-based care as compared with deficit-focused care. Further comparative effectiveness research testing a strengths-based approach versus usual (typically deficit-focused) approaches would be helpful. Particularly ripe for such investigations are chronic conditions for which management can benefit from patient motivation and engagement of other people and community assets.

Further usability testing of the Strengths Collector tool and of the processes and outcomes of its use is needed. Before it is tested in clinical trials, it should be assessed for reliability, concurrent validity relative to other assessment techniques (such as interviews), and effectiveness in improving quality of care, satisfaction, health, and well-being outcomes, relative to standard care and/or noncomputerized assessment methods.

The pursuit of a more game-like tool and studies among people with different chronic diseases and from different socioeconomic strata and sociocultural groups would be worthwhile endeavors. The Norwegian members of the team are leading such an effort.

It would also be useful to conduct a qualitative study of clinicians and patients assessing what happens when we try to bring strengths into health care encounters, to identify what works for whom in what situations and settings. Subtle and selective application of a strengths-based approach by clinicians and health care teams with sufficient time and training, and by empowered patients, caregivers, and families, is likely to have great benefit, however challenging such an informal approach would be to evaluate.

## Conclusions

Compared with usual deficit-focused health care, a strengths-based approach has potential to better motivate and engage patients in behavior change and chronic disease management, and to launch a different kind of health care conversation, relationship, and trajectory. A strengths-based approach may be particularly helpful when long-term change is needed or when the patient or clinician feels stuck—situations that are frequent among people managing multiple chronic illnesses.

Patients from disadvantaged backgrounds often find it difficult to articulate their strengths but focusing on positive life experiences and then relating that insight to health can unleash a patient's recognition of his or her strengths related to personal attributes, interpersonal relationships, and community assets. The computerized Strengths Collector tool developed in this study and placed in the public domain can help people identify and prioritize strengths relevant to improving chronic disease management and prevention. Asking about strengths indirectly, such as by eliciting stories of when things went well for patients, is an approach that can be used informally in many health care situations to begin a conversation that emphasizes assets, rather than deficits, as a starting point.

There are 6 scenarios in which a strengths-based approach might be particularly helpful: diabetes management, high users of health care, chronic pain management, group health care visits, when patients feel a need to get "unstuck," and when clinicians sense that focusing on strengths would be a useful way to reframe care. A video included in this report (shows one way of conducting a strengths-based, patient-initiated intervention, and provides a helpful overview of the approach. Design criteria for implementing a strengths-based approach in clinical practice include awareness of the current external focus on deficits, diseases, and risk factors; organizational factors related to relationships and resources; professional competencies and attitudes; and the nature and ease of implementing the strengths-based intervention.

The literature discussing the effects of strengths-based interventions on patient-oriented outcomes in primary care is limited and often somewhat tangential or indirect, so these

approaches, while promising, must be considered investigational. The ways of asking about strengths and incorporating them into health care identified in this research provide a useful starting point for further investigation of the effects of strengths-based approaches on patient-oriented outcomes.

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