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Development of a Clinically-Feasible Process for Identifying Patient Health Priorities

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Abstract

Background/Objectives: Older adults with multiple conditions vary in their health priorities, that is, in their *health outcome goals*—what they want from their healthcare and their *healthcare preferences*—the healthcare activities they are able and willing to do. We developed a values-based, clinically feasible process to help patients identify the health priorities that can guide clinical decision-making.

Design: Prospective Development and Feasibility Study

Setting: Primary care practice in Connecticut

Participants: Sixty-four adults with 3 conditions or 10 medications

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Author Contributions: Naik, Dindo, Blaum, Tinetti: study concept and design. Vo, Hernandez-Bigos, Esterson, Geda, Rosen: acquisition of subjects and data. Naik, Dindo, Van Liew, Tinetti: data analysis and interpretation. Naik, Tinetti: manuscript preparation. All authors: critical revision of manuscript for important intellectual content. We would like to thank Wendy K. Nickel, MPH, Director, Centers for Quality and Patient Partnership in Healthcare, American College of Physicians; Libby Hoy, Founder/CEO Patient & Family Centered Care PFCCpartners; and Karen Baker, MHS, health literacy/plain language consultant and former Senior Vice President for Consumer Experience, HealthWise. Each reviewed and edited the patient and facilitator manuals for content validity, patient-centeredness, and/or health literacy assessment.

Impact Statement: We certify that this work is novel as it presents an innovative and feasible method for identifying the health priorities of older patients with multiple chronic conditions and integrating this information into clinical practice.

Conflict of interest: The authors declare that they have no competing interests.

Intervention: A user-centered design framework, ideate → prototype → test → redesign was used by the development team of patients, caregivers, and clinicians to develop and refine the value-based patient priorities care process and medical record template with trained clinician facilitators.

Measurements: We used descriptive statistics of quantitative measures (percent accepted invitation and completed template, duration of the process) and qualitative analysis of barriers and enablers (challenges and solutions identified, facilitators' perceptions).

Results: We developed and refined a process for identifying patient health priorities typically completed in 35–45 minutes over two sessions; 64 patients completed the process. Qualitative analyses were used to elucidate the characteristics and training needed for the patient priorities facilitators as well as perceived benefits and challenges to the process. Refinements based on our experience and feedback include: streamlining the process for increased feasibility, balancing fidelity to the process while tailoring to individuals, encouraging patients to share their priorities with their clinicians, and simplifying the template transmitted to clinicians.

Conclusion: Trained facilitators conducted this process in a busy primary care practice suggesting that patient priorities identification is feasible and acceptable although testing in additional settings is necessary. Ultimately, we hope to show that clinicians can align care with patients' health priorities.

Keywords

Patient Priorities; Preferences; Goal; Goal-Setting; Older Adults; Multimorbidity

INTRODUCTION

Most older adults who receive healthcare have multiple chronic conditions. Healthcare for these older adults is complex with inherent tradeoffs between desired outcomes or among healthcare options, and tradeoffs between outcome goals and healthcare preferences.¹ When faced with tradeoffs, individuals vary in their health and healthcare priorities.^{2–5} Patient priorities include both patients' *health outcome goals*—what they want from their healthcare and their *healthcare preferences*—what healthcare activities they are willing and able to do and the care they are willing or not willing to receive.⁶ Identifying patient priorities provides a means of reducing the tradeoffs among outcomes goals or healthcare preferences, and between outcome goals and healthcare preferences. Patients with multiple chronic conditions (multimorbidity) report that the increasing number and complexity of tasks and activities such as medication and diet regimens, healthcare visits, and self-monitoring tasks are burdensome.^{7–10} What clinicians bemoan as nonadherence may result from burdensome recommendations that are inconsistent with patient priorities.¹¹ Understanding patients' priorities can improve adherence to care because clinicians may be more likely to recommend those aspects of healthcare that align with patient priorities.

Aligning healthcare recommendations to achieve patients' specific health outcome goals within the context of what patients are willing and able to do is particularly important for adults with multiple conditions. Guidelines-based decision-making can be burdensome and is of uncertain benefit for this population.¹² When patient priorities drive healthcare

decisions, patients and clinicians can more appropriately address the inherent tradeoffs arising from conflicting health outcome goals, guidelines, and the burdens of such care.⁶ Elaborating clear and concise patient priorities that inform decision-making is a challenge. It requires a reliable and efficient process for ascertaining patients' goals and preferences based on what matters most for patients across their multiple conditions.

Most prior work on eliciting goals and preferences involved persons with advanced illness or near the end-of-life.^{13–15} Tools that older adults with multiple chronic conditions can use to prioritize among universal health outcomes exist, but they have not been tested in clinical encounters.^{3,16,17} Goal Attainment Scaling (GAS) has been tested in several patient populations. GAS focuses on outcomes important to older adults (e.g., function, safety, etc.) but does not link goals to patients' treatment preferences.^{18–20}

Collaborative goal-setting is an evidence-based process for developing a collaboratively agreed upon healthcare plan (i.e., tests and treatments, education and support, and self-management) arising from patient priorities.^{21,22} The approach has four key components.²³ First, patients identify their core values—what matters most to them. Values are fundamental beliefs about one's self and life that remain relatively stable over time.²⁴ Values are rooted in our affective neurobiology²⁵ with culture and context giving them personal meaning.²⁶ Health values offer a framework and motivation to craft outcome goals that direct healthcare decisions.^{24,27,28} Second, based on their values, patients construct specific, measurable, actionable, realistic, and time-bound (SMART) outcome goals.²⁹ Third, patients communicate with their clinicians about their priorities. The fourth component involves aligning treatment options to outcome goals and healthcare preferences to arrive at a healthcare plan.³⁰ Collaborative goal-setting improves disease-specific outcomes (e.g., blood pressure, glucose, depression symptoms), quality of life measures, patient activation, and self-efficacy.^{21–23,30–34} While promising, prior collaborative goal-setting studies have not focused on older adults with multiple chronic conditions or the burdens of healthcare tasks.^{7,9,10,35}

We developed and refined an approach to identify patient priorities that builds primarily on collaborative goal-setting to elicit patients' health outcome goals and healthcare preferences.^{7,9,10,13–24,31–35} The ultimate purpose of this process is to align healthcare with patients' health priorities. This paper describes development, refinement, and testing of a clinically feasible approach to help patients identify their health priorities and concomitant training for healthcare professionals who will facilitate the identification of patient priorities.

METHODS

Development of a Values-Based, Patient Priorities identification process

A user-centered design framework, ideate → prototype → test → redesign, was adapted to develop the *patient priorities identification process*.³⁶ The investigators developed the core concepts (ideate) through a synthesis of prior literature and input from our advisory panels consisting of six patients or caregivers; seven primary care providers; eight specialty clinicians; three payers; five health system leaders; five representatives of patient, caregiver, and clinician organizations; and three health informatics technology and two redesign

experts. From January 2014 – June 2015, advisory panels convened 39 times to identify modifiable contributors to fragmented, burdensome care and determine core elements for building a feasible, sustainable approach to improving care by addressing these factors.^{6,37} This process, described previously,⁶ culminated in the development of a logic model for patient priorities-aligned care which begins with patients identifying and communicating their health priorities. These priorities guide interactions among patients, caregivers and clinicians as they select care options.⁶ The core steps for the patient priorities identification process are described in Table 1.

Patient priorities identification process.—Patients were invited by their primary care provider to collaborate with a facilitator (described below) in the identification of their health priorities. Multiple practice change strategies, described elsewhere,³⁸ were used to ensure buy-in and participation of primary care providers (PCP). Each step in the patient priorities identification process has a defined purpose and content, adapted from our prior studies.^{23,24,39,40} These steps occurred in a clinical setting, the patient's home, or by telephone over 1–2 sessions, depending on each patient's preference, circumstances, and readiness. The patient priorities identification process moved through values clarification, followed by values-informed elaboration of goals and preferences, and a conversation about tradeoffs. We developed patient and facilitator manuals to guide participants through the process. The facilitator manual mirrored the patient manual with the addition of instructions on how to guide patients through the steps and tips for addressing commonly encountered challenges. Patient advocates and experts in health literacy suggested edits to the patient manual.

Refinement of the patient priorities identification process.—Modifications to the identification process and accompanying manuals were based on input from facilitators' initial experiences with patients and every-other-week teleconferences with the development team from October 2016-July 2017. The key refinement was addition of the fourth step that focused on activating patients to interact with their PCPs around their goals and preferences.

The primary outcome of this process is the elaboration of a set of health priorities, consisting of health outcomes goals and healthcare preferences, which are transmitted to the healthcare team by scanning a completed template into the electronic health record. The workflow for transmitting health priorities is described elsewhere.³⁸ Patients are activated to share their priorities with their clinicians and prompt their clinicians to consider how currently recommended care aligns with patients' health priorities. Table 1 provides a comprehensive description of the four-step patient health priorities identification process.

Training of Priorities Facilitators

Facilitators are health professionals who help patients construct their health priorities. Facilitators who participated in the current feasibility study included an advanced practice registered nurse and a member of the healthcare team with case management experience both employed by the large primary care practice. Facilitators prepared for training by reviewing the facilitator manual. Training began with a face-to-face session in which facilitators practiced the process with a member of the development team and then with

a standardized-patient. Facilitators then tested the process with ten patients, during which they observed each other and gave feedback.

Feasibility Testing

We conducted an open, single arm feasibility assessment of the revised *patient priorities identification process* from October 1, 2016-July 31, 2017. This feasibility pilot involved older patients with multiple morbid conditions and the two facilitators trained by the development team. This study was approved by the Institutional Review Board of Yale School of Medicine.

Patient participants.—Patients age 65 years or older were drawn from an existing Medicare population of a large primary care practice. Patient panels were screened for eligibility based on the presence of any one of the following inclusion criteria: 3 chronic conditions, 10 medications, or seen by >2 specialists, and English-speaking. Exclusion criteria included known diagnosis of advanced dementia, chronic dialysis, residing in a nursing home, and meeting hospice criteria. Persons with mild cognitive impairment were included per judgement of PCP. Between October 1, 2017-July 31, 2017, 119 persons were offered patient priorities identification. Of these, 69 were contacted to complete a baseline interview for the patient priorities care project. These patients were eligible for inclusion for this study. The remaining 50 individuals had returned to their PCP before we were able to contact them, precluding our ability to obtain their baseline interview.

Quantitative evaluation of feasibility.—Descriptive data included: sociodemographic characteristics, scores from the Treatment Burden Questionnaire,⁹ and PROMIS Physical and Mental Health subscales.⁴² Assessments of feasibility include the number who agreed to undergo and complete the patient priorities identification process, and duration of visits required to complete identification.

Qualitative interviews with facilitator participants.—Facilitators were interviewed using open-ended questions to elicit perceptions of the patient priorities identification process. Facilitators were asked the following questions about their experiences: 1) How would you describe your experiences with facilitating patients' priorities? and 2) How does it compare with your typical encounters with patients? Facilitators were also asked to comment about which parts worked well, which were challenging, which they would change, and which they perceived were most valued by patients.

Analysis.—We calculated frequencies, proportions, and distributions for all quantitative variables using descriptive statistics. Qualitative data were analyzed using the constant comparative method of qualitative analysis.^{41,43} Interview transcripts were reviewed line-by-line to identify and sort segments of data with similar concepts into distinct themes. Following coding by a lead analyst (JVL), additional investigators (AN, LD, and MT) reviewed, negotiated, and reached consensus regarding thematic analysis and resolved discrepancies. We similarly identified challenges associated with the patient health priorities identification process, the development team's responses to these challenges, and subsequent refinements through thematic analyses of the development team's teleconferences.

RESULTS

Acceptance and Feasibility of the Patient Priorities Identification Process

Of the 69 eligible patients, 64 (93%) agreed to identify their health priorities; 64% were women, 89% white, and 59% were over age 75 years (Table 2). All 64 participants completed the process; of these individuals, 31 completed the final or close to final version. Total time to complete the four steps outlined in Table 1 was 35–45 minutes, usually within one session. When the initial facilitation process occurred in the clinic immediately following a primary care provider visit rather than the patient's home, the time for steps one through four was often completed in two 20-minute visits with the second visit used to further explore tradeoffs (step 3) and strengthen activation (step 4). Participants provided a rich array of health outcome goals and care preferences and identified helpful and bothersome care (Table 3).

Facilitator Input on Patient Priorities Identification Process

Themes from qualitative interviews with facilitators included characteristics of facilitator training and perceptions of the patient priorities identification process, including potential challenges (Table 4). Facilitators recommended having prior experience with motivational interviewing and an understanding of the complexities of patients' lives and healthcare; they indicated that the feedback provided by the development team during the weekly phone calls, and the prompts and troubleshooting tips from the facilitator manual, were valuable and constructive. Facilitators described the process as time intensive but rewarding as it builds rapport with patients and bolsters patients' investment in their care. Facilitators felt that many patients were reluctant to discuss their priorities with their primary care clinicians and needed activation and coaching to do so.

Challenges and Refinements to the Patient Priorities Identification Process

The challenges and resulting modifications of the process identified through iterative review and feedback are shown in Supplemental Table S1. Refinements included simplifying patient manuals and adding tips and scripts to the facilitator manuals to address commonly encountered barriers to helping patients identify their health priorities. Facilitators streamlined the process to make it less time-intensive and more flexible to meet individual patient needs. One refinement was the addition of Step 4, with input from national leaders in patient engagement to activate patients to take ownership of their goals and preferences, to communicate them to their clinicians, and to participate in priorities-based decision-making. At the suggestion of a participating physician and patient advocacy experts, we added a "Specific ask" for patients to start the conversation with their clinicians: "If I could change one thing about my healthcare, it would be (*fill in*) so that I can (*fill in*)." This ask is written and provided to the patient to take to their next clinician visit to link specific care options to goals and values and provide an actionable first step in clinical decision-making.

Facilitators worked with the development team to create a patient priorities template that is integrated into the electronic health record (Supplemental Figure S1). Facilitators document the patient's current functional status, values (what "matters most" to them), health outcome goals, healthcare preferences ("helpful care" and "difficult or bothersome

care”). The template concludes with one “specific ask” that helps link outcome goals with care preferences and a starting point for making decisions.. Primary care providers are alerted to the template through an EHR alert. Refinements to the template (see Supplemental Figure S1) focused on increasingly succinct documentation of care preferences and health outcome goals, preferably in patients’ own words, and structural changes to encourage its use.

DISCUSSION

The current study describes the development, refinement, and feasibility testing of a patient priorities identification process targeting older adults with multiple morbid conditions. Development and refinement benefited from having multiple user perspectives including patients, facilitators, primary care clinicians, and a multidisciplinary development team. Input from facilitators and patients during feasibility testing resulted in refinements drawn from clinical experiences.

Results of this study demonstrate that healthcare professionals can be trained to perform the patient priorities identification process as part of their clinical encounters. Furthermore, identification of patients’ health priorities is practical and feasible for older patients with multiple chronic conditions. Facilitators report that the patient priorities identification process is rewarding and enjoyable but requires training and formal feedback with point-of-care manuals as well as time investment with each patient. Our experience suggests that facilitators can be drawn from various health professions (e.g., nurses and nurse practitioners, social work, psychology and physicians) with prior training in motivational interviewing or similar skills. Facilitators described the values clarification step as essential but challenging, at times, because patients are at variable levels of readiness to engage with facilitators and their clinicians about their values, goals, and healthcare preferences. We adapted the facilitator manuals to offer prompts, and concrete examples to encourage conversations of “what matters most” to patients. Facilitators felt that beginning with values clarification improved the reliability and usefulness of the patient health priorities identification process.

Refinements, based on user feedback, included adaptations to the facilitator training, patient and facilitator manuals, and patient priorities template to simplify the process and enhance acceptability and usefulness. Additionally, facilitators used the steps described in Table 1 flexibly in terms of length, order, and emphasis to tailor the process to each patient’s readiness. Refinements to the content and structure of the template over time culminated in the version illustrated in (Supplemental Figure S1). The integration of patient activation nudges was a refinement that prepared patients to advocate for their health priorities with their clinicians.^{44–46}

This work builds on a growing literature describing approaches that develop clinicians’ communication skills for adults with serious or life-threatening illnesses.^{13–15,47} A recent intervention targeting patients with a life expectancy of ≥ 2 years increased documentation of patient values and goals in the electronic medical record compared with a usual care group.¹⁵ The patient priorities identification process targets patients with broader illness

trajectories that allow for a wider time horizon of goals and range of preferences. Prior case management interventions for frail older adults have effectively linked patients' preferences to care plans.^{48,49} However, disease guidelines, not individual patient priorities, were the primary basis for care plan development in these case management models. While building on earlier work, our project is the first to our knowledge that includes a clinically feasible approach, not limited to advanced illness or end-of-life, for identifying and linking each person's health outcomes goals with the healthcare they are willing and able to do to help achieve those goals.

Eliciting and documenting the personal values of older, multimorbid adults is uncommon in routine care,²⁴ despite playing a central role in patient-centered care.^{24,45,47,50} Identifying what matters most (broad statements of patients' values) using a structured process during routine encounters opens the door to understanding and framing more specific health outcomes that patients are willing and able to achieve.^{11, 24} Values (broad statements of what matters most) are the precursors for identifying SMART health outcome goals.^{1,11, 24, 47}

The current study has limitations. The sample was drawn from a limited geographic reach. However, more than half of participants had a high school education or less, supporting the acceptability of this process across a wide range of educational levels. It remains to be determined if the process can be imbedded sufficiently in routine care to allow reassessment of patient priorities over time as is needed as health status changes. We are collaborating with primary care providers to determine if they find this information appropriate or useful. The availability of healthcare team members to facilitate the process is an impediment for health systems with fewer resources. The need for motivational interviewing skills may be a further limitation although these skills are part of nursing, social work and other health professions training. Uncertainty remains about how to ensure alignment of healthcare decision-making with patients' health priorities, and the eventual impact of eliciting patient priorities on longitudinal outcomes.

Despite these limitations, input from a multidisciplinary development team, combined with feedback from patients, clinicians, and health literacy and patient advocate experts, is a strength of this work. Conducting the study with practice-based clinicians in the context of a primary care service suggests that implementation of the patient priorities process in practice is feasible.

Implications and Next Steps

Our ongoing work includes ascertainment of patients' and clinicians' perceptions of the process, and evaluation of the effect on clinical decision-making and on patient, clinician, and health system outcomes. We are assessing the feasibility of the patient priorities care process among patients with dementia. We will also test the process in additional settings to determine if feasibility or acceptance differs by educational levels, ethnicity, or other factors. We are also exploring the role of payment innovations and value-based payments to cover facilitator and clinician time to identify patients' priorities and provide priorities-aligned care. The patient priorities identification process will be disseminated as an online training program to prepare patient priorities facilitators and further spread the approach using tips and tools for clinicians without access to a facilitator.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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References

1. Bayliss EA, Bonds DE, Boyd CM, et al. Understanding the context of health for persons with multiple chronic conditions: moving from what is the matter to what matters. *The Annals of Family Medicine*. 2014;12(3):260–269. [PubMed: 24821898]
2. Case SM, O'Leary J, Kim N, et al. Relationship between universal health outcome priorities and willingness to take medication for primary prevention of myocardial infarction. *Journal of the American Geriatrics Society*. 2014;62(9):1753–1758. [PubMed: 25146885]
3. Fried TR, Tinetti ME, Iannone L, et al. Health outcome prioritization as a tool for decision making among older persons with multiple chronic conditions. *Archives of internal medicine*. 2011;171(20):1856–1858. [PubMed: 21965814]
4. Fried TR, McGraw S, Agostini JV, et al. Views of older persons with multiple morbidities on competing outcomes and clinical decision-making. *Journal of the American Geriatrics Society*. 2008;56(10):1839–1844. [PubMed: 18771453]
5. Karel MJ, Mulligan EA, Walder A, Martin LA, Moye J, Naik AD. Valued life abilities among veteran cancer survivors. *Health Expectations*. 2016;19(3):679–90. [PubMed: 25645124]
6. Tinetti ME, Esterson J, Ferris R, et al. Patient Priority–Directed Decision Making and Care for Older Adults with Multiple Chronic Conditions. *Clinics in geriatric medicine*. 2016;32(2):261–275. [PubMed: 27113145]
7. Boyd CM, Wolff JL, Giovannetti E, et al. Health care task difficulty among older adults with multimorbidity. *Medical care*. 2014;52: S118–S125. [PubMed: 24561750]
8. Montori VM, Brito JP, Murad MH. The optimal practice of evidence-based medicine: incorporating patient preferences in practice guidelines. *Jama*. 2013;310(23):2503–2504. [PubMed: 24165826]
9. Tran V-T, Harrington M, Montori VM, et al. Adaptation and validation of the Treatment Burden Questionnaire (TBQ) in English using an internet platform. *BMC medicine*. 2014;12(1):1.
10. Eton DT, Ramalho de Oliveira D, Egginton JS, et al. Building a measurement framework of burden of treatment in complex patients with chronic conditions: a qualitative study. *Patient Relat Outcome Meas*. 2012;3:39–49. [PubMed: 23185121]
11. Naik AD, McCullough LB. Health intuitions inform patient-centered care. *The American Journal of Bioethics*. 2014;14(6):1–3.
12. Tinetti ME, Naik AD, Dodson JA. Moving From Disease-Centered to Patient Goals–Directed Care for Patients With Multiple Chronic Conditions: Patient Value-Based Care. *JAMA Cardiology*. 2016;1(1):9–10 [PubMed: 27437646]
13. Bernacki RE, Block SD. Communication about serious illness care goals: a review and synthesis of best practices. *JAMA internal medicine*. 2014;174(12):1994–2003. [PubMed: 25330167]
14. Kelley AS, Back AL, Arnold RM, et al. Geritalk: communication skills training for geriatric and palliative medicine fellows. *Journal of the American Geriatrics Society*. 2012;60(2):332–337. [PubMed: 22211768]

15. Lakin JR, Koritsanszky LA, Cunningham R, et al. A Systematic Intervention to Improve Serious Illness Communication in Primary Care. *Health Aff (Millwood)*. 2017;36(7):1258–1264. [PubMed: 28679813]
16. Case SM, Fried TR, O’Leary J. How to ask: Older adults’ preferred tools in health outcome prioritization. *Patient education and counseling*. 2013;91(1):29–36. [PubMed: 23218242]
17. Case SM, Towle VR, Fried TR. Considering the Balance: Development of a Scale to Assess Patient Views on Trade-Offs in Competing Health Outcomes. *Journal of the American Geriatrics Society*. 2013;61(8):1331–1336. [PubMed: 23869795]
18. Rockwood K, Stadnyk K, Carver D, et al. A clinimetric evaluation of specialized geriatric care for rural dwelling, frail older people. *Journal of the American Geriatrics Society*. 2000;48(9):1080–1085. [PubMed: 10983907]
19. Rockwood K, Howlett S, Stadnyk K, et al. Responsiveness of goal attainment scaling in a randomized controlled trial of comprehensive geriatric assessment. *Journal of clinical epidemiology*. 2003;56(8):736–743. [PubMed: 12954465]
20. Ottenbacher KJ, Cusick A. Discriminative versus evaluative assessment: Some observations on goal attainment scaling. *American Journal of Occupational Therapy*. 1993;47(4):349–354.
21. Bodenheimer T, Handley MA. Goal-setting for behavior change in primary care: an exploration and status report. *Patient education and counseling*. 2009;76(2):174–180. [PubMed: 19560895]
22. Coulter A, Entwistle VA, Eccles A, et al. Personalised care planning for adults with chronic or long-term health conditions. *The Cochrane Library*. 2015.
23. Naik AD, Palmer N, Petersen NJ, et al. Comparative effectiveness of goal setting in diabetes mellitus group clinics: randomized clinical trial. *Archives of internal medicine*. 2011;171(5):453–459. [PubMed: 21403042]
24. Naik AD, Martin LA, Moye J, et al. Health Values and Treatment Goals of Older, Multimorbid Adults Facing Life-Threatening Illness. *Journal of the American Geriatrics Society*. 2016;64(3):625–631. [PubMed: 27000335]
25. Damasio A. *The neurobiological grounding of human values*. Neurobiology of human values: Springer; 2005:47–56.
26. Graham J, Haidt J, Koleva S, et al. Moral foundations theory: The pragmatic validity of moral pluralism. *Advances in Experimental Social Psychology*. 2013; 47:55–122.
27. Paez-Blarrina M, Luciano C, Gutiérrez-Martínez O, et al. The role of values with personal examples in altering the functions of pain: Comparison between acceptance-based and cognitive-control-based protocols. *Behavior research and therapy*. 2008;46(1):84–97.
28. Levin ME, Hildebrandt MJ, Lillis J, et al. The impact of treatment components suggested by the psychological flexibility model: A meta-analysis of laboratory-based component studies. *Behavior therapy*. 2012;43(4):741–756. [PubMed: 23046777]
29. Brown VA, Bartholomew LK, Naik AD. Management of chronic hypertension in older men: an exploration of patient goal-setting. *Patient education and counseling*. 2007;69(1):93–99. [PubMed: 17890042]
30. Naik AD, Kallen MA, Walder A, et al. Improving Hypertension Control in Diabetes Mellitus the Effects of Collaborative and Proactive Health Communication. *Circulation*. 2008;117(11):1361–1368. [PubMed: 18316489]
31. Cully JA, Breland JY, Robertson S, et al. Behavioral health coaching for rural veterans with diabetes and depression: a patient randomized effectiveness implementation trial. *BMC health services research*. 2014;14(1):1. [PubMed: 24382312]
32. Khanna A, Bush AL, Swint JM, et al. Hemoglobin A 1c improvements and better diabetes-specific quality of life among participants completing diabetes self-management programs: A nested cohort study. *Health and quality of life outcomes*. 2012;10(1):1. [PubMed: 22208808]
33. Naik AD, Teal CR, Rodriguez E, et al. Knowing the ABCs: A comparative effectiveness study of two methods of diabetes education. *Patient education and counseling*. 2011;85(3):383–389. [PubMed: 21300516]
34. Naik AD, White CD, Robertson SM, et al. Behavioral health coaching for rural-living older adults with diabetes and depression: an open pilot of the HOPE Study. *BMC geriatrics*. 2012;12(1):1. [PubMed: 22214264]

35. Tran V-T, Barnes C, Montori VM, et al. Taxonomy of the burden of treatment: a multi-country web-based qualitative study of patients with chronic conditions. *BMC medicine*. 2015;13(1):1. [PubMed: 25563062]
36. Brown T. Design thinking. *Harvard business review*. 2008;86(6):84. [PubMed: 18605031]
37. Ferris R, Blaum C, Kiwak E, et al. Perspectives of patients, clinicians, and health system leaders on changes needed to improve the health care and outcomes of older adults with multiple chronic condition. *J Aging Health*. In press.
38. Blaum C, Rosen J, Naik AD, et al. Initial Implementation of patient priorities-aligned care for patients with multiple chronic conditions. Submitted.
39. Dindo L, Van Liew J, Arch J. Acceptance and Commitment Therapy: A transdiagnostic behavioral intervention for mental health and medical conditions. *Neurotherapeutics*. 2017;14(3):546–553. [PubMed: 28271287]
40. Dindo L, Turvey C, Marchman J, Recober A, O'Hara M. (2015) Depression and Disability in Migraine: The Role of Pain-Acceptance and Values-Based Living. *International Journal of Behavioral Medicine*. 2015; 22 (1):109–117. [PubMed: 24515397]
41. Bernard HR, Ryan GW. *Analyzing qualitative data: Systematic approaches*. SAGE publications; 2009.
42. Cella D, Riley W, Stone A, et al. The Patient-Reported Outcomes Measurement Information System (PROMIS) developed and tested its first wave of adult self-reported health outcome item banks: 2005–2008. *J Clin Epidemiol*. 2010;63(11):1179–1194. [PubMed: 20685078]
43. Miles MB, Huberman AM. *Qualitative data analysis: An expanded sourcebook*. Sage; 1994.
44. Hibbard JH, Mahoney E. Toward a theory of patient and consumer activation. *Patient Educ Couns*. 2010;78(3):377–381. [PubMed: 20188505]
45. Naik AD. On the road to patient centeredness. *JAMA Intern Med*. 2013;173(3):218–219. [PubMed: 23277229]
46. Woodard LD, Landrum CR, Amspoker AB, et al. Interaction between functional health literacy, patient activation, and glycemic control. *Patient Prefer Adherence*. 2014; 8:1019–1024. [PubMed: 25092966]
47. Lim CY, Berry ABL, Hirsch T, et al. Understanding What Is Most Important to Individuals with Multiple Chronic Conditions: A Qualitative Study of Patients' Perspectives. *J Gen Intern Med*. 2017; 32(12):1278–1284. [PubMed: 28849368]
48. Counsell SR, Callahan CM, Clark DO, et al. Geriatric case management for low-income seniors: A randomized controlled trial. *JAMA*. 2007; 298(22):2623–2633. [PubMed: 18073358]
49. Boulton C, Reider L, Leff B. et al. The effect of guided care teams on the use of health services: Results from a cluster-randomized trial. *Archives of Internal Medicine*. 2011; 171(5):460–466. [PubMed: 21403043]
50. Berwick DM. What 'patient-centered' should mean: confessions of an extremist. *Health Aff (Millwood)*. 2009;28(4):w555–565. [PubMed: 19454528]

Key Definitions:

- Health outcome goals are the health and life outcomes that patients' desire from their health care. To inform decision-making, goals should be SMART (i.e. Specific, Measurable, Actionable, Realistic, and Timely) and aligned with what matters most to patients (i.e. patients' values).
- Healthcare preferences refer to the healthcare activities (e.g. medications, self-management tasks, healthcare visits, diagnostic testing, and procedures) that patients are willing and able (or not willing or able) to do and the care they are willing (or not willing) to receive.
- Patient's health priorities refer to both patients' specific health outcome goals that they most desire from their healthcare given what they are willing and able to do to achieve these outcome goals (i.e. within the context of their healthcare preferences).

Table 1.

Adapting Steps, Purpose and Content of the Patient Priorities Identification Process

<p>Visit with primary clinician</p> <ul style="list-style-type: none"> • Primary clinician invites patient to participate in patient health priorities care using scripted language: “when a patient, such as you, has a number of medical conditions, medications, and specialists--sometimes your own needs and priorities get lost. We have a program called Patient Priority Care where you can meet with one of our staff members to describe your priorities and make sure we are all on the same page in deciding about your care. Would it be alright if (facilitator’s name) gave you a call to arrange a time to meet?” • Primary clinician explains rationale and importance of this approach to decision-making and care for persons with multiple conditions and multiple clinicians. • Primary clinician encourages patient to focus on function (valued life activities and abilities) rather than symptoms, and how patient perceives the benefits and burdens of current treatments.
<p>First step with facilitator- Introduction to Patient Health Priorities and Values Clarification Process</p> <ul style="list-style-type: none"> • Clarify what matters most to patients (their values) • Link how values relate to current life and health circumstances. To better understand what the patient wants to be doing, consider focusing on the positive, “what would the patient do if certain negatives (symptoms, limitations, etc.) were removed.” This is how values lead into health outcome goals. • Identify what is effective and what is burdensome with the patient’s current healthcare.
<p>Second step with facilitator - Adapting Values into health outcome goals and Exploring Healthcare Preferences</p> <ul style="list-style-type: none"> • Patient and facilitator collaborate to identify health outcome goals based on their values, current health and likely health trajectory • Facilitator works with the patient to elaborate specific care preferences based on the prior discussion of what is working and not working with her healthcare • Facilitator supports the patient to proactively communicate his/her priorities at subsequent encounters with primary and specialty care visits.
<p>Third step with facilitator- Discussing Tradeoffs and Completing the Patient Health Priorities Template</p> <ul style="list-style-type: none"> • Facilitator helps patient address tradeoffs that arise from the incongruence of one or more goals; healthcare recommendations; and the patient’s care preferences, and burdens of that care • By working through these inevitable tradeoffs, the facilitator and patient will iteratively refine the patient priorities. This process helps to move from vague or too ambitious of a goal to a more realistic goal. • Facilitator enters the health outcome goals and care preferences into the electronic health record template that resides in an easily accessed location for all clinicians to review. Subsequent visits with facilitator or clinicians should focus on adjustments to health outcome goals and/or recommended healthcare that reflect these tradeoff decisions and how well outcome goals are being achieved. • Patients prepare a specific, ask to start the conversation. This is written on a tear off sheet that patients take with them to their next clinician visit
<p>Fourth step with facilitator- Activating Patients to Communicate their Health Priorities</p> <ul style="list-style-type: none"> • Facilitators integrate elements of patient activation theory and practice to prepare patients to advocate for their health priorities during subsequent encounters with primary and specialty care clinicians. • Patients are encouraged to discuss their priorities and inquire about ways in which their healthcare may help them accomplish these priorities. Facilitators and patients practice (role-play) conversations • Patients identify a “Specific ask” to start the conversation with their clinicians. This ask is written and provided to patient to take to their next clinician visit

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Table 2.

Baseline Characteristics, N=64

Baseline Characteristics	Value
Age in years, N (%)	
65 to 75 years	26 (41)
76 to 89 years	34 (53)
90 or more years	4 (6)
Female gender, N (%)	41 (64)
White, non-Hispanic race, N (%)	57 (89)
Currently Married, N (%)	25 (40)
Lives alone, N (%)	29 (45)
Education Attainment, N (%) [*]	
Less than high school	10 (16)
High school graduate or equivalent	28 (44)
Some college, technical or associates degree	14 (22)
Bachelors or graduate degree	9 (14)
Treatment Burden Questionnaire, Median (Interquartile Range)	22.5 (5.5 to 45.5)
PROMIS Physical Health subscale, Median (Interquartile Range)	12.5 (11 to 15)
PROMIS Mental Health subscale, Median (Interquartile Range)	13 (11 to 16)

Notes: N= 64

^{*} 3 did not answer

Table 3.

Performance with Patient Priorities Identification Process *

Performance	Value
Family member or friend participated in Patient Priorities Identification, N (%)	9 (14)
Completed Patient Priorities Template, N (%)	64 (100)
Number of health outcome goals ⁺ elaborated, N (%) [*]	
1–2 goals	11 (17.2)
3 goals	31 (48.4)
4–6 goals	22 (34.4)
Number of healthcare preferences [±] elaborated, Median (Interquartile Range) [*]	5 (3 to 7)
<p>[*] Based on clinician feedback the number of health outcome goals and bothersome care preferences was limited to three on the final template to facilitate clinical decision-making and patient priorities aligned decision-making <u>Examples of health outcome goals identified:</u> “I want to continue to babysit my grandchildren each day to help my daughter while she works.”; “Wants to continue to cook lunch for her son each day”; “I want to be able to drive to the gym for my Zumba and water aerobics” – current loss of feeling in feet is a barrier; “I want to continue to keep working on appliances and run my own business – hand pain makes this difficult.”; “Wants to be able to have less pain in her back when walking to go shopping with her husband”; “I want to continue to visit my Aunt who is on Hospice”; “I want to continue to play cards with my friends once per week”; “I want to see my granddaughter born in October” – progression of his cancer is a barrier; “Would like to be able to work outside in her garden and push a wheel barrel – fatigue makes this difficult.”; “I want to continue to travel to Fort Myers each year to stay with my daughter for the winter”</p> <p><u>Examples of helpful care identified (care preferences):</u> “Triamterene helps with the swelling”; “I would do surgery to extend my life”; “Cardio Rehab is helping me”; “My CPAP is helpful, I sleep about 4 hours at a time”; “Wear Depends”; “visiting nurse, she keeps all these medication changes straight”; “VA helps me with injections in my eye for my Macular Degeneration”; “Prednisone for my Rheumatoid, it helps”;</p> <p><u>Examples of difficult or bothersome care identified (care preferences):</u> “I don’t know if my medications are causing my muscle pain”; “pain all the time with the Chemo, I wouldn’t really know if the other medications are making it worse”; “When I saw Dr. X he lowered my Amlodipine because it was increasing my swelling but when I met with Dr. Y he increased the Amlodipine because I was feeling like something was hitting my chest when I walk”; “I get this electric shock pain in my hands, I don’t know if my meds are causing this”; “could my meds be causing my need to run and pee at night?”; “I get hypoglycemic, I start to get weak and shaky I don’t know why or if I’m taking too much of something”; “meds are too expensive, Humalog was \$220.00”; “I stopped Levothyroxine because it made me tired”; “I am losing weight which concerns me, not sure if it is the meds”; “Furosemide made my stomach upset and made me just feel crappy”</p>	

^{*} The 64 participants were referred from among the nine primary care clinicians in the pilot practice, all of whom participated.

⁺ **Health outcome goals** are the personal health and life outcomes (e.g., function, longevity, social activities, and symptom relief) that people hope to achieve through their healthcare.

[±] **Care preferences**, also called patient activity, refer to what individuals are able and willing to do and/or tolerate to achieve their health outcomes and include such items as medication complexity, health visits, diagnostic testing, self-monitoring, and self-management tasks.

Table 4.

Facilitators' Themes and Representative Quotes about Patient Priorities Identification Process.

Characteristics of Facilitators and Facilitator Training that Support Patient Priorities Identification
<p>Appreciation for the complexities of older adults' lives and healthcare, and experience with motivational interviewing. <i>"[Facilitators] need experience with the geriatric population ... knowing what the challenges are understanding where [patients] are in their life and how they feel about it it's also important to have experience with some type of facilitation or patient counseling or like motivational interviewing "</i></p>
<p>Inclusion of feedback, prompts and troubleshooting tips improved skills. <i>"... learning as you go, and it's gonna change and adapt a little bit based on what the [patients] need." "...training materials [are] very good and very comprehensive, but they were at the conceptual level [at the beginning]. So it didn't really tell you what exactly to say. We are sort of troubleshooting materials as we go"</i></p>
Facilitators' Perceptions of the Patient Priorities Identification Process
<p>The Patient Priorities Identification Process itself is rewarding. <i>"it's unbelievably rewarding ... Seeing these patients make the connections and actually get a sense that their clinicians are seeing them as more than their conditions...." "We're talking about how their health really relates to things that are important to them...So I think that that's the most powerful thing ..."</i></p>
<p>Time intensive yet builds rapport and patients' investment into patient priorities care. <i>"it's really about building the rapport, and the more that you can get them comfortable ...they're kind of willing to progress with the conversation." "The first session really allows for rapport building, comfort for the patient ... they really feel that they're being heard."</i></p>
<p>Be flexible to patients' unique needs. <i>"...conversations don't really go in a linear order. You kind of have to follow where they're leading you and meet them where they are ... "</i></p>
Potential Challenges Related to the Patient Priorities Identification Process
<p>Values identification is both an essential and challenging aspect of the process. <i>"Once we get into things that they really value, you see them light up. You see their face change. You see it in their eyes. You see their voice change. That kind of tells me where to go. It works the best when we hit on something that you can tell is really important. Then, it's really easy, and it goes from there. But you have to find the right thing that really kind of sparks them." "the word values didn't always resonate with people. ... So sometimes we had to start with something really concrete."</i></p>
<p>Transmission of information to clinicians may not produce substantive changes in their clinical decision making processes. <i>"it's more now the challenge of what happens between clinicians and patients, because it's very easy [for a facilitator] to upload the note [to the electronic health record]. For the most part [clinicians are] really receptive to trying it, but I think that they get caught up in how much time it takes. I think that they're pretty good about hearing it, but how they're able to do it is sometimes tougher." "the real difficulty has been the clinicians' understanding that the consideration of healthcare preferences and outcome goals should be a standard in treating patients with multiple chronic conditions...."</i></p>