Published in final edited form as:

J Prim Prev. 2015 August ; 36(4): 213–225. doi:10.1007/s10935-015-0390-7.

Addressing Psychosocial Adversity Within the Patient-Centered Medical Home: Expert-Created Measurable Standards

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Abstract

The Patient-Centered Medical Home (PCMH) may be improved by embedding identification and response for patients' experiences with psychosocial adversity, but how this might optimally occur in practice has not been well-specified. We sought input from an expert panel to define feasible elements that could adapt the PCMH to adequately respond to patients' experiences with psychosocial adversity. From December 2012 through September 2013, we used a Delphi process to systematically obtain expert opinions and reach consensus. We invited 37 experts to participate in three successive and iterative rounds of questionnaires, with each round based on aggregated, de-identified data from the prior round. We first asked experts to generate elements to adapt the PCMH, using the National Committee for Quality Assurance (NCQA's) established six PCMH standards as the foundation. We then asked the experts to rate these elements on a 5-point Likert scale, and finally specify what they considered the most and least valuable elements. Eighteen of the 37 (49%) invited experts responded to the first survey, and constituted our sample. Experts identified 35 elements that fell under the six NCQA standards. The top rated elements included using a screening tool to identify adversity; training providers to address psychosocial adversity; having a team member with mental health expertise; providing culturally-competent care; and having written patient information related to adversity and coping. This study derived key elements that may enhance the PCMH's ability to improve patient outcomes by purposefully identifying and responding to their psychosocial adversity.

Keywords

Trauma; Delphi process; Primary care

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Conflict of Interest

The authors have no other financial conflicts or affiliations to disclose.

BACKGROUND

Psychosocial adversity – defined as life-influencing events that result in significant stress (Psychology Dictionary, 2014) – is prevalent and has a negative impact on health (Felitti et al., 1998; Larkin, Shields, & Anda, 2012; Shonkoff & Garner, 2012). For example, the Adverse Childhood Experiences (ACE) studies found that two-thirds of middle class adults had experienced some form of childhood adversity (e.g., exposure to domestic violence (DV)), and that these adversities were significantly associated with the leading causes of adult morbidity and mortality (Felitti et al., 1998). Experiences with psychosocial adversity impair health by increasing risk-taking behaviors (Lemon, Verhoek-Oftedahl, & Donnelly, 2002), decreasing preventive health behaviors (Mathew, Smith, Marsh, & Houry, 2013), and disrupting crucial physiological systems (Keeshin, Cronholm, & Strawn, 2011). Patients with prior trauma cost health care systems disproportionately more than those without such trauma (Bonomi, Anderson, Rivara, & Thompson, 2009; Bonomi, Anderson, & Rivara, 2008; Fang, Brown, Florence, & Mercy, 2012). Despite the prevalence and impact of psychosocial adversity, and the availability of evidence-based interventions, few health care providers routinely screen for this type of experience, and many are unclear about how to best respond (Bair-Merritt et al., 2014; Garg, Butz, Dworkin, Lewis, & Serwint, 2009; Hochstein et al., 2001; Joseph et al., 2009; Kemper, 1992; Sugg & Inui, 1992; Van Hook et al., 2007).

The Patient-Centered Medical Home (PCMH) is one innovative health care model that has the potential to embed purposeful identification of and response to patients who have experiences with psychosocial adversity, particularly given the PCMH's focus on optimizing patient care. Specifically, the overarching goal of the PCMH is to improve patients' quality of care, shifting focus from reactive care once they are already sick to preventive care and population health (Collaborative, 2007; Pawlson et al.). Increasing evidence demonstrates that the PCMH leads to cost savings and improved patient satisfaction (Bitton, Martin, & Landon, 2010; Pawlson et al.; Reid et al., 2009).

In 2011, the National Committee for Quality Assurance (NCQA) established six measurable PCMH "standards", or general principles of care, that represent core components of the PCMH: 1) enhance access and continuity; 2) identify and manage patient populations; 3) plan and manage care; 4) provide self-care support and community resources; 5) track and coordinate care; and 6) measure and improve performance. Each of these six standards has associated "elements" (National Committee for Quality (Assurance). Medical practices must demonstrate proficiency within each standard (as demonstrated by meeting benchmarks specified by its constituent elements) to receive PCMH accreditation. For example, providing same day appointments is one element that falls under the enhance access standard (see Table 1).

As currently structured, however, the PCMH standards and elements do not prioritize the identification and response to patients' experiences with psychosocial adversity, a significant and potentially costly omission (National Committee for Quality (Assurance; Felitti et al., 1998). Therefore, we sought to use input from an expert panel to define specific, measurable

elements that would adapt the NCQA-based PCMH to adequately respond to patients' experiences of this nature.

METHODS

Study Design

From December 2012 through September 2013, we used a Delphi process to systematically obtain expert opinions and reach consensus on specific elements, based on NCQA-defined PCMH standards, to adapt the PCMH. The Delphi process has been used extensively within health care to develop guidelines and quality measures (Coben, 2002; Wathen et al., 2012; Wilson, Kozoil-Mclain, Garrett, & Sharma, 2010; Zink & Fisher, 2007). For example, Delphi process methods were used to develop DV assessment and response tools consistent with Joint Commission on Accreditation of Healthcare Organization standards for hospitals and outpatient settings (Coben, 2002; Zink & Fisher, 2007). The Delphi process involves experts responding to successive and iterative rounds of questionnaires, each round of which is based on aggregated, de-identified data from the prior round. This study, which involved three rounds, was approved by the Human Subjects Committees of the authors' institutions.

Study Participants & Recruitment

The first author sought to engage a diverse and inclusive group of experts, and approached the invitation process in a manner that parallels prior Delphi studies (Coben, 2002; Zink & Fisher, 2007). Using key words like "PCMH" and "trauma," the first author searched both the peer-reviewed literature, using databases like PubMed, and online resources like Google to identify individuals and organizations focused on psychosocial adversity, trauma-informed care, the integration of behavioral health and primary care, and the PCMH. The invited experts' positions purposefully spanned academic, government, and non-profit health advocacy organizations, as well as health care policy groups. The authors also contacted colleagues in these fields and asked for recommendations for experts, whose qualifications were then further investigated. In total, we selected 37 national experts. These experts were invited via email and informed of the following:

> The overarching goal of this study is to develop measurable elements that effectively adapt the existing PCMH into one that specifically and purposefully addresses ACEs and the social determinants of health. Exposure to ACEs and other social determinants of health can lead to chronic activation of the bodies' stress response system, and significantly increase the risk for poor health across the life course, The ACE study investigated the association between ACEs – including childhood psychological, physical or sexual abuse, violence against one's mother, or living with household members who were substance abusers, mentally ill, or imprisoned – and adult health outcomes ranging from depression to heart disease to lung cancer.

For the initial invitation and subsequent two rounds, if individuals did not respond within the first three weeks, we sent up to three additional email reminders and also attempted telephone calls as reminders. Experts who completed all three rounds were given a $50 gift card.

For *Round 1*, we e-mailed experts a link to a survey housed in Survey Monkey. On this link, we provided the six NCQA-based PCMH standards and the associated elements. A vignette was presented to facilitate improved understanding of each NCQA-based standard and its associated elements. To ensure the standards and elements had been accurately represented, a certified NCQA accreditor reviewed and edited all survey materials prior to their use. In the survey, experts were asked to imagine a PCMH that effectively addressed psychosocial adversity and to generate at least four distinct elements per standard falling within the following six NCQA-based standards: 1) enhanced access and continuity of care; 2) identifying and managing patient populations; 3) planning and managing care; 4) providing self-care, support and community resources; 5) tracking and coordinating care; and 6) measuring and improving performance. Experts were further instructed that these items should be concrete and specific, while also being flexible enough to be adapted to diverse health care settings. Finally, experts were asked to provide some socio-demographic information including gender, age, degrees, professional background and primary place of work (see Table 2). Elements generated in *Round 1* were aggregated and streamlined, with redundancies removed. The resulting list included 35 total suggested elements, falling under the NCQA-based standards.

For *Round 2*, we sent a second email with a link to Survey Monkey to all participating experts, who were asked to rate each element on a 5-point Likert scale (1=*not at all useful* to 5=*extremely useful*). Following the completion of this round, the means and standard deviations were calculated using Stata 11.0™. Per Delphi process convention, elements that were ranked ≤ 3 by more than half of the experts were dropped.

For *Round 3*, we again sent the complete list of included elements to the experts, this time noting Likert scale means and standard deviations; dropped elements were also sent. Experts also were asked the following questions:

1. What items (specifically) or concepts (generally) could be removed, while keeping intact the goal of adapting the patient-centered medical home to adequately respond to psychosocial adversity?
2. Recognizing that each practice and patient population is unique, what items (specifically) or concepts (generally) are most critical to preserve?
3. Other comments or thoughts about next steps?

Comments from *Round 3* were collated, and three authors read them and discussed in-person and via email general themes; of note, these discussions were not intended to be a formal qualitative analysis, but to ensure that the comments provided were accurately represented and to facilitate concise presentation.

RESULTS

Eighteen of the 37 (49%) invited experts responded to the first survey, and constituted our sample. Consistent with other similar Delphi studies, the number of respondents decreased in subsequent rounds; 16 experts responded to the second and 13 to the third survey (Coben, 2002; Wilson et al., 2010). All participants had professional and/or doctoral level degrees

and the majority was working in academic environments (Table 2). Table 3 displays the results from the Delphi process. The first column provides the experts' suggestions for specific elements to adapt the PCMH to better address psychosocial adversity. The second column documents the mean and standard deviation of the Likert score for each element. The following three elements were eliminated during *Round 2*: 1) Patients should be rewarded (e.g., gift cards and other motivators) for attending visits; 2) This screening tool (for psychosocial adversity) should be administered at all visits; and 3) The health care team should include occupational therapists, physical therapists and language pathologists.

For *Round 3*, experts were asked to identify which elements were critical to keep and which could be removed, and to provide additional comments. The top five elements that participants reported as critical included:

1. *Practices should provide care that is sensitive to patients' cultural preferences* (*n*=5);
2. *All patients should complete a standardized screening tool to identify current and past psychosocial adversity* (*n*=8). Despite believing that a routine screening tool was important, participants commented that a long survey may be overwhelming; it is unclear which psychosocial adversities should be included; assessing not just the presence but also the impact of adversity is difficult; and the survey should be administered prior to the visit, perhaps at home;
3. *The health care team should include a team member who specializes in "mental health"* (*n*=5);
4. *The health care team should be trained in screening for and addressing psychosocial adversity* (*n*=6);
5. *The practice should have readily available, visually appealing and appropriate reading level written information* (*n*=5).

The top three elements recommended for elimination included:

1. *Practices should have clinicians who are the same race/ethnicity as patients* (*n*=8);
2. *Patients should be able to engage their providers by text* (*n*=5,) with two respondents emphasizing that some form of electronic communication was important, but that it did not necessarily need to be text); and
3. *A care coordinator should call all patients within two days of a clinic appointment to check in* (*n*=4).

Four themes emerged from respondents' additional comments including the need: 1) for input from health care payers about financing an adapted model; 2) for the adapted PCMH to be feasible and its elements to be easily operationalized; 3) for the PCMH to have stronger links with community-based groups; and 4) to further depart from traditional medical models, such as moving towards integrating medical care into community locations (Table 3).

DISCUSSION

In an Agency for Healthcare Research and Quality-sponsored systematic review summarizing the evidence regarding PCMH interventions, the authors describe the PCMH as seeking to "reinvigorate primary care [to] achieve the triple aim of better quality, lower costs and improved experience of care" (Peikes et al., 2012). However, the authors conclude that existing PCMH interventions may be inadequate because they are not comprehensive and tend to focus only on older and sicker patients (Peikes et al., 2012). Addressing psychosocial adversity is one area in which standard PCMH interventions fail to provide comprehensive care to a broad range of patients. Using NCQA's 2011 PCMH standards and elements as a guide, we provide a framework for an adapted PCMH that identifies and responds to patients' experiences with psychosocial adversity. Experts reported that the most critical elements in such a PCMH included using a standardized screening tool to recognize psychosocial adversity; training the health care team to address psychosocial adversity; having a member of the health care team that specializes in mental health; providing care that is culturally competent; and having printed patient information available that is visually appealing and written at an appropriate reading level. The adaptations suggested by the participating experts have the potential to improve patients' quality and experience of care, particularly given evidence that those with mental health problems and/or trauma histories are both higher care utilizers and are less satisfied with the care provided to them (Croghan & Brown, 2010). In addition, patient engagement and self-management are potentially limited by experiences with psychosocial adversity (Modi et al., 2012). Thus, making a concerted effort to address psychosocial adversity may lead to more patient-centered, comprehensive and coordinated care with which both patients and providers are more satisfied (Croghan & Brown, 2010). The degree to which this leads to cost savings through reducing inappropriate health care use and improving health remains untested, and represents an important future direction for research (Croghan & Brown, 2010).

Many thoughtful commentaries about the need to transform the PCMH model support the need for such a framework. For example, Garg, Jack and Zuckerman (2013) recently published a commentary discussing the importance of adapting the PCMH to address the social determinants of health, and providing general suggestions about how to approach such a transformation including screening for these social determinants during medical visits, co-location of community-based resources, and developing "outside the box" multidisciplinary primary care interventions. In a similar commentary, Laraque and Sia (2010; Dr Sia was one of the original founders of the PCMH) proposed that the PCMH should be re-conceptualized as a family-centered medical home (FCMH), describing the case of an adopted nine year old girl who had been sexually abused and who suffered from post-traumatic stress disorder. They conclude by stating that "the most poignant lesson of the case presented is the potential effects of adverse childhood events and the necessity for timely preventive services. The Affordable Care Act (ACA) provides the opportunity to bring the system closer to the realization of a fully integrated early childhood comprehensive system of care that brings to life the FCMH model" (Laraque & Sia, 2010).

To our knowledge, prior empirical work has not provided specific recommendations for holistically adapting the PCMH to address psychosocial adversity; however, the general

concept of integrating behavioral health and primary care has garnered recent attention. For example, the Substance Abuse and Mental Health Administration recommends uniting behavioral health services and primary care, and outlines suggestions for effective integration (Solutions, 2012). Hunter and Goodie (2010) posit that the PCMH will not achieve its goals until mental health needs are adequately addressed, and describe models of integration as well as key operational and clinical components of these models. Our expert panel suggested that having a team member with expertise in behavioral health is one of the most critical aspects of an adapted PCMH, but that changing other components of the medical home, such as promoting regular meetings between the medical team meeting and community-based organizations, may also be important.

Our expert panel also highlighted the need for continued professional training to allow providers to become trauma-informed and culturally competent. Providers consistently cite lack of training as a primary reason for not screening for psychosocial adversity such that any effort to adapt the PCMH must be accompanied by training initiatives (Garg, Jack, & Zuckerman, 2013; Sprague et al., 2012; Van Hook et al., 2007). Just as health care training programs (e.g., medical and nursing schools) teach new providers to conduct a complete medical history and physical exam, they also must thoughtfully integrate teaching about psychosocial adversity and health, as well as how to provide care in a culturally competent manner.

Our study represents only the first step in a longer process of developing this PCMH framework for addressing patients' experiences with psychosocial adversity within the PCMH, and we do not propose that it is ready for implementation "as is." For example, we asked experts to provide us with elements that were "measurable." Prior to implementation of any PCMH adaptation, one must consider how to appropriately measure whether practices are meeting desired benchmarks. Some of the elements recommended in this study can be readily and directly measured. For example, performing standardized psychosocial screening can be assessed using chart review. In contrast, other elements may be less straightforward, with an element such as providing culturally sensitive care requiring alternative measurement strategies such as patient surveys.

As a key limitation, we concur with the experts who commented that this framework is too lengthy, and that implementing all elements may not be feasible. For example, experts stated that it was critical to use a standardized measure to assess psychosocial adversity. Numerous standardized tools exist for measuring individual adversities, such as intimate partner violence exposure, but a single tool that holistically assesses multiple adversities and their impact on functioning has yet to be developed for use in health care settings (Garg et al., 2007; Kemper, 1992). Further, any future screening tool should capture current and past stressful life events, risk for mental health disorders, the perceived impact of these stressors, and sources of support and coping. Future research is needed to develop a comprehensive, yet succinct, instrument that is also psychometrically valid.

A second limitation to this study is that, although there was diversity among participants, the results are derived from a select number of experts. The Delphi process is dependent upon the quality of invited experts, and our response rate, though consistent with other survey-

based studies, was sufficiently modest that the ideas generated may be biased; in addition, though common in surveys requiring multiple rounds like Delphi methods, our response rate dropped as the study progressed (Yun & Trumbo, 2000). Though some of the experts were practitioners, further insight from practitioners is critical. In addition, other office staff and patients have yet to provide their insights; obtaining this feedback from front line providers and from patients is an essential next step before these elements can be operationalized. As a final limitation, anchoring questions to NCQA standards and elements may have inadvertently induced participants to limit their suggestions to ones that are feasible within the currently designed medical system. For example, respondents did not provide specific suggestions about the need for the medical home to become increasingly situated in community locations like schools, day cares or nursing homes.

The Institute of Medicine states that a central tenet of primary care includes “practicing in the context of family and community,” further defined as “understanding the patient’s living conditions, family dynamics, and cultural background” (Donaldson, Yordy, & Vanselow, 1994). Re-conceptualizing the PCMH to consider patients’ experiences with psychosocial adversity, as we did in this study, is both essential and timely. Through the Patient Protection and Affordable Care Act (ACA), the United States federal government has elevated the importance of modifying the PCMH to include needed innovations. ACA provisions include planning grant funding for States to develop health homes for Medicaid and Medicare patients affected by chronic conditions as well as establishing the Center for Medicare and Medicaid Innovation, which can investigate strategies to improve the quality of the medical homes’ delivery of care (Prevention Institute, 2014). Given the prevalence of psychosocial adversity for patients across the lifespan, together with its detrimental impact on short- and long-term health, the ACA offers a unique opportunity to innovate the PCMH in order to address patients’ exposure to stress. Our results may therefore directly inform the implementation of specific, feasible, and measurable elements that can adapt the PCMH to adequately respond to patient’s experiences with psychosocial adversity.

In conclusion, this study specified key elements that may enhance the PCMH’s ability to improve patient outcomes by purposefully addressing psychosocial adversity. Future work will include incorporating patient, provider and payer perspectives to further refine the model.

Acknowledgments

This work was supported in part by the DC-Baltimore Research Center on Child Health Disparities (P20 MD000198) from the National Institute on Minority Health and Health Disparities. The content is solely the responsibility of the authors and does not necessarily represent the official views of the funding agency. The study sponsor did not have any part in the design or implementation of this work.

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Table 1

National Committee for Quality Assurance (NCQA)-Based Core Standards and Elements (streamlined by authors for ease of presentation)

Standard	**Patients have enhanced access to care and continuity of care.**
Elements	1) Providing same day appointments; 2) Providing and documenting timely clinical advice 24/7 by telephone or by a secure electronic system; 3) Offering appointment times outside regular business hours; 4) Having a secure electronic server that allows two way communication in which the patient receives a clinical summary, can ask medical questions and request a copy of their records, an appointment, a prescription refill, a referral or test results; 5) Having patients/families select a primary provider, documenting this choice and monitoring the percentage of visits with this provider; 6) Giving patients materials about the role of the medical home including provider and patient responsibilities; 7) Engaging in activities to understand and meet the cultural and linguistic needs of its patients/families; 8) Using a clinical care team that meets regularly to provide a range of coordinated, individualized patient services including self-management, self-efficacy and behavior change; team also trained in communication, considers patient population management, and helps with practice quality improvement activities.
Standard	**Practices identify and manage patient populations.**
Elements	1) Using an electronic system that records patient demographic information including language preference and dates of clinic visits; 2) Using an electronic system that records patient problem list, allergies, medications, blood pressure, weight/height/BMI, and tobacco use; 3) Conducting and documenting a comprehensive health assessment including immunizations, screening tests, family/social/cultural characteristics, communication needs, past medical and family history, advance care planning, health risk behaviors, patient/family mental health and substance abuse issues and specifically depression screening with a validated tool, developmental screening in Pediatrics; 4) Using electronic patient data to identify and remind patients of preventive care services/chronic or acute care services, medications, and patients not recently seen that need care.
Standard	**Practices and providers plan and manage care.**
Elements	1) Implementing evidence-based guidelines for patient's medical problems including those related to risk behaviors or mental health problems; 2) Identifying high-risk and complex patients; 3) Managing patient care by preparing pre-visit, collaborating with patient/family to develop an individualized care plan with treatment goals and addressing barriers when goals are not met, providing patients with a clinical summary at each visit, identifying patients needing additional care management support and following up with patients who have not kept appointments; 4) Managing medication through medication reconciliation at point of care and during care transitions and assessing patient response to medications; 5) Using an electronic prescription system.
Standard	**Practices and providers provide patients with self care support and refer them to community resources**.
Elements	1) Supporting patient self-management through providing educational resources and tools to aid in self-management, and documenting self-management plans and abilities; 2) Counseling patients about healthy behaviors; 3) Having an up to date community resource list on key areas of importance to patient population and tracks these community referrals; 4) Arranging or providing mental health and substance abuse treatment; 5) Offering health education programs.

Standard	**Patients have enhanced access to care and continuity of care.**
Standard	**Practices track and coordinate care.**
Elements	1) Tracking and following lab tests and imaging, flagging abnormal results and notifying patients of results;
	2) Electronically communicating with lab and incorporating labs and imaging results into the medical record;
	3) Coordinating, tracking and documenting all referrals (both clinician and patient initiated);
	4) Having electronic exchange for key clinical information between clinicians;
	5) Identifying and coordinating care for patients admitted to the hospital or visiting an ED including discharge documentation and following up with patients after hospitalization/ED visits;
	6) Developing transition plans from pediatric to adult care.
Standard	**Practices measure and improve performance and patient/family experience**.
Elements	1) Obtaining data about preventive care measures, chronic/acute care clinical measures, health care use/cost;
	2) Obtaining performance data stratified for vulnerable populations to assess disparities in care;
	3) Obtaining qualitative and quantitative patient/family feedback about care, including conducting a patient/family survey and specifically including vulnerable populations;
	4) Using ongoing quality improvement processes including improving care/services to vulnerable populations, involving families in QI teams; quality improvement results stratified by clinician and by practice;
	5) Tracking results of quality improvement (QI) processes over time to monitor and ensure its effectiveness;
	6) Reporting quality measures to CMS, external entities and public health agencies, as appropriate.

Table 2

Background of Participating Experts (*N*=18)

Characteristic	*n* (%)
Male	10 (56)
Age Range	
31–40 years	2 (11)
41–50 years	5 (28)
51–60 years	5 (28)
>60 years	6 (33)
Degree	
MD	10 (56)
PhD	2 (11)
MPH or equivalent	4 (22)
MSS/MSW	2 (11)
Professional Background	
Medicine	9 (50)
Public Health	4 (22)
Mental Health	3 (17)
Prevention	1 (5.5)
Social Work	1 (5.5)
Primary Location(s) of Work[a]	
Academics	9 (50)
Non-Profit Organization	5 (28)
Consulting Firm	2 (11)
State Government	2 (11)
For-Profit Organization	1 (6)
Health Maintenance Organization	1 (6)

[a]Respondents were able to list more than one location such that $N > 18$

Table 3

Delphi Created Patient-Centered Medical Home (PCMH) Elements to Address Psychosocial Adversity (*N*=18)[a]

Standard Based on the National Committee for Quality Assurance (bold) **Expert Derived Elements (non-bolded) with elements indicated ranked most highly by experts as critical italicized**	**Mean (Standard Deviation)** [b]
Enhance Access for Patients	
Patients should be able to engage their providers:	3.73 (.30)
A. Via text.	
B. Via email.	4.60 (.16)
Practices should accommodate:	4.69 (.12)
A. Patient schedules by having early morning, nighttime and weekend appointments.	4.13 (.27)
B. Patients' transportation by offering bus tokens or ways to help patients get to the practice.	4.50 (.13)
C. Patients' child care issues by having free on-site child care for adult appointments.	
Practices should thoughtfully match new patients with a primary provider by assessing psychosocial needs and then matching with a primary provider based on practice team's assessment of best fit.	4.31 (.20)
Practices should have clinicians that are the same race/ethnicity as patients.	3.81 (.25)
Practices should provide care that is sensitive to patients' cultural preferences. [c]	4.56 (.13)
Practices should have trauma-trained staff that provide sensitive first response to patient phone calls.	4.75 (.11)
Practices should make outreach calls to patients who miss scheduled appointments.	4.56 (.13)
Patients should be surveyed regularly to understand "invisible" barriers to accessing care.	4.31 (.15)
A care coordinator should call all patients:	4.69 (.15)
A. After emergency department visits.	
B. Within two days after appointments at the clinic to check in.	3.75 (.19)
Enhance Identifying and Managing Patient Populations	
All patients should complete a standardized screening tool to identify current and past psychosocial adversity.[c]	4.50 (.29)
This screening tool should:	3.93 (.33)
A. Be administered as a paper-pencil survey or via computer.	4.20 (.30)
B. Be administered by a provider trained in trauma informed care.	
C. Ask all patients about their sources of social support.	4.47 (.17)
Providers should record, in a specific part of the medical record, information about patients' current and past psychosocial adversity.	4.53 (.13)
Medical records should have a summary view of patients' current and past psychosocial adversity.	4.47 (.17)

Standard Based on the National Committee for Quality Assurance (bold) **Expert Derived Elements (non-bolded) with elements indicated ranked most highly by experts as critical italicized**	**Mean (Standard Deviation)** [b]
The health care team should include:	4.81 (.10)
A. *A team member who specializes in "mental health" (i.e. behavioral health, health behavior change, substance misuse to provide enhanced mental health services delivered concurrently with primary care.)* [c]	4.81 (.10)
B. A medical care coordinator whose job includes helping patients coordinate behavioral health care needs, following up on referrals and calling patients after they have missed primary care visits.	4.63 (.16)
C. A community care coordinator whose job includes linking and following patients' connections to community based services	
D. A public health nurse available to do home visits.	4.25 (.17)
The health care team should be trained in:	4.75 (.11)
A. *Screening for and addressing current and past psychosocial adversity.* [c]	4.63 (.62)
B. Discussing how patients feel current and past psychosocial adversity has impacted their lives.	4.50 (.16)
C. Motivational interviewing techniques.	4.86 (.09)
D. Trauma informed care.	
E. Vicarious trauma using methods like Reflective Supervision.	4.06 (.23)
Enhance Planning & Management	
At the first visit, the patient should be provided with an individualized care plan that includes mutually agreeable strategies to address current and past psychosocial adversity.	4.25 (.19)
This care plan should:	4.38 (.15)
A. Be documented in the patient's chart.v	4.73 (.11)
B. Include community referrals, as appropriate.	4.06 (.17)
C. Be reviewed and modified at each subsequent visit.	4.13 (.18)
D. Include the contact information of individuals who the patient has listed as a source of support.	
This care plan should be based, to the degree possible, on evidence based guidelines and therapies.	4.47 (.19)
Enhance Providing Self Care Support & Community Resources	
The practice should have readily available, visually appealing and reading level appropriate written information about: [c]	4.44 (.22)
A. The impact of current and past psychosocial adversity on health, development and behavior.	4.50 (.16)
B. Stress management for patients.	4.25 (.23)
C. Management of risk behaviors (obesity; smoking).	
D. Contact information for community resources.	4.69 (.12)
At preventive health visits, providers should routinely discuss healthy relationships.	4.50 (.20)
At preventive health visits, providers should routinely discuss "triggers" for repeated unhealthy behaviors.	4.53 (.13)
The practice should host group visits/groups focused on addressing common concerns among patients/families (e.g., parenting classes).	4.19 (.25)
The practice should provide materials to the patient at all visits that emphasize that the patient is a critical valued member of the care team.	4.27 (.21)

Standard Based on the National Committee for Quality Assurance (bold) **Expert Derived Elements (non-bolded) with elements indicated ranked most highly by experts as critical italicized**	**Mean (Standard Deviation)** [b]
The practice should have diverse on site services (e.g., WIC; legal services; addiction counseling).	4.33 (.21)
Enhance Tracking and Coordinating Care	
The health care team should routinely meet to review patients':	4.27 (.15)
A. Appointment history (including missed visits) to examine patterns across patients.	4.20 (.20)
B. Diagnoses to examine patterns across patients including the correlation between current and past psychosocial stressors and specific diagnoses.	4.07 (.21)
C. Diagnoses by patient geographical location/address to determine whether there are "hot spots" for specific diseases.	
The health care team and practice should meet weekly to discuss their patient panel.	4.33 (.16)
The health care team and practice should meet at least four times a year with local, community based organizations to discuss available services and coordination of care from the clinic to the community.	4.60 (.13)
The health care team and practice should monitor the percentage of recommended visits that are completed with the primary provider.	4.40 (.16)
The practice should use web-based/phone based applications to provide patient reminders and allow patient self-monitoring.	4.60 (.16)
The health care team should develop plans for trauma-informed transition from pediatric to adult care.	4.40 (.13)
The practice should establish HIPAA compliant protocols for:	4.73 (.15)
A. Communicating with community agencies serving patient and/or family.	
B. Protecting social information during exchange of records with subspecialists.	4.27 (.32)
Enhancing Measuring and Improving Performance	
The practice should create a data registry for high adverse childhood experiences (ACE) score patients with quality improvement targets for the cohort.	3.75 (.30)
The practice should review at patient records at regular intervals to measure:	4.19 (.19)
A. Documentation of referrals to community resources and patients' use of community resources.	4.25 (.19)
B. The most common psychosocial adversities experienced by patients.	4.19 (.25)
C. Whether providers are screening for and identifying current and past psychosocial adversity.	
The practice should survey patients about whether:	4.25 (.14)
A. The provider discussed current and past psychosocial adversity.	4.13 (.18)
B. Care seemed trauma informed.	4.56 (.13)
C. Care met their needs/satisfaction with care.	4.19 (.19)
D. Provider team could answer questions/concerns about current and past psychosocial adversity.	
Providers should be evaluated based on their ability to work effectively as part of a care team.	4.56 (.16)

[a] Elements that were eliminated include: 1) Patients should be rewarded (e.g., gift cards and other motivators) for attending visits; 2) This screening tool (for psychosocial adversity) should be administered at all visits; and 3) The health care team should include OT/PT/ and language pathologists.

[b] Likert scale from 1=not at all useful to 5=extremely useful

[c] Italicized items indicate items deemed by expert participants to be most critical.

Table 4

Participant Comments Related to the Delphi Expert Consensus Process and Adapting the PCMH to Better Address Psychosocial Adversity

Theme	Illustrative Comments
Need for input from health care payers	"I can tell you that many folks will balk at this, but we should push on. Payment is key, so I suggest you contact some payers to share this idea and gather responses from them."
Need for PCMH to be feasible and for its elements to be able to be operationalized	"While [the items] are wonderful, it feels somewhat difficult to imagine operationalizing it. I think this is where people get stuck- at the operational level." "Primary care practices have increasing demands to be accountable for a range of services without increased resources." "My greatest concern is that these ideas will come across as 'ivory tower' ideas that can't be implemented in real clinical settings. Developing an evaluation/feedback from clinicians about barriers associated with implementing these ideas and ways to overcome those barriers may be helpful."
Need for the PCMH to have stronger linkages with community-based groups	"I believe that team-based care can include team members that are not based within the primary care setting, and I believe consideration of mechanisms to promote, support, and pay for integration of these concepts into community-based accountable care models is critical…" "Some of the standards listed might not be within the purview of medical homes, but instead should be provided by community care teams, primary care support infrastructure support (e.g., networks models or other shared resources) or accountable care models."
Need for further departure from traditional medical models such that individual staff have specific "non-traditional" responsibilities	"Our experience and read of the evidence and practice literature leads us to believe that a much more significant departure is necessary in order to be successful. In particular, different staff with different capacities (particularly therapeutic and partnership development) are necessary as well as a comprehensive shift toward building organizational capacity to address conditions outside the clinic that are leading to adverse experiences…."