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Authors

Jansson, Bruce S
Nyamathi, Adeleine
Duan, Lei
et al.

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Validation of the Patient Advocacy Engagement Scale for Health Professionals

Bruce S. Jansson, Adeleine Nyamathi, Lei Duan, Charles Kaplan,
Gretchen Heidemann, Debbie Ananias

Correspondence to Bruce S. Jansson
E-mail: jansson@usc.edu

Bruce S. Jansson
Professor
School of Social Work
University of Southern California
1150 S. Olive St., Suite 1400
Los Angeles, CA 90015-2211

Adeleine Nyamathi
Professor
School of Nursing
University of California Los Angeles
Los Angeles, CA

Lei Duan
Biostatistician
School of Social Work
University of Southern California
Los Angeles, CA

Charles Kaplan
Associate Dean of Research
School of Social Work
University of Southern California
Los Angeles, CA

Gretchen Heidemann
Post-doctoral Research Associate
School of Social Work
University of Southern California
Los Angeles, CA

Debbie Ananias
Project Coordinator
School of Social Work
University of Southern California
Los Angeles, CA

Nurses, physicians, and social workers are required by their codes of ethics to engage in patient advocacy, yet remarkably few empirical studies have been conducted about the extent of their engagement. When surveying existing empirical research on advocacy, we observed that no scale had yet been developed to measure the extent to which specific health professionals engage in patient advocacy in the course of their work in acute care hospitals.

Abstract: Codes of ethics of nursing, social work, and medicine, as well as Joint Commission Accreditation Standards, require members of these professions to engage in advocacy on behalf of patients. With use of expert panels, seven categories of patient problems in the healthcare milieu were identified: ethical rights, quality care, preventive care, culturally competent care, affordable/accessible care, mental health care, and care linked to patients' homes and communities. To measure the frequency with which healthcare professionals engage in patient advocacy related to these specific problems, the Patient Advocacy Engagement Scale (Patient-AES) scale was developed and validated through analysis of responses of 297 professionals (94 social workers, 97 nurses, and 104 medical residents) recruited from the personnel rosters of eight acute-care hospitals in Los Angeles County. Hospitals included public, not-for-profit, HMO, and church-affiliated hospitals that served general hospital populations, veterans, cancer patients, and children. Results supported the validity of both the concept and the instrument. Construct validity was supported by testing the hypothesized seven-factor solution through confirmatory factor analysis; 26 items loaded onto seven components. Pearson correlations for the overall scale and seven subscales in two administrations supported their test-retest stability. Cronbach α ranged from .55 to .94 for the seven subscales and .95 for the overall Patient-AES. The Patient-AES is, to our knowledge, the first scale that measures patient advocacy engagement by health-care professionals in acute-care settings related to a broad range of specific patient problems. © 2014 Wiley Periodicals, Inc.

Keywords: patient advocacy; Patient-AES; patient problems; instrument development and validation; health professionals

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Without such an instrument, researchers cannot examine to what extent health professionals provide varying levels or amounts of patient advocacy, analyze why variance might exist, gain knowledge about the kinds of patient problems that health professionals do and do not address in their patient advocacy interventions, nor determine to what extent patient advocacy interventions are a relatively peripheral or essential part of the work of health

professionals. Thus, there exists a critical need for a scale that measures the frequency of patient advocacy engagement by health professionals in acute-care settings. Funded with a federal grant from the Patient-Centered Outcomes Research Institute (PCORI), a research team launched this project to develop and validate a scale—the Patient Advocacy Engagement Scale (Patient-AES)—to measure the extent to which members of these three professions engage in patient advocacy.

Defining Patient Advocacy

A definition of patient advocacy developed by Jansson (2011) was adapted for this project: An intervention “to help specific consumers obtain services and rights that would (likely) not otherwise be received by them and that would advance their personal well-being” (p. 3). We re-worded and expanded the definition to read, “An intervention to help *patients* obtain services and rights *and benefits* that would (likely) not otherwise be received by them and that would advance their well-being.” This definition precludes relatively minor instances of advocacy to focus on advocacy interventions that are employed by health professionals only when they believe a patient’s well-being will be harmed. It is limited to advocacy interventions used when health professionals believe no one else will step forward to assist specific patients. At the suggestion of the project stakeholders (described later), we further expanded the definition to include the following proviso: “Patient advocacy can be provided directly to patients or through referrals, provided that health professionals ascertain if patients actually received assistance.” This addendum to the definition includes only referrals that lead to actions to provide patients with specific services, rights, and benefits that enhance their well-being, while precluding referrals that do not lead to useful assistance to patients.

The Importance of Patient Advocacy

Patient advocacy is one strategy for assisting patients with important problems that might not otherwise be addressed. Considerable evidence suggests that many patients are subject to preventable injuries and fatalities, including estimates that range from 98,000 to 440,000 deaths per year (“Survive Your Stay,” 2014). Were patient advocacy able to prevent only a small fraction of these fatalities, it would be meritorious. It would also be meritorious if it could prevent or alleviate any or many of the specific patient problems identified in this project (discussed later) that do not result in patient injuries or fatalities, such as so-called adverse events, but that may lead to patient discomfort, violations of patients’ ethical rights, delayed treatment, patients’ discontent, and other negative outcomes (Gehlert & Browne, 2006; Jansson, 2011).

Patient advocacy is not a panacea, however (Grace, 2001). Patients may fail to divulge their problems for

cultural reasons, fear of repercussions, or other reasons. Patients’ problems also flow from many sources that are beyond the control of frontline professionals. Economically disadvantaged people are more likely than others to experience a wide range of health problems, to be disabled, and to experience mental health problems (Barr, 2008). Jansson (2014) identified 16 vulnerable populations that are subject to discrimination, poverty, and many other stressors, including persons of color, disabled persons, veterans, elderly persons, women, and members of the LGBT population. Many patients live in communities that place them at risk of violence, substance abuse, and other factors that adversely affect their health.

In addition, patients’ problems often stem from the health system itself, including fragmentation of services and bureaucracy. Health professionals are often hard-pressed just to provide basic medical services. They must therefore triage patients with unaddressed problems to identify those whose well-being is most likely to be harmed if they do not provide patient advocacy. Moreover, health professionals may lack the skills to help patients with specific problems that fall outside their areas of expertise. Many patients cannot locate or access needed resources when they are discharged, such as mental health services. Even with enactment of the Affordable Care Act, experts have predicted that 16 million Americans will still lack health insurance in 2020 (Kliff, 2013).

Yet many health experts concur that patient advocacy is an ethical duty of health professionals. The American Nurses Association (2014) in its Code of Ethics states, “The nurse promotes, advocates for, and strives to protect the health, safety, and rights of the patient” (p. 1). The National Association of Social Workers (2005) in its Standards for Social Work Practice in Health Care Settings states that hospital social workers “have a responsibility to advocate for the needs and interests of clients and client systems in health care” (p. 24). The American Medical Association in its preamble to the Code of Ethics (2014) states that physicians should “recognize a responsibility to seek changes in ... requirements which are contrary to the best interests of the patient” and “to participate in activities contributing to the improvement of the community and the betterment of public health.” The Joint Commission further requires hospitals to develop written policies on an array of stated patient rights and to put respect for the patient’s rights into action in myriad, concrete ways (Joint Commission International, 2010). These ethical precepts imply that providers need to be careful not to rationalize their inability to engage in advocacy when patients’ well-being is in jeopardy.

Gaps in Existing Patient Advocacy Instruments

A comprehensive literature search yielded four existing scales that measure patient advocacy or closely related

constructs by health care professionals. Bu and Wu (2008) described the Attitude toward Patient Advocacy Scale, a 74-item instrument that measures attitudes and contextual factors hypothesized to influence whether health professionals provide patient advocacy. Similarly, Hanks (2010) described the Protective Nursing Advocacy Scale that measures nurses' attitudes and beliefs toward patient advocacy by asking respondents to report the extent to which they agree with 43 items, such as, "Patients need nurses to act on the patients' behalf" and "I may suffer risks to my employment when acting as a patient advocate" (p. 259). Dodd, Jansson, Brown-Saltzman, Shirk, and Wunch (2004) described an Ethical Assertiveness Scale that measures the extent to which nurses and social workers in acute care hospitals engaged in ethical assertiveness to help patients resolve 28 kinds of ethical issues. Ethical assertiveness might be considered the equivalent of patient advocacy because it relates to helping patients resolve specific ethical problems. Vaartio, Leino-Kilpi, Suominen, and Puukka (2009) described the Advocacy in Procedural Pain Care scale (APPC), a 58-item instrument that measures the antecedents, activities, and consequences of advocacy by procedural pain care nurses in Finland. The instrument measures the extent to which nurses analyze patients' preferences, counsel patients about pain care, and respond to patients' self-determination and pain care preferences (Vaartio et al., 2009).

None of these instruments measure health professionals' engagement in patient advocacy with respect to a broad range of specific patient problems. The APPC scale (Vaartio et al., 2009) measures patient advocacy with respect to a single problem: pain management. Dodd et al.'s (2004) scale only measures advocacy with respect to violations of or problems related to patients' ethical rights. Because Bu and Wu (2008) and Hanks (2010) measured advocacy attitudes and other contextual factors, their instruments do not measure actual engagement in advocacy. The instruments described by Bu and Wu (2007), Hanks (2010), and Vaartio et al. (2009); focus exclusively on nurses. The Ethical Assertiveness Scale by Dodd et al. (2004) was validated for use by both nurses and social workers. Therefore, the purpose of this instrument development project was to develop a measure of nurses', social workers', and physicians' self-reported advocacy engagement in response to specific patient problems in the past 2 months.

Methods

Conceptual Basis of Instrument Content

To identify appropriate patient problems, we began with Jansson's (2011) typology of 118 patient problems in seven categories. This list represented an array of problems beyond the biological or physiological, consonant with a biopsychosocial framework that considers the impact of the

social and cultural environment as well as psychological factors upon individuals' well-being (Brody, 1999). This broad framework of problems for which advocacy may be a response is supported by the ecological or person-in-environment framework that is the foundation of medical social work (Coulton, 1981); the Patient Bill of Rights adopted by the American Hospital Association in 1972 (Earp et al., 2008); and the patient-centered care model, which promotes access to care, continuity between sites of care, and involvement of patients in decisions about their care and maintaining their health (Bergeson & Dean, 2006; Epstein, 2000).

Jansson's (2011) seven categories of patient problems were: (1) ethical problems; (2) problems related to quality of care; (3) lack of culturally responsive care; (4) lack of preventive care; (5) lack of affordable or accessible care; (6) lack of care for mental health issues and distress; and (7) lack of care that addresses household and community barriers to care. A review of 800 sources confirmed that specific problems in these categories often adversely affect patient health outcomes. Sources included overviews of the impact of mental health problems (Gehlert & Browne, 2006), lack of preventive care (Knight, 2004), ethical problems (Beauchamp & Childress, 1994), and lack of quality care (Institute of Medicine, 2001). Peer reviewers of the initial work included the director of a division of social work and behavioral science at a major hospital, the director of a health advocacy program at a college, two faculty members of graduate departments or schools of social work, a public policy consultant on advocacy strategy, and the director of the office of community health at the medical center of a major university. Nine experts in advocacy who became stakeholders in this PCORI-funded project supported the seven categories as the basis for developing the Patient-AES.

Overlap is inevitable to some degree in any categorization of patients' problems. For example, lack of quality of care can exacerbate many other problems, such as lack of preventive care, ethical care, and mental health care. Lack of affordable care can lead to lack of preventive care and quality care. This conceptual overlap is inevitable in light of the complexity of health and health care. The researchers minimized the measurement impact of this overlap by assigning each patient problem to only one of the seven categories. Overlap was not identified as a problem by the project's stakeholders after reviewing the seven categories and the specific problems within them.

Areas Outside the Focus of the Instrument

We sought to develop a scale that would measure the frequency of engagement in patient advocacy by nurses, medical residents, and social workers in acute care hospitals with regard to specific problems. We targeted health care professionals who interface most often and directly with hospitalized patients and who do not require a referral

to see them; namely social workers,¹ nurses, and medical residents. These professionals are well positioned to become aware of problems faced by patients and to engage in advocacy to address them. For these reasons, other health care professionals, such as physical therapists, occupational therapists, speech and language pathologists, and psychologists were excluded from the current project.

We did not seek to measure the duration of respondents' reported patient advocacy interventions or their specific behaviors, verbal exchanges, or actions. Impact of patient advocacy engagement on patient outcomes, the extent to which specific health professionals collaborated with other professionals during their patient advocacy interventions, the extent health professionals encountered conflict or pushback from patients or other health professionals when they engaged in patient advocacy, and components or activities of patient advocacy were not included in the content of interest. Nor did we seek to measure advocacy in larger arenas, including organizational constraints or societal issues (Grace, 2001), or what others termed policy advocacy (Jansson, 2011). These are crucial issues but not the immediate focus of the current project. However, we did aim to measure advocacy in response to specific ethical problems that patients may experience, such as not providing informed consent and being denied confidentiality of their personal data.

We relied on respondents' reports of the frequency of their engagement in patient advocacy. We did not seek to independently verify these reports through observations or inspections of medical records, ask respondents to describe their patient advocacy interventions, or ask patients to verify to what extent their health care professionals had engaged in patient advocacy on their behalf.

The larger PCORI-funded project, of which the current study is a part, was designed not only to develop an instrument to measure patient advocacy engagement by health professionals but also to identify variables that might explain why some health professionals report higher levels of patient advocacy than others. These included scales and variables that measure health professionals' ethical commitment to advocacy, their estimates of tangible job support they receive for it, the extent of their eagerness to engage in patient advocacy, and their estimates of various measures of organizational culture and work procedures hypothesized to influence their propensity to engage in patient advocacy. Validation of these other scales will be reported elsewhere.

Approach

The Patient Advocacy Engagement Scale (Patient-AES) was constructed using an applied mode of classical test

theory (Nunnally & Bernstein, 1994). The stages were very similar to those of Bu and Wu (2008) and included two primary stages: instrument development and instrument validation. The instrument development stage included three steps: (1) preliminary planning; (2) generating an initial item pool; and (3) refining the scale. The instrument validation stage included four steps: (1) data collection; (2) estimation of content validity; (3) estimation of construct validity; and (4) estimation of reliability. The research team drew from Goodwin's (2002) definition of instrument validity as "the degree to which evidence and theory support the interpretations of test scores entailed by proposed uses of tests" (p. 101).

Instrument Development

Step 1: Preliminary planning. We assembled a stakeholder panel in fall 2012 whose nine members had expertise in patient advocacy, including a social worker who had led a case management program for 20 years and was elected president of the American Case Management Association, a breast cancer survivor who secured the enactment of state legislation to enhance the care of breast cancer patients with dense breast tissue, an associate professor of social work who pioneered research on advocacy with respect to ethical issues in acute-care hospitals, a clinical associate professor of social work with expertise in advocacy for senior citizens in acute-care hospitals, a physician who had pioneered advocacy training for individuals with withdrawal symptoms from substance abuse, a professor of nursing who had secured federal research grants to study advocacy for persons with HIV/AIDS, a nurse who headed a university-based center on bioethics and had expertise in patient advocacy for individuals in end-of-life situations, a social worker who pioneered advocacy for discharged patients at a public hospital for 30 years, and the head nurse of a hospital who had been named the nurse of the year by the American Nurses Association and who founded an annual award for nurses who excelled in patient advocacy.

Working with the stakeholder group, the team had to decide the time frame for measurement, such as during a prior number of months, and whether to solicit numerical counts of patient advocacy interventions or obtain estimates of frequency using a scale. Based on Dodd's (2004) research that 2 months was sufficiently long to contain a substantial representation of their practice (roughly 40 working days), but not too long to prevent accurate recall, we decided to ask respondents to estimate their advocacy engagement over the prior 2 months. We chose a 5-point frequency scale with the anchors 1 (*never*), 2 (*seldom*), 3 (*sometimes*), 4 (*frequently*), and 5 (*always*) because stakeholders doubted that respondents could recall the exact

¹Although they often see patients in acute-care settings based on referral, social workers in many states are permitted to visit patients independent of referrals (Jansson, 2011).

number of patient advocacy interventions they had provided during the prior 2 months.

Step 2: Generating an item pool. We identified 44 specific patient problems from the list of 118 (Jansson, 2011) by excluding problems not likely to be seen by health professionals during a 2-month period. Items were developed and grouped in the seven categories developed by Jansson (2011). The survey began, "Patient advocacy is defined as interventions to help patients obtain services, rights, and benefits that would (likely) not otherwise be received by them and that would advance their well-being. Patient advocacy can be provided directly to patients or through referrals provided that health professionals ascertain if patients actually received assistance." Participants were asked, "During the last 2 months, how often have you engaged in patient advocacy to address a patient's problem related to each of these numbered issues below?" After reading the definition of patient advocacy, respondents were asked to report on the five-point frequency scale how often they engaged in advocacy with regard to each of the 44 problems during the prior 2 months.

Step 3: Refining the scale. These 44 items were reduced to 33 by a panel of three experts, selected from among the project's stakeholders: the associate professor of social work who pioneered research on advocacy related to ethical issues in hospitals, the clinical associate professor with expertise in advocacy for senior citizens, and the professor of nursing who had done extensive research on advocacy for persons with HIV/AIDS. These experts were asked to eliminate any items that they viewed as repetitive, poorly worded, confusing, or not essential. The experts also slightly reworded some items. For example, an item in the community-based care subscale was reworded from "reaching out to referral sources on behalf of the patient" to "reaching out to referral sources on behalf of a patient, such as by coordinating services, providing a warm handoff, and monitoring or assessing services." The 33 items in seven categories are listed in Table 1.

Instrument Validation

Stage 1: Data collection. We obtained institutional review board (IRB) approval from relevant universities and eight hospitals in Los Angeles County. The online survey including the Patient-AES was uploaded to the web-based survey service Qualtrics™ in September 2013, and data collection took place during the following 5 months. Participants were given 1 month to complete the survey once they started it and had the ability to leave the survey and return to it at any point during the month.

Selection of participating hospitals. Acute care hospitals of different types were selected to capture health professionals' engagement in patient advocacy in settings with a range of characteristics. We also selected hospitals in which stakeholders and members of the research team had contacts to facilitate IRB approval. The

convenience sample of eight hospitals included a community-based nonprofit hospital, a university-affiliated nonprofit general hospital, a veterans' hospital, a public children's hospital, a public general hospital, a nonprofit university-affiliated cancer hospital, and two church-affiliated hospitals. We sought to include a for-profit hospital but were unable to obtain permission despite repeated efforts.

Participant eligibility and recruitment. We aimed for 300 respondents to ensure sufficient effect size for statistical analyses, including roughly 100 respondents from each of the three professional groups to enable comparisons of their levels of patient advocacy engagement. We sought professionals who had served at least 6 months in their hospitals to enhance the likelihood they were familiar with its personnel and policies, were positioned to serve large numbers of patients, and whose rosters could be accessed within the time constraints of the project. We selected medical residents because, unlike attending and consulting physicians, residents serve considerable numbers of patients and can act as "case finders" as they make rounds within their respective units. Thus, they are in a similar position to nurses and social workers to detect patient problems and devote time to resolving those problems. We did not put any restrictions on medical residents' area of specialty. The project stakeholders agreed with these sampling choices.

Participant inclusion criteria thus included: (1) participant must work full-time, part-time, or per diem and have worked in this hospital setting for at least 6 months; and (2) participant must be a nurse, a social worker, or a medical resident in the participating hospital. Nurses were required to be registered nurses at a minimum, and social workers were required to have master's degrees in social work. Temporary and student workers were excluded.

We obtained the rosters of all nurses, social workers, and medical residents at each participating hospital. To achieve participation of roughly 100 social workers, all social workers were contacted in each hospital because the social work departments of all but one had fewer than 14 members. A pool of nurses and medical residents was generated from the rosters using a random number generator. These individuals were contacted via email and provided with information about the study and a link to the online survey. Participants were paid \$100 after completing the survey, which contained more than 400 items, including the 33-item Patient-AES, and which took 35 minutes on average to complete.

Participation was voluntary, and response rates varied from site to site and among the three professions. The total number of professionals invited to participate was 732, of whom 40% consented to participate and completed the online survey. Table 2 displays the number of social workers, nurses, and medical residents invited to participate in each of the eight hospitals, the number who completed the survey, and the response rate for each profession. Fifteen individuals were ineligible for the study and 29 individuals

Table 1. Seven Categories and Specific Patient Problems in the Original 33-Item Patient-AES

Category	Patient Problem
Patient advocacy for patient rights	1. Informed consent to a medical intervention
	2. Accurate medical information
	3. Confidential medical information
	4. Advanced directives
	5. Competence to make medical decisions
Patient advocacy for quality care	6. Lack of evidence-based healthcare
	7. Medical errors
	8. Whether to take specific diagnostic tests
	9. Fragmented care
	10. Non-beneficial treatment
Patient advocacy for culturally competent care	11. Information in patients' preferred language
	12. Communication with persons with limited literacy or health knowledge
	13. Religious, spiritual, and cultural practices
	14. Use of complementary and alternative medicine
Patient advocacy for preventive care	15. Wellness exams
	16. Extent factors known to cause poor health are not addressed
	17. Chronic disease care
	18. Immunizations
Patient advocacy for affordable care	19. Financing medications and health care needs
	20. Use of publicly funded programs
	21. Coverage from private insurance companies
Patient advocacy for mental health care	22. Screening for specific mental health conditions
	23. Treatment of mental health conditions while hospitalized
	24. Follow-up treatment for mental health conditions after discharge
	25. Medications for mental health conditions
	26. Mental distress stemming from health conditions
	27. Availability of individual counseling and or group therapy
	28. Availability of support groups
Patient advocacy for community-based care	29. Discharge planning
	30. Transitions between community-based levels of care
	31. Referrals to services in communities
	32. Reaching out to referral sources on behalf of the patient
	33. Assessment of home, community, and work environments

Note. AES, Advocacy Engagement Scale.

Table 2. Number of Respondents and Response Rates by Hospital and Profession

Hospital	Social Workers		Nurses		Medical Residents		Hospital Response Rate
	Invited	Completed Survey	Invited	Completed Survey	Invited	Completed Survey	
Hospital 1	24	15	45	15	35	17	45%
Hospital 2	35	25	30	23	56	31	65%
Hospital 3	15	9	78	7	27	9	21%
Hospital 4	24	14	27	17	43	30	65%
Hospital 5	4	2	57	14	32	10	28%
Hospital 6	17	10	35	10	N/A	N/A	38%
Hospital 7	24	17	61	4	34	5	22%
Hospital 8	5	2	10	7	14	2	38%
Total	148	94	343	97	341	104	
Profession response rate		64%		28%		43%	40%

Note. Profession response rate calculated by dividing the number of professionals who completed the survey by the number invited.

started but did not complete the survey. The final sample of 295 participants who completed the survey provided adequate statistical power for reliability and validity testing (Streiner & Norman, 2008).

Participant demographics. Ninety-four social workers, 97 nurses, and 104 medical residents completed the online survey containing the Patient-AES, for a total sample size of 295. Of them, 207 (70.2%) were women and 135 (45.8%) identified as Caucasian, 79 (26.8%) as Asian, 39 (13.2%) as Latino or Hispanic, 15 (5.1%) as African American, 9 (3.1%) as Middle Eastern or Arab, and 18 (6.1%) as other or multiracial. The median age of the sample was 33 and the mean was 37.5 ($SD = 11.15$). Nearly half the sample (49.2%) had worked in their respective hospitals for less than 5 years; another 20% between 5 and 9 years, 14.6% between 10 and 19 years, 10.8% between 20 and 29 years, and 5.4% for more than 30 years.

Stage 2: Estimating content validity. Estimation of content validity is a process in which the appropriateness, quality, and representativeness of each item is evaluated to determine the degree to which the items, taken together, constitute an adequate operational definition of a construct (Beck & Gable, 2001; Polit & Beck, 2006). A panel of seven experts (five members of the project stakeholder group and two recruited from participating hospitals) who had not reviewed the instrument in the refinement stage were asked to rank the 33 items in the Patient-AES as: (1) *not relevant*, (2) *somewhat relevant*, (3) *relevant*, or (4) *very relevant*.

Using these ratings, the item-level content validity index (I-CVI) and scale-level content validity (S-CVI) were determined. I-CVI was defined as the proportion of items that achieved a rating of 3 or 4 by the panel of expert reviewers. Polit, Beck, and Owen (2007) recommended that when there are seven experts, an I-CVI score above .71 can be considered good, and a score above .86 can be considered excellent. We follow this criterion of .71 as the minimally acceptable standard for I-CVI.

Polit et al. (2007) described two approaches to computing S-CVI: S-CVI universal agreement (S-CVI/UA), the proportion of items that achieve a rating of 3 or 4 by all experts, and S-CVI/Ave, the average of I-CVI across all items. The S-CVI/UA is overly stringent and difficult to achieve as the number of experts increases. S-CVI/Ave captures information about the performance of each item and reduces the impact of chance disagreement. Thus, we used the S-CVI/Ave approach in the current study.

Stage 3: Estimating construct validity. Construct validity was measured as the extent of correlation among items designed to measure each dimension of the concept under study. The seven categories of problems measured by the Patient-AES were conceptually derived groupings. Therefore, confirmatory factor analysis (CFA) was performed to test this seven-factor model. Goodness-of-fit indexes, including chi-square with degrees of freedom, comparative fit index (CFI), Tucker–Lewis index (TLI),

and root mean square error of approximation (RMSEA) were obtained and evaluated. Although the ratio of chi-square to degrees of freedom has been reported in many studies (Bentler, 1990; Bu & Wu, 2008), there is no universally agreed-upon standard of model fitness. A CFI or TLI $> .90$ is generally accepted as indicative of good model fit (Bentler, 1990), whereas a RMSEA $< .08$ indicates mediocre fit (MacCallum, Browne, & Sugawara, 1996). Per the suggestion of Costello and Osborne (2011), we removed any cross-loading items that had factor loadings ≥ 0.32 during the model respecification process.

Stage 4: Estimating reliability. Two types of reliability were assessed in this study: internal consistency reliability and test–retest reliability. Internal consistency reliability indicates the extent to which each item in a measure is correlated with every other item in the measure (Cozby, 2009), and was assessed using Cronbach α . Test–retest reliability indicates the extent to which a measure performs consistently, or is stable, over time (Rubin & Babbie, 2013), and was assessed using Pearson's correlation between two administrations to 50 participants who completed the repeat questionnaire an average of 41 days after the initial survey (median = 34 days, range = 14–115 days).

Results

Item and Scale Content Validity

As shown in Table 3, the I-CVI of the Patient-AES items ranged from .57 to 1.00, with 28 items scoring .86 or higher, four items scoring between .71 and .86, and one item scoring .57. In general, these results showed good to excellent content validity, with the exception of the item measuring advocacy to address unresolved problems related to complementary and alternative medicine. This item was discussed in a subsequent meeting of the stakeholders and the research team and retained because it measures an aspect of patient care that they viewed as important and is often overlooked in traditional medical settings, and therefore one with a high need for advocacy. The overall S-CVI for patient advocacy, calculated using the average agreement approach (Polit et al., 2007), was .92, suggesting good overall content validity.

Construct Validity

Confirmatory factor analysis was conducted to verify the latent structure of the hypothesized seven-factor model. Seven crossloading items had factor loadings ≥ 0.32 and were removed (Osborne, 2005): items 9, 13, 14, 16, 18, 27, and 28 (Table 3).

The final CFA model was composed of seven latent factors and 26 items (Fig. 1). There were no double-loading items or correlated errors in the final CFA. The chi-square (df), CFI, and RMSEA values of the final model were 711.227 (278), .91, and .07, respectively, indicating

Table 3. Item Content Validity Based on Proportion of Ratings of Relevant or Very Relevant by Seven Experts

Dimension	Item	I-CVI
Patient advocacy for patient rights	1. Informed consent to a medical intervention	0.86
	2. Accurate medical information	0.86
	3. Confidential medical information	0.71
	4. Advanced directives	0.86
	5. Competence to make medical decisions	0.86
Patient advocacy for quality care	6. Lack of evidence-based healthcare	0.71
	7. Medical errors	1.00
	8. Whether to take specific diagnostic tests	1.00
	9. Fragmented care ^a	1.00
	10. Non-beneficial treatment	1.00
Patient advocacy for culturally competent care	11. Information in patients' preferred language	1.00
	12. Communication with persons with limited literacy or health knowledge	1.00
	13. Religious, spiritual, and cultural practices ^a	0.86
	14. Use of complementary and alternative medicine ^a	0.57
Patient advocacy for preventive care	15. Wellness exams	0.86
	16. At-risk factors ^a	1.00
	17. Chronic disease care	1.00
	18. Immunizations ^a	1.00
Patient advocacy for affordable care	19. Financing medications and health care needs	1.00
	20. Use of publicly funded programs	1.00
	21. Coverage from private insurance companies	0.71
Patient advocacy for mental health care	22. Screening for specific mental health conditions	1.00
	23. Treatment of mental health conditions while hospitalized	1.00
	24. Follow-up treatment for mental health conditions after discharge	1.00
	25. Medications for mental health conditions	1.00
	26. Mental distress stemming from health conditions	1.00
	27. Availability of individual counseling and or group therapy ^a	1.00
	28. Availability of support groups ^a	0.86
	29. Discharge planning	0.86
Patient advocacy for community-based care	30. Transitions between community-based levels of care	1.00
	31. Referrals to services in communities	1.00
	32. Reaching out to referral sources on behalf of the patient	0.71
	33. Assessment of home, community and work environments	1.00

Note. I-CVI= item content validity index. The overall scale CVI (S-CVI) was .92.

^aItem excluded from calculation of S-CVI and final scale based on I-CVI and confirmatory factor analysis.

adequate fit. Consistent with theory, the measure captured the seven aforementioned domains of patient advocacy, with five items loading on the latent factor of patients' ethical rights, four items loading on quality care, two items loading on culturally competent care, two items loading on preventive care, three items loading on affordable care, five items loading on mental health care, and five items loading on community-based care. The factor loadings from the CFA of all 26 items ranged from .53 to .96 (Fig. 1), and the interfactor correlations ranged from .2 to .8 (Table 3).

Reliability

The test-retest Pearson correlation coefficients for seven subscales were all statistically significant and ranged from .57 to .83 (Table 4). The test-retest *r* for entire scale was .81, indicating adequate stability of the overall scale and its subscales.

Cronbach α for the seven subscales ranged from .55 to .94. The Patient Advocacy for Preventive Care subscale

had the lowest α of .55 but contains only two items. Given the large impact of number of items on the Cronbach α value, we judged the relatively low value as an acceptable level of internal consistency. The Cronbach α value for overall scale was .94, supporting the internal consistency of the Patient-AES (Table 4).

Discussion

The Patient Advocacy Engagement Scale (Patient-AES) demonstrated satisfactory psychometric properties in this initial test. Results supported both the validity and reliability of the Patient-AES as a multidimensional scale for measuring the frequency of advocacy engagement by nurses, social workers, and medical residents in acute-care settings with respect to specific patient problems in seven categories. After removal of items with multiple loadings, confirmatory factor analysis supported the seven-factor structure of the Patient-AES, providing evidence that problems to which health professionals respond with advocacy

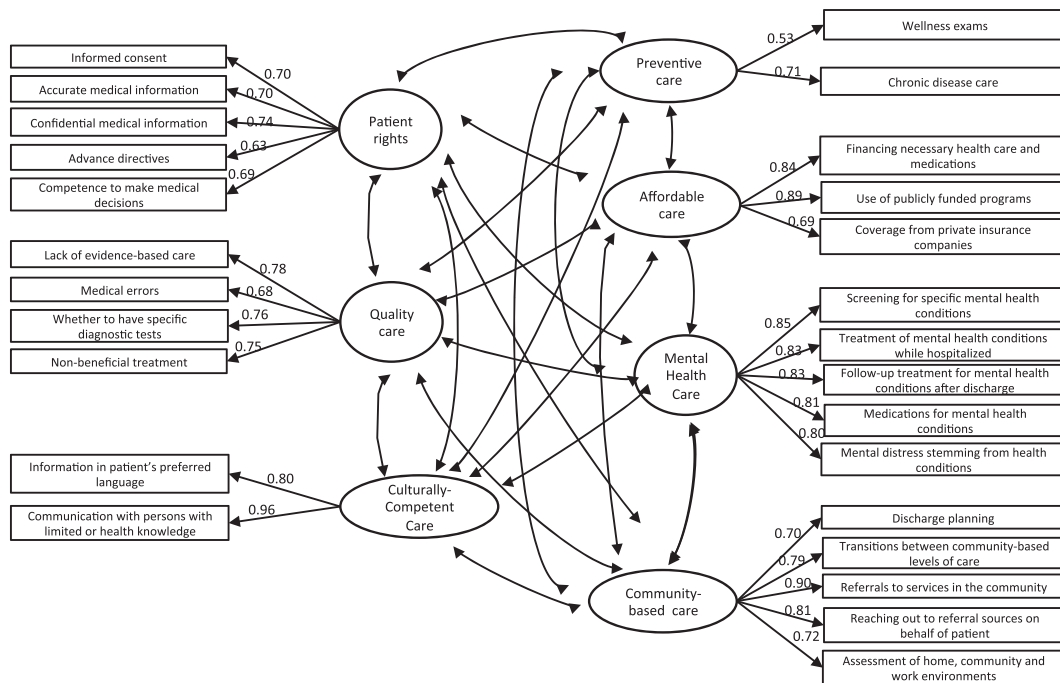


FIGURE 1. Item loadings in confirmatory factor analysis of the 26-item patient engagement in advocacy. Chi-square = 711.23 ($df = 278$), CFI = 0.91, AIC = 21327.27, RMSEA = 0.07.

engagement can be conceptualized in seven broad categories.

The Patient-AES fills a gap in available advocacy measures. First, it was based on a definition of patient advocacy focused on specific patient problems, establishing useful parameters for those advocacy situations: that the patient’s well-being will be adversely affected if the presenting problem is not resolved and that advocates believe that no one else will step forward to provide advocacy. It includes referrals but only if an advocate later ascertains

whether patients received assistance from the referral source.

Second, the Patient-AES is the first to measure health care professionals’ frequency of engagement in patient advocacy in acute care hospitals with respect to 26 specific patient problems spread across seven categories that reflect biopsychosocial, person-in-environment, patients’ rights, and patient-centered frameworks (Bergeson & Dean, 2006; Brody, 1999; Coulton, 1981; Earp et al., 2008; Epstein, 2000). Finally, the Patient-AES is the only patient advocacy

Table 4. Means, Standard Deviations, Test–Retest Stability, and Inter-correlations of Items in the Seven-Factor Final Patient Advocacy Engagement Scale (N = 295)

Dimension	Number of Items	Mean (SD)	Test–retest reliability (r)	Cronbach α	Interfactor Correlation (r)					
					1	2	3	4	5	6
Patient advocacy for patient rights	5	14.8 (4.9)	.62	.82						
Patient advocacy for quality care	4	9.5 (3.7)	.68	.83	.7					
Patient advocacy for culturally competent care	2	6.7 (2.2)	.62	.87	.5	.4				
Patient advocacy for preventive care	2	5.9 (2.1)	.73	.55	.8	.8	.7			
Patient advocacy for affordable care	3	9.1 (3.5)	.56	.85	.5	.2	.6	.6		
Patient advocacy for mental health care	5	13.6 (5.7)	.83	.91	.6	.3	.5	.6	.7	
Patient advocacy for community-based care	5	15.6 (5.6)	.57	.89	.6	.3	.5	.7	.8	.7

Note. AES, Advocacy Engagement Scale; SD, standard deviation. The 26-item scale as a whole had a mean score of 75.3 (SD 20.6), test-retest $r = .78$, and Cronbach $\alpha = .94$.

engagement scale to our knowledge that has been validated for use by nurses, social workers, and medical residents.

Limitations

The study's findings should be considered in the context of its limitations. Because the convenience sample of acute care hospitals of different auspices and types may not be representative of hospitals in Los Angeles County or other regions, findings cannot be generalized to other hospitals. Moreover, our participant recruitment strategy yielded a low response rate overall, and differential response rates by hospital and by profession, with nurses responding at a rate of only 28%. We surmise this is related to their high workload. Other researchers have reported similarly low response rates among nurses (Dodd et al., 2004).

Our recruitment strategy, while protecting participants' confidentiality, precluded protection of their anonymity because they were recruited by name via hospital rosters. Thus, their responses may have been biased. With respect to test-retest reliability, while we planned to collect retest data within 4 weeks of initial survey completion, the average retest time was 41 days due to the time it took to recruit participants to re-take the survey.

The scale itself has some limitations worth noting. The Patient-AES measures health professionals' self-reported frequencies of patient advocacy engagement during the prior 2 months with respect to specific patient problems. It does not measure the length or content of their patient advocacy engagements, nor the effect on patient outcomes. It has been validated for use among nurses, social workers, and medical residents but not physicians or other health professionals. Future research should seek to remedy these limitations.

The 26 patient problems comprising the Patient-AES are not exhaustive. Because the research team and stakeholders only included patient problems they believed were most likely to be observed among the caseloads of acute-care health professionals, they may have eliminated some important patient problems from the list of 118 developed by Jansson (2011). Future researchers should examine whether additional problems should be added to the existing scale or developed as a separate scale.

Moreover, it is possible that members of the three professional groups differ in their advocacy relative to certain problems by virtue of their distinct roles in the acute-care setting. We are currently comparing the three health professional groups' levels of advocacy engagement. Finally, we did not collect demographic information pertaining to medical residents' areas of specialty or the year of their residencies. It is possible that levels of patient advocacy engagement differ between various sub-groups of medical residents. Future researchers should explore this possibility.

Contextual factors need to be considered when interpreting scores on the Patient-AES. Health professionals' scores may be influenced by characteristics of their patient

populations. Relatively young, white, and affluent individuals in some suburban hospitals, for example, may have fewer problems than patients in some inner-city or rural hospitals that predominantly serve low-income people, and therefore may require less advocacy. Scores of health professionals on the Patient-AES may be influenced by organizational factors not measured in this study.

Using the Patient-AES in Hospital Settings and Research

The Patient-AES may be used in advocacy training in acute-care hospitals in several ways. It may provide a baseline measure of health professionals' engagement in patient advocacy with respect to specific patient problems that can be compared with their scores after they have received advocacy training. It could facilitate the development of advocacy training curricula by identifying patient problems that do not yet receive adequate levels of advocacy engagement by health professionals. The instrument might establish norms for patient advocacy engagement in acute-care settings if it is administered to large numbers of health professionals across many settings.

Enhanced patient advocacy may benefit hospitals and patients. Patients may report higher levels of satisfaction if they receive patient advocacy from health care professionals. Patients who receive advocacy may be less likely to un-enroll from specific health plans. Patient advocacy may cut the costs of health care by identifying and resolving patients' problems at an early stage. Future research should examine these potential outcomes of patient advocacy for patients and hospitals alike. The Patient-AES may promote this research by providing a useful measurement tool.

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