Table B.72: Cross-Cutting Patient Safety Topics/Practices, Cultural Competency—Single Studies

Note: Full references are available in the [Section 17.4 reference list](#Section17point4refs).

| Author, Year | Description of Patient Safety Practice | Study Design; Sample Size; Patient Population | Setting | Outcomes: Benefits | Implementation Themes/Findings | Risk of Bias (High, Moderate, Low) | Comments |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Bailey et al., 201219** | Rx bottles with ConcordantRx (language concordant) instructions. | Randomized, experimental evaluation; 202 LEP adults who spoke five non-English languages (Chinese, Korean, Russian, Spanish, Vietnamese), recruited from nine clinics and community organizations. | Nine clinics and community organizations in San Francisco and Chicago. | Subjects receiving the ConcordantRx instructions demonstrated significantly greater Rx understanding, regimen dosing, and regimen consolidation compared with those receiving standard instructions (incidence rate ratio [IRR]: 1.25; 95% confidence interval [CI], 1.06 to 1.48; p=0.007 for Rx understanding, IRR: 1.19; 95% CI, 1.03 to 1.39; p=0.02 for regimen dosing, and IRR: 0.76; 95% CI, 0.64 to 0.90; p=0.001 for regimen consolidation). In most cases, instruction type was the sole independent predictor of outcomes in multivariate models controlling for relevant covariates. | At time of article, California was the first and only State to mandate that pharmacies use a standardized, patient-centered prescription label, through a bill passed in October 2007. The California Patient Medication Safety Act enlisted the California Board of Pharmacy to create a set of requirements for the design and content of Rx labels. The purpose of this bill, implemented in 2011, was to improve comprehension of Rx instructions by ensuring that the information provided is grounded in evidence from health literacy research.  Language concordance was not included as a requirement. Regardless, the ConcordantRx instructions comply with the recommendations set forth in this bill in terms of patient-centered labeling and can be used to fulfill California’s labeling requirements for the LEP community. | Moderate; convenience sample; qualitative | Process measure |
| **Cardarelli et al., 201853** | Use of lay health workers for post-discharge follow-up calls for high-need patients. Discharge plans were developed from patients’ self-identified needs. The care plan and LHW’s contact information was provided to the patient upon discharge. The LHW conducted a follow-up call 24–48 h after discharge to review any issues during the interim post-discharge period, assess patient follow-through in engaging with identified community resources and review plans for appropriate follow-up visits. | Pre-post study design. Baseline period of 4 months in which high-need patients did not receive the LHW follow-up calls, compared to 6-month intervention period. Hospitalized patients (males and females over 18 years old of any racial/ethnic group and admitting diagnosis) at high risk of a 30-day readmission to the hospital participated in study. There were 46 patients in the baseline phase and 61 in the intervention phase. Almost all participants were Caucasian, reflecting the predominant population found in Appalachia Kentucky; also, most participants had only a high school education or less (70%) and over 55% had either Medicare or Medicaid as their primary insurance. | A hospital in in Morehead, KY, in Northeast Appalachia Kentucky | Thirty-day readmission rates decreased from 28.3 to 14.8% (p = 0.09) between the baseline and intervention phases. When adjusted for education, transportation cost, and a positive anxiety screen, the odds of being readmitted within 30 days further decreased to 77% (OR 0.33; 90% CI 0.14–0.81; p =0.04) among those exposed to the LHW program. In addition, those with transportation cost barriers were over three times more likely to be readmitted within 30-days. | The authors assert that LHWs help transition patients from the hospital to their home by assuring that patients sustain healthy behaviors and access needed services. Because they serve the community in which they live, they often share a similar socioeconomic status and are able to relate to the psychosocial and economic stressors met by their clients. Communicating with the hospitalized patient about social needs and ways to address these needs not only gives patients the tools to improve their situation; it may also instill a sense of empowerment. When considering implementing LHWs in care transition programs, it is important to consider patient population to target (i.e. risk stratification) and the effort level at which a LHW should be employed. The studied model may be an cost-effective alternative for resource-limited rural and community hospitals. | Low to moderate | None |
| **Flores et al., 201256** | Professional interpreters for translation accuracy (compared with ad hoc or no interpreter). | A cross-sectional error analysis of audiotaped emergency department (ED) visits over 30 months; 57 encounters included 20 with professional interpreters, 27 with ad hoc interpreters, and 10 with no interpreters. | Two of the largest pediatric EDs in MA | The analysis found 1,884 interpreter errors, of which 18% had potential clinical consequences. The proportion of errors of potential consequence was significantly lower for professional (12%) versus ad hoc (22%) versus no interpreters (20%) (p<0.01). The median errors by professional interpreters with 100 or more hours of training were significantly lower, at 12, versus 33 for those with fewer than 100 hours of training. | Focus on meaning rather than word-for-word translation. Errors of potential clinical consequence were significantly more common with ad hoc interpreters and no interpreters than with professional hospital interpreters. Hours of training, not experience, were associated with greater accuracy for professional interpreters. One hundred or more hours of training might have major impact on reducing errors. | Low to moderate | None |
| **Karliner et al., 201751** | Increasing access to professional interpreters by providing a dual-handset telephone with a direct connection to interpreter services at each hospital bedside that would facilitate use by all clinical providers.  These 66 telephones had a programmed button that allowed 24-hour access to a professional (trained and tested) medical interpreter for more than 100 languages. | Observational, natural experiment.  Of 8,077 discharges, 1,963 were for limited English proficient (LEP) and 6,114 for English-proficient (EP) patients. Discharges occurred over 3 years. This time-frame begins 18 months prior to the intervention, includes the 8-month intervention period, and continues for 10 months after the intervention. | A medicine floor of an academic medical center consisting of two separate nursing units; one a step-down unit for higher acuity patients and the other for patients with less intensive nursing needs. | There was a significant decrease in observed 30-day readmission rates for the LEP group during the 8-month intervention period compared with 18 months pre-intervention (17.8% vs. 13.4%). At the same time, EP readmission rates increased (16.7% vs. 19.7%). Readmission results remained significant in adjusted analyses (pre-intervention OR=1.07; 95% CI, 0.85 to 1.35; intervention CI, 0.64; 95% CI, 0.43 to 0.95). There was no significant intervention impact on length of stay (LOS) in either unadjusted or adjusted analyses. After accounting for interpreter services costs, the estimated 119 readmissions averted during the intervention period were associated with estimated monthly hospital expenditure savings of $161,404. | Prior to the intervention, usual-care communication included in-person staff interpreters who could be scheduled during usual business hours, and a slowly increasing number of dual-handset interpreter telephones (ranging from 0 to 5 during the pre-intervention period).  It took additional time to locate interpreters and bring them to the patient’s room, and often they were in use elsewhere. Having a telephone in every patient room, immediately available to clinicians at any time, was a key component to the success of the intervention. | Low | Twenty-five million people in the United States have limited English proficiency (LEP); this growing and aging population experiences worse outcomes when hospitalized. Federal requirements that hospitals provide language access services are very challenging to implement in the fast-paced, 24-hour hospital environment. |
| **Lee et al., 201755** | Bedside interpreter  phone system at every bedside, enabling 24-hour immediate access to professional interpreters. | Prospective, pre-post intervention implementation study using propensity analysis. Hospitalized patients undergoing invasive procedures on three hospital floors. Chinese- and Spanish-speaking patients with LEP (84 pre and 68 post implementation) and 86 English speakers. | Cardio-vascular, general surgery or orthopedic surgery floors of a hospital. | Post-implementation (vs. pre- implementation) patients with LEP were more likely to meet criteria for adequate informed consent (54% vs. 29%, p=0.001) and, after propensity score adjustment, had significantly higher odds of adequate informed consent (AOR 2.56; 95% CI, 1.15 to 5.72) as well as of each consent element individually. However, compared with post-implementation English speakers, post-implementation patients with LEP had significantly lower adjusted odds of adequately informed consent (AOR, 0.38; 95% CI, 0.16 to 0.91). | Prior to implementation, Interpreter Services staff met with all hospital nurse managers to plan the implementation and communication with nursing staff. Nurse managers educated nurses. Additionally, the physician champion contacted all clinical Chiefs of Service about the phones, who in turn communicated by email with their attending and resident physicians. An article describing the phones was posted in the internal Graduate Medical Education online newsletter. No other system interventions occurred. Despite the observed improvements after interpreter phone implementation, post-implementation patients with LEP still had lower odds of informed consent than English-speakers, even when adjusting for health literacy. | Low to moderate | None |
| **Lindholm, et al., 201250** | Professional interpretation at patient admission or discharge. | This study is a retrospective analysis of length of stay and 30-day readmission rates among patients who were admitted to a tertiary care, university hospital. The study population includes 3,071 admissions with an LOS between 1 and 85 days. Multivariable regression models explored differences among patients who had received interpretation at admission, discharge, or both, controlling for patient characteristics, including age, illness severity, language, and gender. | A tertiary care, university hospital; size not provided. | Of the 3,071 patients included in the study, 39% received language interpretation on both admission and discharge date. Patients who did not receive professional interpretation at admission or both admission and discharge had an increase in their LOS of between 0.75 and 1.47 days, compared with patients who had had an interpreter on both day of admission and discharge (p<0.02). Patients receiving interpretation at admission and/or discharge were less likely than patients receiving no interpretation to be readmitted within 30 days. | In this study, the length of a hospital stay for LEP patients was significantly longer when professional interpreters were not used at admission or both admission and discharge. As a measure of severity of illness, the researchers used the hospital’s diagnoses cost weight that accounts for differences in patients’ illness burden. The researchers felt that interpretation at admission was especially important, as it has the greatest impact on LOS. This intuitively makes sense, since a patient’s history accounts for approximately 70% of the necessary information to formulate a correct diagnosis. | Moderate—no comparison group, some patient characteristics not included, single site | None |
| **Sudore et al., 201854** | To mitigate literacy, cultural, and language barriers to advance care planning, easy-to-read advance directives and a patient-directed, online advance care planning program called PREPARE For Your Care (PREPARE) were created in English and Spanish. | A comparative efficacy randomized clinical trial was conducted from February 1, 2014, to November 30, 2017, among 986 English-speaking or Spanish-speaking primary care patients 55 years or older with two or more chronic or serious illnesses. | Four San Francisco, safety-net, primary-care clinics. | No participant characteristics differed between the two comparison groups, and retention was 85.9% (832 of 969) among survivors. Compared with the advance directive alone, PREPARE resulted in a higher rate of advance care planning documentation (unadjusted, 43.0% [207 of 481] vs. 33.1% [167 of 505]; p<0.001; adjusted, 43.0% vs. 32.0%; p<0.001) and higher self-reported advance care planning engagement scores (98.1% vs. 89.5%; p<0.001). Results remained significant among English speakers and Spanish speakers. | The patient-facing PREPARE program was easy-to-read and did not require clinician/system-level interventions to assist the patient. Materials were written at a fifth-grade reading level. Advance care planning (ACP) improves value-aligned care, yet, it remains suboptimal among diverse patient populations. Was successful among both English- and Spanish-speaking older adults. | Low to moderate | Among the 986 participants (603 women and 383 men), the mean (SD) age was 63.3 (6.4) years; 387 of 975 (39.7%) had limited health literacy, and 445 (45.1%) were Spanish speaking. |
| **Woerner et al., 200952** | Delivery of home nursing care using a culturally congruent approach. Hired Hispanic nurses and teachers, added a Spanish language phone line. Allowed nurses to give personal phone numbers to patients; surveyed the patient population about their educational needs and the most appropriate methods for providing healthcare information. Creation of a patient education series in telenovela format. Education on healthy food using culturally appropriate food. Identified non-Hispanic learner needs. | A retrospective analysis of pre-intervention (March 2006 to March 2007)/post-intervention (April 2007 to April 2008) data was done to determine whether or not care delivery outcomes improved for Hispanic patients following introduction of the ¡EXITO! model. Outcome and Assessment Information  Set (OASIS) data from 125 unduplicated home care patients were tracked. Nursing care delivery was analyzed using ethnographic research techniques. | Home nursing care for 125 patients. | Acute hospitalization for Hispanic patients/all patients pre-intervention was 43%/30%; post-intervention, it was 24%/17%. Emergency department rate pre-intervention was 23%/24%; post-intervention, it was 21%/26%. Oral medication adherence pre-intervention was 22%/42%; post-intervention, it was 28%/42%. Response rates for satisfaction surveys were low, ranging from 2% to 32% per quarter. For all but one quarter, satisfaction rates were above the targeted 96% rate. Followup analysis found numerous discrepancies between which meds the patient was taking and what the physician and pharmacy thought the patient was taking. | Theory-based intervention for culturally congruent care: theory of transcultural nursing, as explicated in Leininger’s Sunrise Enabler model. Prior to implementation, a survey was conducted to identify the learning needs of non-Hispanic nurses. Language is critical but not sufficient to reduce Hispanic population healthcare disparities to the levels of the general population. For project ¡EXITO!, language and access concerns were not the key barriers to the achievement of targeted home care delivery outcomes. Both translators and Spanish-speaking providers were used during the delivery of services, and all patients had some form of third-party payment, most commonly Medicare and Medicaid. Attention to cultural concerns and designing programs that incorporate strategies responsive to culturally based preferences and beliefs can have a positive impact on home care patients. | Low to moderate;  p-values not provided. | None |