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## Language barriers between nurses and patients: A scoping review

Lauren Gerchow<sup>a,\*</sup>, Larissa R. Burka<sup>a</sup>, Sarah Miner<sup>b</sup>, Allison Squires<sup>a</sup>

<sup>a</sup>New York University Rory Meyers College of Nursing, 433 1st Ave, New York, NY, USA

<sup>b</sup>St. John Fisher College Wegmans School of Nursing, 3690 East Ave, Rochester, NY, USA

### Abstract

**Objective:** Global migration and linguistic diversity are at record highs, making healthcare language barriers more prevalent. Nurses, often the first contact with patients in the healthcare system, can improve outcomes including safety and satisfaction through how they manage language barriers. This review aimed to explore how research has examined the nursing workforce with respect to language barriers.

**Methods:** A systematic scoping review of the literature was conducted using four databases. An iterative coding approach was used for data analysis. Study quality was appraised using the CASP checklists.

**Results:** 48 studies representing 16 countries were included. Diverse healthcare settings were represented, with the inpatient setting most commonly studied. The majority of studies were qualitative. Coding produced 4 themes: (1) Interpreter Use/Misuse, (2) Barriers to and Facilitators of Quality Care, (3) Cultural Competence, and (4) Interventions.

**Conclusion:** Generally, nurses noted like experiences and applied similar strategies regardless of setting, country, or language. Language barriers complicated care delivery while increasing stress and workload.

**Practice Implications:** This review identified gaps which future research can investigate to better support nurses working through language barriers. Similarly, healthcare and government leaders have opportunities to enact policies which address bilingual proficiency, workload, and interpreter use.

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\*Corresponding author at: 433 1st Ave, New York, NY, USA. lmg490@nyu.edu (L. Gerchow).

CRediT authorship contribution statement

**Lauren Gerchow:** Methodology, Formal analysis, Investigation, Writing - original draft, Writing - review & editing. **Larissa R. Burka:** Formal analysis, Investigation, Writing - original draft. **Sarah Miner:** Conceptualization, Investigation, Writing - review & editing. **Allison Squires:** Funding acquisition, Conceptualization, Supervision, Writing - review & editing.

Declaration of Competing Interest

Authors LG, LRB, and SM declare no conflicts of interest. Author AS declares the following:

- 2019 Consultant, Qualitative Methods, National Council of State Boards of Nursing, USA.
- 2016–18 Consultant, International Nurse Migration, Kings College London, London, UK.
- 2018 Consultant with travel grant, Survey Instrument Translation, Charles University, Prague, Czech Republic.
- 2018 Conference speaker honoraria, Yonsei University School of Nursing, Seoul, South Korea. –2015 to present, Principal, ABC Education Consultants LLC, New York, USA.

## Keywords

Nursing; Communication barriers; Culture; Language; Health care quality

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## 1. Introduction

Global migration is making countries around the world increasingly linguistically diverse and language barriers between healthcare providers and patients more prevalent [1]. Globally, migration patterns have changed significantly in recent years, and the number of displaced people seeking refuge in foreign nations is at a record high [2]. These changing demographics challenge health systems to provide care when a language barrier is present. Language barriers affect healthcare access [3,4], patient satisfaction [5], and safety [6] and require integrating interpreter services into both the process of care delivery and the therapeutic relationship in order to minimize disparities [7]. Research about language barriers in healthcare has grown substantially in the last twenty years, but it is notably focused on physicians and lacking about nurses [8].

Since nurses are often the first professional point of contact for patients in healthcare systems, how they address language barriers at that first juncture and throughout the encounter influences patient experiences and outcomes. Research shows that managing language barriers during admission and discharge decreases length of stay [9], errors, and readmissions [10].

### 1.1. Objective

With these demographic and workforce trends in mind, we sought to explore how research examines the global nursing workforce facing language barriers. Goals of this study include highlighting the current state of the science and identifying gaps in the literature to make recommendations for future research around language barriers.

## 2. Methods

We conducted a scoping review of the literature that studied the nursing workforce with regard to language barriers. Scoping reviews address research questions with emerging evidence, where the dearth of randomized controlled trials makes other systematic review methods difficult [11]. This methodology identifies gaps in existing literature and clarifies future research questions [12,13]. With these criteria in mind, we chose to undertake a scoping review following the framework set by Arksey and O'Malley [12] to meet our goals.

### 2.1. Scoping review framework

The Arksey and O'Malley scoping review framework utilizes a five-stage, iterative approach [12]. In the first stages, researchers identify a research question and undertake a systematic, comprehensive search. In the study screening stage, inclusion and exclusion criteria are applied, with the possibility that criteria change as authors develop greater familiarity with the breadth of the literature. Following screening, researchers organize and sort the data to enable theme identification, often using a chart or table. While this stage can be guided by a

framework which emphasizes certain aspects of the literature, uniform categorization is not always achievable due to the diversity in study design and clarity. In the final stage, the organized data is summarized and presented to illuminate the breadth of literature on a topic rather than to weight the evidence by quality or outcomes measurements.

## 2.2. Literature search

**2.2.1. Inclusion and exclusion criteria**—We began with limiting our search criteria to studies which examined language barriers in populations of registered nurses (RN), practical nurses, and nurse practitioners (NP). We excluded studies which addressed language barriers from the patient perspective and studies with mixed provider populations without distinct findings on nurses. After full-text screening, we excluded NP studies, to further narrow the research question. NPs work with patients in different contexts than RNs, and NP-specific findings merit their own review. We also opted to exclude studies of midwives since there are both nurse-midwives and midwives who have different educational paths and scopes of practice, thus concluding a separate study would be needed specific to that cadre.

**2.2.2. Search strategy**—Authors LG, LB and SM conducted a literature search using the PubMed, Cumulative Index to Nursing and Allied Health (CINAHL), Web of Science, and PsycINFO databases with combinations of the terms “nurs\*”, “language barrier”, “limited English proficiency”, “interpreter”, “immigrant”, and “health literacy” for research studies published in English, Spanish, or Portuguese, reflecting the language capacities of the team members. We included studies published from 2010 through November 2019 to reflect recent global migration trends. To enhance search rigor and follow the Arksey and O’Malley comprehensive scoping review search guidelines [12], we searched reference lists and a journal special edition specific to communication concerns in healthcare. LG and LB conducted both title and abstract and full-text screening, applying the above inclusion and exclusion criteria. Any disagreements were resolved by either SM or AS.

The original searched returned 2,784 titles, and selection was managed through Covidence. Duplicate articles (579) were removed leaving 2,205 remaining titles. Following title and abstract screening, 101 articles remained. Full-text data extraction eliminated an additional 53 publications, most of which did not report distinct RN findings (17) or did not address language barriers (12). The decision to exclude NP and midwife studies through the iterative process eliminated 4 full-text articles. Fig. 1 reports the search strategy and lists all reasons for full-text exclusion.

## 2.3. Data analysis

Due to the volume of articles included in the review, the analytic process naturally involved conducting a general thematic analysis using an iterative coding approach. When documents are the “data” for a study, general thematic analysis is used to understand both content and context of the data sources [14]. LG and LB reviewed content of the selected articles then extracted and reduced data to identify key themes consistent with the review objectives, with AS providing a confirmatory review of the analysis. Themes were organized into a table to facilitate comparison and synthesis and conclusions were reached via consensus. All articles

were initially analyzed together, with no distinction between country or practice setting. Findings unique to specific cadres of nurses or commonalities between settings were then extracted.

## 2.4. Critical appraisal

The Critical Appraisal Skills Programme (CASP) qualitative, cohort study, and case control study checklists were used to appraise quality depending on study design [15]. LG appraised all studies, and any disagreements were discussed between the authors. Study quality was not a factor in inclusion or exclusion criteria, as per the Arksey and O'Malley scoping review framework. The team, however, deemed it important to provide quality assessments of the included studies for the purpose of this review.

## 3. Results

Forty-eight articles formed the final sample for this review. The studies represent a total of 4,766 nurses working in 16 countries, 480 other providers, 19,787 patients or patient encounters, and reflect a broad range of methodologies and study populations. Table 1 summarizes study methods, population, setting, and geographic location. Table 2 lists study findings, and Table 3 summarizes strengths and weaknesses.

The majority of studies (32/48) addressed language barriers directly in the research question, with the remaining studies investigating issues of culture or communication. RNs were analyzed alone in 26 studies. Twelve studies used mixed provider populations and 11 studies included patients, either observed or analyzed as a dyad with a provider or as a participant. Thirty of the studies were qualitative investigations 5 studies used mixed-methods, and the remaining 13 were quantitative studies with various designs.

The articles represented diverse inpatient and outpatient healthcare settings including emergency department, prison, school, inpatient psychiatric, nursing home and community health. Twenty-five studies analyzed encounters in the hospital setting. Geographically, sixteen countries were represented, with the majority of studies from the United States (13) and Scandinavia (11).

The analysis produced four themes: (1) Interpreter Use/Misuse, (2) Barriers to and Facilitators of Quality Care, (3) Cultural Competence, and (4) Interventions. The synthesis reflects the common complexities that nurses face globally due to language barriers and identifies nursing interventions aimed to improve outcomes.

### 3.1. Interpreter use/misuse

Nurse interaction with interpreters was a common theme throughout the literature. While experiences with interpreters varied, findings were similar across studies.

**3.1.1. Accessibility and usability**—The accessibility and usability of professional interpreters impacted care. The articles studied multiple methods of interpretation, including in-person, telephone, and video. Nurses consistently expressed difficulty in accessing interpreters [16–26] and usability issues with telephone translation [17,20,27]. Some nurses

opted to use apps or websites when interpreters were unavailable [24,28], while others chose not to use an available professional interpreter [26,29–31]. When working with interpreters, nurses spoke to them, rather than patients, and those conversations were less personal than language concordant encounters [32]. Nurses also expressed concerns about interpreter translation accuracy [16,20,25,33–36].

Despite these difficulties, nurses described improved care when working in settings with adequate professional interpreter staffing [21,28,35–37]. Clinically, discharge planning [30], objective translation [25], and patient involvement in decision-making [28] improved when nurses accessed a professional interpreter. Interpreters also served as a cultural bridge [33–35] between nurses and their patients. Nurses generally preferred professional, in-person interpretation if available, but often relied on other communication methods.

**3.1.2. Ad hoc interpreters**—Ad hoc interpreters are uncertified translators, such as family or non-interpreter staff. Perceived insufficient interpreter access forced nurses to use ad hoc interpreters, including staff [16,23,28,30,36,38,39], family or friends [18–20,23,25,28,30,38–43], or in the case of school and prison nurses, bilingual peers [26,31]. Ad hoc interpreters led to quality issues around confidentiality [16,26], censoring of sensitive information [23,25], concerns about translation accuracy [16,20,25,33,34,36,44] and reliance on inadequate language skills [30]. For bilingual nurses specifically, the literature consistently highlighted concerns about workload and stress when assuming a dual nurse-interpreter role [23,27,36,45].

### 3.2. Barriers to and facilitators of quality care

The literature identified both barriers and facilitators either specific to the RN role or related to systems and policies that impacted the quality of care delivered by nurses to non-language concordant patients. Despite differences in care settings and geography, findings were similar across the literature.

**3.2.1. Barriers**—Nurses in various practice contexts both encountered and created barriers to high quality patient care. Descriptions of modified nursing care to patients with language barriers were common. For example, nurses feared non-language-concordant patients misunderstood call light importance [24] and described less frequent call light usage by non-language concordant patients [38]. Similarly, non-language-concordant patients spent less time with nurses [25], struggled to provide a detailed history [25,46] and had frequent uninterpreted encounters with nurses [17,30]. Nurses described poor communication with non-language concordant patients as potentially riskier than no communication with these patients at all [46]. Two studies further described how language barriers complicated end of life care [47,48].

Language barriers also impacted the nurse-patient relationship in ways participants perceived as negative and it was magnified in certain settings, including psychiatric ones [49], NICU [50], prehospital and ambulances [17], prisons [26], and maternal child community health [33,51]. Interpreters censored some patient information, such as poor treatment adherence, when translating nurse-patient encounters according to some nurses [52]. Nurses further worried that patients did not understand health-specific education

[21,33,46,50,53]. These modifications to routine care impacted both patient relationships and care delivery, which ultimately may affect safety.

Workforce related barriers were identified in the literature in multiple contexts. Routine care of non-language-concordant patients, even with an interpreter, required extra time [20–23,27,34,37,38,45,50,53,54]. Nurses described a lack of leadership support around staffing, policies, and increased workload [18,20,36,45,50]. Similarly, nurses felt undertrained and unprepared to manage language barriers effectively [20,36,42,47]. Finally, gender limitations on visitation for pediatric patients forced nurses to communicate with non-language concordant mothers, despite language-concordance with the fathers [18].

**3.2.2. Facilitators**—The literature also identified nursing specific strategies, bedside tools, and workplace structure that helped nurses improve care delivery to non-language-concordant patients. Nurses found their years of work experience as beneficial to work around language barriers [45,55] or to work as both an interpreter and RN [30]. Bedside strategies included nonverbal communication [17–19,23,25,38,39,46,56,57] or using structured assessments [17,30]. All these actions added to nurse workload, regardless of setting.

Workforce variables also facilitated higher quality nursing care in multiple care contexts. Collaborative, consistent relationships with interpreters helped nurses improve relationships with non-language-concordant patients [28,35,48]. Nurses also described using time and effort to connect to and understand non-language-concordant patients to address nursing-specific needs like pain [21]. Similarly, nurses described personal growth and care-delivery improvements as a result of working with patients through a language barrier [37]. While some nurses described these behaviors as instinctual, others desired education from management regarding how to better serve these patients [18,50].

### 3.3. Cultural competence

Language and culture are linked, and nurses' self-assessed skills in these areas affected how they perceived their care delivery. A nurse's own culture, similar or not to a patient's, impacted care delivery [18–20,23,36,39,42,48,50,53,58]. Nurses observed cultural beliefs impacting healthcare decisions or treatments [19,23,39,47,48] and described their own knowledge deficits that inhibited connection with patients and comprehension of their needs [36,42,50,59]. Some nurses expressed xenophobia [36,42], while others desired cultural sensitivity training [36,39,60]. The implicit and explicit ties between language and culture were apparent to the nurses, but their comfort with integrating them into care delivery appeared to vary as did their reasons for what shaped their comfort levels.

### 3.4. Interventions

Five of the studies involved the design or testing of interventions regarding nursing care of non-language-concordant patients. Four studies enhanced bedside communication through tools and technology [40,44,46,61]. Of these, two studies tested care improvements [40,61], while the others addressed tool design, feasibility, or acceptability. One study tested the impact an online cultural humility tool could have on nursing practice, finding significant

self-assessed improvements in practice in post-testing [62]. Two studies facilitated a discussion around proposed tools to improve communication for non-language-concordant patients [24,46]. RNs in these studies found the use of symbols and pictures as innovative [24] and identified nursing-specific encounters where a bedside communication tool would be beneficial including responding to call lights, consenting for procedures, assessing neurologic status, and providing standard daily care such as toileting [46]. While the majority of the literature around nurses and language barriers was exploratory, these studies described interventions to address some of the barriers nurses identified in the qualitative data.

### 3.5. Critical appraisal

We reviewed the studies' strengths and weaknesses identified through the CASP checklists. Common methodological concerns for qualitative papers centered around data analysis, with many studies providing little description of the analysis process [22,25,26,37,38,42,44,46,53] or researchers failing to reflect on their own experiences as a source of potential bias throughout the analysis process [16,20,23,25,26,32–35,37,45,49,52,53,56]. Nonetheless, some qualitative studies applied methods to add rigor, including triangulation, member checking, written audit trails and detailed coding descriptions [16–19,21,23,24,26,27,32,35,44, 45,48–50,52,56,60,63]. Three articles, two from a single study, confirmed intercoder reliability using either Cohen's kappa or Holsti's method [18,32,52], an approach not always necessary in qualitative research and the subject of methodological debates.

The majority of quantitative studies were descriptive studies. The most common methodological concerns for these studies were samples that were predominantly or 100% female [21,47,58,62] or had survey response rates below 50% [41,47,55]. The latter is less concerning given methodological advances indicating that low response rates can still produce generalizable results [64]. Lastly, one study comparing providers' use of Spanish language by skill level used self-assessed proficiency rather than verified testing [30]. Nonetheless, studies applied methods to improve study quality. Survey studies used pretesting, focus groups, detailed survey-development methodologies and pre-existing valid and reliable tools to enhance study rigor [28,29,40,47,55,58]. One study utilized random sampling [47], with the rest using convenience or purposive methods. Surprisingly, only two studies determined sample size with power analysis [29,62].

Importantly, the articles in the review did not equitably represent the breadth of settings where nurses practice. The majority of articles investigated hospital-based nurses. The lack of research about nurses practicing in non-hospital sites is concerning since language barriers can exist anywhere a nurse works and language resources available in nonhospital settings may differ in feasibility and accessibility. Similarly, the unique interactions and relationships between nurses and patients were not adequately addressed in mixed provider studies that did not separate findings by role.



## 4. Discussion and conclusion

### 4.1. Discussion

This review captures the recent evidence associated with nursing care in the presence of a language barrier. The body of literature highlights the linguistic complexities that nurses face from a global perspective and describes how culture, the role of the interpreter, and nursing strategies and tools impact care delivery, quality, and outcomes. A patient's language preference that differs from a country's official language is a key social risk factor and determinant of health. This study highlighted how nurses work with and around language barriers with patients and captured some of the complexity of those interactions. Findings across countries were similar, despite differences in migration trends or language-nurses facing language barriers desire to provide quality care but encounter many obstacles, regardless of setting, language, or country.

**4.1.1. Interpreters**—The presence of a professional interpreter has proven to mitigate health disparities through decreased errors and greater access and satisfaction [65]. Nurses in the included literature, however, struggled to access interpreters and expressed distrust in their skills. At the same time, policies around the provision of healthcare language services including training, certification and required use of interpreters, differ greatly between nations [66]. Even in countries with laws which ensure language-concordant healthcare, nurses in this review expressed concerns. Ad hoc interpreters are not an appropriate substitute in most circumstances due to concerns around confidentiality, translation error, and workload for bilingual staff. A lack of regulation of the interpreting industry more broadly may contribute the nurses' concerns.

**4.1.2. Workforce and workplace**—Nurses expressed concern around role-specific patient interactions such as call-light usage, pain assessment, or patient education that differ when working through a language barrier. While nurses employed strategies to overcome those issues, concerns about patient safety and RN workload were described across the literature. Nurses asked for greater logistical support and role-specific education from management around cultural sensitivity and interpreter use in order to address the health disparity created by a language barrier. Despite similar findings across the literature around both the barriers to and facilitators of high quality nursing care, no standardized model of care delivery existed, even amongst nurses practicing in the same site or analyzed in the same study.

**4.1.3. Limitations**—Like all reviews, the limitations center on the quality of the search as well as how the authors mitigated their own biases. We adhered to Arksey and O'Malley's methodological recommendations [12] to enhance rigor in the data evaluation, comparison, and reduction stages. The team conducting the study, however, were all registered nurses from the USA with varying levels of experience and three members of the team are bilingual RNs. One team member, however, did have extensive international nursing workforce research experience across 34 countries. While this helped the interpretation of our findings, the conclusions may reflect our biases that favor language concordant patient-provider encounters.



## 4.2. Conclusion

Even though the results of this review highlight the complexity and challenges nurses face due to language barriers, the more surprising result was how few studies involved nurses as the primary study population. A brief physician focused search in PubMed produced over 150 research studies, largely in primary care, as a comparison. While the findings from these physician-focused studies are generally similar to those of this review [67–69], nurses spend more time with patients than physicians [70] and have different roles in all settings. These differences merit individualized, RN-specific investigations regarding language barriers as well as interventions aside from interpreters that can enhance nurse-patient communication. In addition to testing interventions, additional qualitative data is needed from more geographic regions to ensure that the trends identified in this scoping review are applicable worldwide.

Patient-provider language barriers are global issues that affect all providers. Our study captured the lack of research focused on nurses and we suspect there is a dearth of research about other allied healthcare roles as well. The reduction of the risk for health disparities related to language barriers has to involve understanding the best methods for each role in order to bridge them. This study summarized and noted the commonalities and differences of nurse experiences when facing language barriers. More research and its translation into the workplace will enhance the precision of their practice with this population and contribute to disparities reduction.

## 4.3. Practice implications

The findings across care settings and countries have identified various implications for practice which apply to a global nursing population. Healthcare leadership and nursing management have an opportunity to create structural and staffing changes to reflect the demands nurses face when working with language barriers. Bilingual nurses with certified skills and nurses dually trained as interpreters are two options. For bilingual staff, leadership must ensure that their self-assessed language skills are adequate to meet patient needs. It is notable that no study addressed testing or certification of providers who chose to use their own language skills rather than an interpreter. This was true even for studies published in the US after the implementation of Section 1557 of the Affordable Care Act which required healthcare facilities to test provider language proficiency [71].

Proficiency testing in entry-level educational programs would certify language skills early in health professionals' careers and potentially foster the appropriate use of interpreters long term. Entry-level testing via a nationally standardized program would also save costs for healthcare systems who bear the burden of language assessment. Development, testing, implementation, and evaluation of nursing specific protocols and policies around staffing and time management could help nurses address common concerns regarding the added workload that comes with working with patients with language barriers. Standardizing appropriate utilization of bilingual nurses in the workplace is critical so that serving as a dual-role interpreter does not supersede their nursing role.

Based on the findings, we have identified several opportunities for future research. First, research needs to confirm when the critical interactions during care delivery should require an interpreter and distinguish from those that do not. Second, we need to understand what is considered “acceptable” for basic communication since an interpreter cannot be present for RNs at all times. In addition, the qualitative findings in this review identified numerous areas which could be tested through quantitative interventions using nurse-patient dyads.

Similarly, continued investigation into the experiences of nurses working outside of the hospital setting is needed to fully understand the impact of cultural and language incongruencies, since their resources and patient relationships are distinct. The lack of research on mental health nurses is particularly significant. A 2016 systematic review showed that immigrants already use mental health services less than their native counterparts [72] and poor language services may be one explanation. More research examining mental health services delivery in the context of language barriers is needed. As global demographics continue to change, continued research on the role-specific impact of language barriers in health care and its translation into nursing practice is needed to both address the growing health disparity and to adhere to and inform policy.

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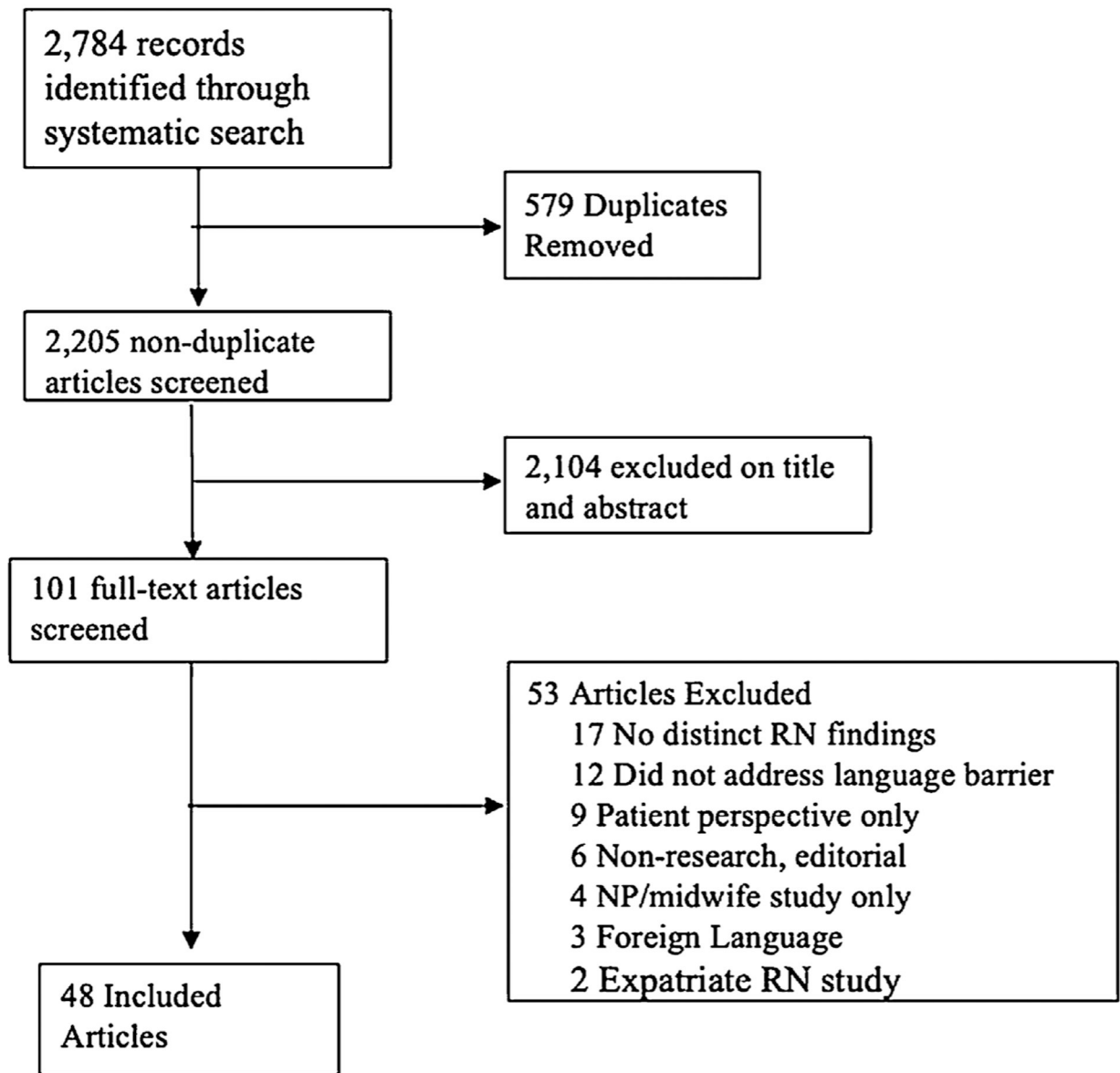


Fig. 1.  
Search Screening Process.



Table 1

## Design, Context, Population and Geographic Location by Study

Author et al (Year)	Study Design	Context of Practice	Study Population	Geographic Location of Study
Ali & Johnson. (2017)	Qualitative Descriptive	Acute Care	59 RNs	United Kingdom
Ali & Watson (2018)	Qualitative Descriptive	Acute Care/Tertiary Care	59 RNs	United Kingdom
Alm-Pfrunder et al. (2018)	Qualitative	Prehospital Ambulance	11 RNs	Sweden
Amoah et al. (2019)	Qualitative Exploratory	Acute Care	6 RN, 7 patients	Ghana
Azize et al. (2018)	Quantitative Descriptive	Minor Injuries Unit	20 RNs, 20 Nursing Students	United Kingdom
Badger et al. (2012)	Mixed Methods	Nursing Home	101 RN Managers surveyed; 13 RN managers interviewed	United Kingdom
Balakrishnan et al. (2016)	Quantitative Prospective Cohort	Emergency	12 RNs in 163 Patient encounters	United States
Barnes et al. (2011)	Mixed Methods	Home Care / Public Health Nursing	17 RNs, 8 patients, 2 interpreters, 3 interpreter managers; 1304 RN-patient encounters	United Kingdom
Beckstrand et al. (2010)	Quantitative Descriptive	Pediatric ICU	1047 RNs	United States
Branberg & Sandman (2013)	Qualitative Descriptive	Home Care	12 RNs, 11 Social Workers, 4 Nurse Assistants	Sweden
Chae & Park (2019)	Qualitative Exploratory Descriptive	Outpatient Clinic	16 RNs	South Korea
Clayton et al. (2016)	Qualitative	Operating Room, Acute Care	14 RNs	Australia
Coleman & Angosta (2017)	Qualitative Exploratory	Acute care	40 RNs	United States
Diamond et al. (2012)	Quantitative Descriptive	Acute care	65 RNs, 68 MDs	United States
Eklöf et al. (2015)	Qualitative Descriptive	Public Health	8 RNs	Finland
Fatahi et al. (2010)	Qualitative	Acute Care	14 RNs	Sweden
Galinato et al. (2016)	Qualitative Descriptive	Acute Care- Medical Surgical	7 RNs	United States
Granbagen Jungner et al. (2019)	Quantitative Descriptive	Pediatric Oncology	151 RNs, 62 Nurse Assistant, 54 MD	Sweden
Hendson et al. (2015)	Qualitative Exploratory	NICU	31 RN, 27 other providers (RT, NP, MD, students, administrative staff, SW)	Canada
Ian et al. (2016)	Qualitative Exploratory	Mixed	17 RNs	United States
Jackson & Mixer (2017)	Qualitative Descriptive	Acute Care	7 RN-patient dyads	United States
Kallakorpi et al. (2018)	Qualitative	Inpatient Psychiatric	5 RNs, Encounters with 9 Patients	Finland
Kaur et al. (2019)	Quantitative Pre and Post Intervention	Oncology	53 RNs	Australia
Machado (2013)	Mixed Methods	Acute Care	11 RNs, 23 nursing technicians, 3 nursing assistants	Brazil
McCarthy et al. (2013)	Qualitative Descriptive	Mixed	7 RNs	Ireland

Author et al (Year)	Study Design	Context of Practice	Study Population	Geographic Location of Study
Mottelson et al. (2018)	Quantitative Descriptive	Mixed Acute Care	78 Charge RNs	Denmark
Patriksson et al. (2019)	Quantitative Descriptive	Neonatal	484 RNs, 54 MDs, 320 nurse assistants	Sweden
Plaza Del Pino et al. (2013)	Qualitative Ethnography	Acute Care	32 RNs	Spain
Rifai et al. (2018)	Inductive Qualitative	Public Health	11 RNs	Sweden
Rosendahl et al. (2016)	Qualitative Exploratory Descriptive	Nursing Home	9 Vocational Nurses, 5 Family Members	Sweden
Ross et al. (2016)	Quantitative Descriptive	Mixed Acute Care	112 RNs, 48 Midwives, 64 Allied Health	Australia
Savio & George (2013)	Quantitative Descriptive	Acute Care	100 RNs	India
Seale, Rivas, Al-Sarraj, et al. (2013)	Mixed Methods	Primary Care	9 RNs, 36 Nurse-Patient Encounters	United Kingdom
Seale, Rivas, & Kelly (2013)	Qualitative Analysis of Nurse-Patient Interactions	Primary Care	9 RNs, 36 Nurse-Patient Encounters	United Kingdom
Shuman et al. (2017)	Qualitative	Acute Care	3 RNs, 3 nurse assistants	United States
Silvera-Tawil et al. (2018)	Mixed Methods	Acute Care	15 RNs, 10 patients, 85 nurse-patient observations	Australia
Skoog et al. (2017)	Qualitative Inductive	Child Health Center	13 RNs	Sweden
Squires et al. (2017)	Quantitative Descriptive	Home Health Care	RN and Physical Therapists assigned to 18,132 cases	United States
Squires et al. (2019)	Qualitative Exploratory Descriptive	Home Health Care	35 RN, 3 PT, 1 OT	United States
Suurmond et al. (2017)	Qualitative	Pediatric Oncology	13 RN, 12 MD	The Netherlands
Tay et al. (2012)	Qualitative	Oncology	10 RNs	Singapore
Taylor & Alfred (2010)	Qualitative Case Study Approach	Mixed (Inpatient and Outpatient)	23 RNs	United States
Tuot et al. (2012)	Quantitative Descriptive	Acute Care	163 RNs, 116 MDs	United States
Valizadeh et al. (2017)	Qualitative	Pediatric Acute Care	25 RNs, 9 patient parents	Iran
Watt et al. (2018)	Qualitative Inductive	Prison	9 RNs, 30 patients	Australia
Watts et al. (2018)	Qualitative	Oncology	21 RNs, 17 MD	Australia
Whitman et al. (2010)	Quantitative Descriptive	Schools	1,429 RNs	United States
Willey et al. (2018)	Qualitative Descriptive	Maternal Child Community Health	26 RNs	Australia

**Table 2**

**Descriptive Summary of Methods and Findings by Study**

Author et al (Date)	Purpose, Framework	Design, Data Collection and Analysis Methods	Major Findings	Key Statistics (Quantitative) and Key Themes (Qualitative)
Ali & Johnson (2017)	“Explore bilingual nurses’ perspectives about provision of language concordant care to LEP patients and its impact on patients and nurses” (p . 424)	<ul style="list-style-type: none"> <li>Qualitative descriptive</li> <li>Purposive, snowball sampling</li> <li>Demographics</li> <li>Interviews and focus groups</li> <li>Thematic analysis</li> </ul>	<ul style="list-style-type: none"> <li>Nurses comfortable using second language but do not feel valued</li> <li>Bilingual nurses not consulted to help develop interpretation policies</li> <li>RN self-confidence, years of work experience, patient expectations and workforce policies affect care</li> </ul>	<ul style="list-style-type: none"> <li>“When we speak the same language”</li> <li>“When I speak my patient’s language”</li> <li>What facilitates provision of language concordant care</li> <li>What hinders the provision of language concordant care</li> </ul>
Ali & Watson (2018)	“Explore Nurses’ perspectives about language barriers they encounter when providing care to LEP patients from diverse linguistic background and nurses’ perspectives about impact of language barriers on provision of care to LEP patients” (p . e1154)	<ul style="list-style-type: none"> <li>Qualitative descriptive</li> <li>Purposive, snowball sampling</li> <li>Demographics</li> <li>Interviews and focus groups</li> <li>Thematic analysis</li> </ul>	<ul style="list-style-type: none"> <li>Scheduling, explaining treatment more difficult</li> <li>Professional interpreter useful but difficult to access</li> <li>Interpreter lack of medical terminology</li> <li>Bilingual nurses play important role</li> </ul>	<ul style="list-style-type: none"> <li>Multi-ethnicities and language barriers</li> <li>The impact of language barriers</li> <li>Communicating via interpreters</li> </ul>
Alm-Pfrunder et al.(2018)	“Explore the strategies of nurses working in the ambulance service as regards assessing the needs of patients with limited Swedish-English proficiency” (p . 3700)	<ul style="list-style-type: none"> <li>Qualitative</li> <li>Purposive, snowball sampling</li> <li>Demographics</li> <li>Interviews</li> <li>Conventional qualitative content analysis</li> </ul>	<ul style="list-style-type: none"> <li>Encounters with language barriers occurred almost daily</li> <li>Assessments more difficult</li> <li>Alternative means of communicating effective</li> <li>Professional interpreter use difficult in care context, not common</li> </ul>	<ul style="list-style-type: none"> <li>Using body language</li> <li>Structured nursing assessments</li> <li>Using tone of voice to create a relationship</li> <li>Interpreters</li> </ul>
Amoah et al. (2019)	“Investigate Nurses’ and Patients’ experiences and views on the barriers to effective therapeutic communication to serve as a spring-board for further studies” (p . 2)	<ul style="list-style-type: none"> <li>Qualitative exploratory</li> <li>Purposive sampling</li> <li>Demographics</li> <li>Interviews</li> <li>Thematic content analysis</li> </ul>	<ul style="list-style-type: none"> <li>Religion and culture important to both RNs and patients</li> <li>Nurses did not always communicate in patient’s preferred language</li> <li>Struggle to serve both tribal and international patients</li> <li>Preconceptions about RN role related to dissatisfaction</li> </ul>	<ul style="list-style-type: none"> <li>Patient-related barriers</li> <li>Nurse-related barriers</li> <li>Environmental barriers</li> </ul>

Author et al (Date)	Purpose, Framework	Design, Data Collection and Analysis Methods	Major Findings	Key Statistics (Quantitative) and Key Themes (Qualitative)
Azize et al. (2018)	"Identify the dimensions that influence how MIL) nurses and final-year preregistration children's nursing students make decisions about the assessment of monolingual and English as an additional language (EAL) children following a minor injury and to understand the difficulties that nurses face whilst assessing pain" (p. 1082)	<ul style="list-style-type: none"> <li>Quantitative Descriptive</li> <li>Convenience sampling</li> <li>Demographics</li> <li>Survey</li> <li>Factorial survey analyses</li> <li>Wald chi-square</li> <li>SPSS for statistical analysis</li> </ul>	<ul style="list-style-type: none"> <li>Nursing students significantly more likely to call for interpreter than nurses</li> <li>Less likely to use interpreter with English-proficient child</li> <li>Parent more likely to be involved in assessment if English-proficient</li> </ul>	<ul style="list-style-type: none"> <li>Respondents more likely not to involve parent in assessment with English-proficient child; <math>B = 1.207</math> <math>p = .009</math></li> <li>More likely to use Visual Analog Scale rather than Observe Behavior for English-speaking children more than non-English <math>B = 0.744</math>, <math>p = .016</math>; <math>OR = 2.105</math>, 95% <math>CI (1.16, 3.82)</math>.</li> </ul>
Badger et al. (2012)	"The aims of the study were to: describe the ethnicity of nursing home residents and staff and explore managers' perceptions of readiness to meet the needs of diverse residents, including needs at the end of life" (p . 1727)	<ul style="list-style-type: none"> <li>Mixed Methods</li> <li>Sample of all nursing homes in region</li> <li>Survey</li> <li>Descriptive statistics</li> <li>SPSS for statistical analysis</li> <li>Interview</li> <li>Framework analysis approach</li> </ul>	<ul style="list-style-type: none"> <li>Fewer managers reported high perceived knowledge regarding Sikh, Hindu, Buddhist faiths; managers were more likely to report high perceived knowledge of Christianity and Islam</li> <li>Family acted as ad hoc translators or provided staff with tools for care in some cases</li> <li>Professional interpreters available in some cases</li> <li>Bilingual staff used as interpreters</li> </ul>	<ul style="list-style-type: none"> <li>35% of nursing homes cared for non English-speaking patients</li> <li>Qualitative themes: Meeting Dietary Needs Communication Prejudice Supporting Faith and Personal Needs</li> <li>End of Life Care Individualised Care</li> </ul>
Balakrishnan et al. (2016)	"Examine the ability of triage nurses to assess language proficiency of patients as compared to patients' self-reported proficiency ... how language discordance impacts communication, door-to-room time, triage level, and patient satisfaction" (p . 370)	<ul style="list-style-type: none"> <li>Quantitative Prospective Cohort</li> <li>Non-consecutive convenience sampling</li> <li>Survey</li> <li>Measurements based on 0-5 Likert scale</li> <li>Chi-Square, Mann-Whitney U-Test</li> <li>VassarStats for statistical analysis</li> </ul>	<ul style="list-style-type: none"> <li>Telephone based translator used in only 1 encounter (2%)</li> <li>Family member used as interpreter in 17 encounters (31%)</li> <li>No significant difference in the likelihood of admission for English or Spanish speaker</li> </ul>	<ul style="list-style-type: none"> <li>Nurses described complete understanding of English speaking patients and mostly understanding Spanish (IQR 4-5, <math>p &lt; 0.0001</math>)</li> <li>Significant difference between English and Spanish speaking patients perceived communication with nurses (<math>p = 0.002</math>)</li> </ul>
Barnes et al. (2011)	"To investigate whether the expected levels of delivery [of the FNP program] are attained and whether the nature of the crucial client-nurse relationship is affected	<ul style="list-style-type: none"> <li>Mixed methods</li> <li>Convenience sampling</li> <li>Interviews</li> </ul>	<ul style="list-style-type: none"> <li>Interpreter may change essence of program</li> <li>Interpreters may not have skills for certain aspects of the program delivery</li> </ul>	<ul style="list-style-type: none"> <li>Perceived impact of interpreters on delivery of the program</li> <li>The perceived impact of interpreters on nurse-client relationships</li> </ul>

Author et al (Date)	Purpose, Framework	Design, Data Collection and Analysis Methods	Major Findings	Key Statistics (Quantitative) and Key Themes (Qualitative)
	[with an interpreter present]" (p . 381)	<ul style="list-style-type: none"> <li>Student's t-test, Welch-Sat-terthwaite t-test, Chi-Square, Fischer's Exact</li> <li>SPSS for statistical analysis</li> </ul>	<ul style="list-style-type: none"> <li>Clients expressed trust in nurse, some preferred program without interpreter</li> <li>Significant differences in program content delivery and nurse assessed client understanding</li> </ul>	<ul style="list-style-type: none"> <li>Relationships between interpreters and both clients and nurse</li> <li>Percent of planned content covered in visits significantly lower in encounters with interpreter p = 0.014 pregnancy, p = 0.002 infancy</li> <li>Nurse assessed client understanding significantly lower in interpreted visits (p &lt; 0.001)</li> </ul>
Beckstrand et al. (2010)	"What are the sizes (intensities) and frequencies of obstacles and supportive behaviors in providing end-of-life care to infants and children as perceived by PICU nurses? What are the perceived obstacle magnitude (POM) scores? What are the perceived supportive behavior magnitude (PSBM) scores?" (p . 544)	<ul style="list-style-type: none"> <li>Quantitative descriptive</li> <li>Randomized sample of AACN members who are PICU RNs</li> <li>Demographics</li> <li>Mail-in survey</li> <li>Measurements based on 0-5 Likert scale</li> <li>Cronbach's <math>\alpha</math></li> <li>SPSS for statistical analysis</li> </ul>	<ul style="list-style-type: none"> <li>Language and cultural barriers influence involvement with patient and families</li> <li>Need for education in cultural humility</li> </ul>	<ul style="list-style-type: none"> <li>POM scores ranged from 1.99 to 17.73</li> <li>PSMB scores ranged from 7.26 to 21.15</li> <li>Language barrier POM 17.73</li> <li>Giving parents of deceased child time alone with child PBSM 21.15</li> </ul>
Bramberg & Sandman (2013)	"Describe the experiences of home care providers and social workers in communication, via in-person interpreters, with patients who do not share a common language, and to offer suggestions for practice based on this description" (p . 161)	<ul style="list-style-type: none"> <li>Qualitative descriptive</li> <li>Convenience sampling</li> <li>Semi-structured focus groups</li> <li>Demographics</li> <li>Inductive content analysis- coding into categories, subcategories</li> </ul>	<ul style="list-style-type: none"> <li>Nurses desired objective interpreters but also saw their value as culturally aware</li> <li>Flow of conversation change to adapt</li> <li>Information is lost with an interpreter</li> <li>Confidentiality an issue with ad-hoc interpreter</li> <li>Conversations were focused on health concerns, no time for personal dialogue</li> <li>Harder to read nonverbal cues</li> </ul>	<ul style="list-style-type: none"> <li>A tension between viewing the professional interpreter as an objective communicator and a culturally aware explicator</li> <li>Information loss in the interpretation</li> </ul>
Chae & Park (2019)	"To explore the organizational level of cultural competence needed for foreign patient care from the perspective of Korean clinical RNs" (p . 198)	<ul style="list-style-type: none"> <li>Qualitative exploratory descriptive</li> <li>Purposive, snowball sampling</li> <li>Interviews</li> </ul>	<ul style="list-style-type: none"> <li>Need for managerial support for increased physical and psychological burden</li> <li>Technology, hospital clothing not fit for non-Korean patients</li> </ul>	<ul style="list-style-type: none"> <li>Information</li> <li>Clear practice guidelines</li> <li>Resources</li> <li>Adequate tools and materials</li> </ul>

Author et al (Date)	Purpose, Framework	Design, Data Collection and Analysis Methods	Major Findings	Key Statistics (Quantitative) and Key Themes (Qualitative)
Clayton et al. (2016)	“Explore the lived experiences of perioperative nurses in a multicultural operating theatre in Melbourne, Australia” (p . 8)	<ul style="list-style-type: none"> <li>• Demographics</li> <li>• Deductive content analysis</li> </ul>	<ul style="list-style-type: none"> <li>• No 24-h interpreter support, phone translator time consuming</li> <li>• Ad hoc interpreters used, accuracy a concern</li> <li>• Lack of cultural competence training</li> </ul>	<ul style="list-style-type: none"> <li>• Incentives</li> </ul>
Coleman, J., & Angosta, A. (2017)	“Examine the lived experiences of acute-care registered nurses when interacting with patients and their families with LEP” (p . 680)	<ul style="list-style-type: none"> <li>• Qualitative</li> <li>• Convenience sampling</li> <li>• Demographics</li> <li>• Interviews</li> <li>• Categorization of quotes for Data analysis</li> </ul>	<ul style="list-style-type: none"> <li>• Concern if patients understood procedure, discharge instructions</li> <li>• Cultural beliefs can have impact on operating room procedure</li> <li>• Additional issues around language barriers between staff</li> </ul>	<ul style="list-style-type: none"> <li>• Difficulties in communication affects patient care</li> <li>• Difficulties in communication affects the working atmosphere.</li> <li>• Social integration could improve communication and the working atmosphere.</li> </ul>
Diamond et al. (2012)	“Describe how and when physicians and nurses with various levels of Spanish language proficiency use professional or ad-hoc interpreters or their own Spanish skills in common clinical scenarios in the acute care hospital setting” (p . 117–118)	<ul style="list-style-type: none"> <li>• Qualitative exploratory</li> <li>• Purposive sampling</li> <li>• Demographics</li> <li>• Interviews</li> <li>• Coding, clustering to generate themes and subthemes</li> </ul>	<ul style="list-style-type: none"> <li>• Importance and benefit of nonverbal communication</li> <li>• Concerns regarding patient safety</li> <li>• Interpreter availability an issue</li> <li>• RN frustration with inability to provide highest quality care</li> <li>• Desire to provide cultural respect</li> </ul>	<ul style="list-style-type: none"> <li>• Desire to Communicate</li> <li>• Desire to Connect</li> <li>• Desire to Provide Care</li> <li>• Desire to Provide</li> </ul>
Eklöf et al. (2015)	“What factors have to be considered when using interpreters in primary health care in the care of immigrants?” (p . 144–145)	<ul style="list-style-type: none"> <li>• Quantitative descriptive</li> <li>• Purposive, convenience sampling</li> <li>• Survey</li> <li>• Demographics</li> <li>• Descriptive statistics, <math>\chi^2</math>, Fisher’s exact test, t-tests</li> <li>• STATA software for statistical analysis</li> </ul>	<ul style="list-style-type: none"> <li>• Providers used limited Spanish proficiency skills to communicate in clinical encounters</li> <li>• Nurses with low Spanish speaking skills more frequently used ad-hoc interpreters or their own limited skills than professional interpreter</li> </ul>	<ul style="list-style-type: none"> <li>• Significant difference in use of professional interpreter, ad hoc interpreter or own Spanish between low, middle, and high proficiency speakers with <math>p &lt; 0.001</math> for discharge instructions, education on disease, and other patient education</li> <li>• Less significant difference between nurses of different proficiency <math>p = 0.07</math> for symptom management and <math>p = 0.06</math> for administering medication</li> </ul>
		<ul style="list-style-type: none"> <li>• Qualitative descriptive</li> <li>• Purposive, convenience sampling</li> <li>• Interviews</li> <li>• Demographics</li> </ul>	<ul style="list-style-type: none"> <li>• Nurse expectations of interpreter: cultural knowledge, linguistic knowledge, ethical practice</li> <li>• Interpreter seen as cultural bridge and translator</li> </ul>	<ul style="list-style-type: none"> <li>• Factors connected with the interpreter</li> <li>• Factors connected with the nurse and the health care organization</li> <li>• Factors connected with the patients and their culture</li> </ul>

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Fatahi et al. (2010)	“Explore nurse radiographers’ experiences of examining patients who do not speak Swedish” (p. 775)	<ul style="list-style-type: none"> <li>Inductive content analysis</li> </ul>	<ul style="list-style-type: none"> <li>Decision to use interpreter based on need, cost</li> <li>Protocols, not nursing judgment, decide who receives interpreter</li> <li>Double time to use interpreter</li> <li>Learn to use interpreter through experience, not education</li> <li>Patient having relationship with interpreter can be positive or negative</li> <li>Request for interpreter of specific gender common for certain culture</li> <li>Desire for patients to trust nurses</li> <li>Professional interpreters needed for certain procedures, but if none available nurses used nonverbal communication</li> <li>Not all procedures require interpreter, such as X-ray</li> <li>Scheduling issues, delays made using interpreter difficult</li> <li>Procedures with interpreter slower</li> <li>Staff could be used as interpreters, but workflow was interrupted</li> <li>Cultural beliefs clash with radiology needs such as clothing removal</li> </ul>	<ul style="list-style-type: none"> <li>Modes of interpreting</li> <li>Needs for Interpreting</li> <li>Quality of Interpreting</li> <li>Improvement of Interpreting</li> </ul>
Galinato et al. (2016)	“To describe (a) the perceptions of nurses regarding their communication with patients with LEP; (b) how call lights affect their communication with patients with LEP; (c) the perceptions of nurses on the impact of advancement in call light technology on patients with LEP” (p. 2)	<ul style="list-style-type: none"> <li>Qualitative descriptive</li> <li>Convenience sampling</li> <li>Focus groups</li> <li>Demographics</li> <li>Analysis completed with strategies to ensure rigor</li> <li>Constant comparative methods</li> </ul>	<ul style="list-style-type: none"> <li>Difficulty assessing language, especially dialect</li> <li>Hard to communicate how to use call light to LEP patient</li> <li>Misunderstanding of call light can impact care, such as fall risk, pain</li> <li>Flash cards sanctioned by the hospital used as aid</li> <li>Family members, Google Chat, gestures difficult for complex care</li> <li>Interpreter availability an issue</li> </ul>	<ul style="list-style-type: none"> <li>Barriers to communication</li> <li>Formal tools for communication</li> <li>Gestures and charades</li> <li>Reliance on family</li> <li>Creating a better call light system</li> <li>Acceptability of Eloquence™</li> </ul>



Author et al (Date)	Purpose, Framework	Design, Data Collection and Analysis Methods	Major Findings	Key Statistics (Quantitative) and Key Themes (Qualitative)
Granhaugen Jungner et al. (2019)	<p>“Investigate communication over language barriers in pediatric oncology care .... How language barriers are overcome in different types of communication situations, how do different healthcare professions relate to such language barriers, to what extent are professional interpreters or other communicational tools used, and to what extent are other individuals used to translate?” (p . 1016)</p>	<ul style="list-style-type: none"> <li>Quantitative descriptive</li> <li>Convenience sampling</li> <li>Communications over Language Barriers Questionnaire (CoLB-q) survey</li> <li>Descriptive statistical analyses focusing on frequency distributions</li> <li>Cross-tabulations used in certain cases, including chi-square tests</li> <li>Significance set <math>p &lt; 0,05</math></li> <li>SPSS for statistical analysis</li> </ul>	<ul style="list-style-type: none"> <li>Patients prefer family ad hoc interpreter, nurses worry</li> <li>Desire for new call light system, pictures of specific needs</li> <li>Positive response to Eloquence™</li> <li>100% of respondents used ad hoc interpreters during some encounters.</li> <li>Staff used children, including the patients, family members, and other bilingual providers as ad-hoc interpreters.</li> <li>RNs and nurse assistants used alternative methods such as web-based translators or apps. MDs used professional interpreters more often than RNs who used ad-hoc interpreters</li> <li>RN use of professional interpreter during both intake assessment and patient education rates low</li> <li>All providers believe professional interpreter use increases patient involvement in care</li> </ul>	<ul style="list-style-type: none"> <li>RN use of professional interpreter during intake: 15.4% often, 34.3% sometimes</li> <li>RN use of professional interpreter during patient education: 17.2% never, 31.7% seldom</li> <li>88.4% of RN believe use of a professional interpreter improves patient involvement in their care</li> <li>MDs use professional interpreter more than both RN and nurse assistant (<math>p &gt; .001</math>)</li> </ul>
Hendson et al. (2015)	<p>“What are the experiences of health care providers in providing care to recently immigrated families (within five years of immigration) whose children were admitted to the NICU” (p . 18)</p>	<ul style="list-style-type: none"> <li>Qualitative exploratory</li> <li>Purposive sampling</li> <li>Focus groups</li> <li>Demographics</li> <li>NVivo 10 for analysis</li> <li>Open, axial, selective coding</li> </ul>	<ul style="list-style-type: none"> <li>Cultural differences complicate</li> <li>Crisis or transition communication more difficult due to language, time constraint, unintentional stereotype</li> <li>Desire but inability to communicate effectively</li> <li>Misunderstanding of important clinical details</li> <li>Professional interpreter only used in crisis; awkward due to circumstance</li> <li>Unmeasured extra work with immigrant families misunderstood by management</li> <li>Desire for education on other cultures</li> </ul>	<ul style="list-style-type: none"> <li>Influence of cultural, religious, or ethnic practices</li> <li>Crisis and transition home</li> <li>Themes that heighten the fragility of interactions during crisis</li> <li>Themes that heighten the fragility of interactions during transition home</li> <li>Strategies that health care providers utilized to mitigate the fragility of the interaction</li> </ul>

Author et al (Date)	Purpose, Framework	Design, Data Collection and Analysis Methods	Major Findings	Key Statistics (Quantitative) and Key Themes (Qualitative)
Ian et al. (2016)	“Explore registered nurses’ experiences with caring for non-English speaking patients and further how the experiences influence their clinical practice” (p . 258)	<ul style="list-style-type: none"> <li>Qualitative exploratory</li> <li>Convenience, snowball sampling</li> <li>Open-ended questionnaire delivered via Qualtrics</li> <li>Demographics</li> <li>Content analysis</li> </ul>	<ul style="list-style-type: none"> <li>Gratitude for supportive institution which provided interpreters (live, phone, video)</li> <li>LEP care more time-consuming, frustrating</li> <li>Improved anticipation of patient needs from experience caring for LEP patients</li> <li>Personal growth and development</li> <li>Time management improvements</li> </ul>	<ul style="list-style-type: none"> <li>Availability of resources</li> <li>Changes in nursing practice</li> </ul>
Jackson & Mixer (2017)	“Examine UTalk’s effectiveness for basic communication between Spanish speaking low English proficiency SSLEP families/guardians and nurses at the bedside on a pediatric medical-surgical unit” (p . 402)	<ul style="list-style-type: none"> <li>Qualitative descriptive</li> <li>Purposive, convenience sampling</li> <li>Interviews</li> <li>Demographics</li> <li>Descriptive content analysis</li> </ul>	<ul style="list-style-type: none"> <li>Tool found to be helpful by both nurses and pediatric patient parents</li> <li>Both nurses and parents suggested improvements to tool</li> <li>Errors found in professional translation</li> </ul>	<ul style="list-style-type: none"> <li>UTalk facilitated communication</li> <li>UTalk needs improvement</li> <li>Interpreter miscommunication</li> </ul>
Kallakorpi et al. (2018)	“To describe nurses’ experiences with caring for immigrant patients in psychiatric units” (p . 1803)	<ul style="list-style-type: none"> <li>Qualitative</li> <li>Purposive, convenience sampling</li> <li>Interviews</li> <li>Inductive content analysis</li> </ul>	<ul style="list-style-type: none"> <li>Some nurses more interested in multicultural care than others</li> <li>Interpreter use was both positive and negative</li> <li>Some interpreters not suited for psychiatric setting</li> <li>Symptoms for asylum seekers differed from Finnish patients</li> </ul>	<ul style="list-style-type: none"> <li>Nurses’ description of patients’ symptoms and reasons for illness</li> <li>Nurses’ experiences caring for immigrant patients</li> <li>Nurses’ perceptions of culture care</li> </ul>
Kaur et al. (2019)	“Assess the feasibility of an online communication skills training intervention to increase cultural competence amongst oncology nurses working with individuals from minority backgrounds” (p . 1951)	<ul style="list-style-type: none"> <li>Quantitative Pre and Post Intervention</li> <li>Purposive sampling</li> <li>Pre and post intervention questionnaire</li> <li>non-parametric Friedman’s tests for data not normally distributed</li> </ul>	<ul style="list-style-type: none"> <li>Most nurses found tool to be helpful (81%)</li> <li>Self-assessed improvements in quality of practice post-intervention</li> <li>Nurses approved of online format</li> </ul>	<ul style="list-style-type: none"> <li>Increase in belief that it is adopted country’s responsibility to adapt to cultural needs and differences: pretest mean = 22.3, SD = 3.6; post test mean = 25.4, SD = 2.3, X2 = 8.75, P = 0.01</li> <li>Significant improvements in practice post-intervention p &lt; 0.001</li> </ul>

Author et al (Date)	Purpose, Framework	Design, Data Collection and Analysis Methods	Major Findings	Key Statistics (Quantitative) and Key Themes (Qualitative)
Machado et al. (2013)	“Identify how the professionals in the nursing staff of a university hospital interact to take care of their deaf patients considering the knowledge of the Brazilian Sign Language (LIBRAS) as a principle, which is indispensable for the planning of nursing care to this clientele” (p. 285)	<ul style="list-style-type: none"> <li>SPSS for statistical analysis</li> <li>Mixed methods</li> <li>Convenience sampling at university hospital</li> <li>Questionnaire, open and closed ended questions</li> <li>Descriptive statistics</li> <li>Content analysis</li> </ul>	<ul style="list-style-type: none"> <li>16 participants (43%) had cared for a deaf patient</li> <li>Strategies included lip reading, writing, drawing</li> <li>A single participant mentioned using an interpreter</li> <li>Understanding of Brazilian sign language (LIBRAS) varied</li> </ul>	<ul style="list-style-type: none"> <li>Total lack of knowledge</li> <li>Vague or misleading ideas</li> <li>Some understanding</li> </ul>
McCarthy et al. (2013)	“Describe nurses’ experiences of language barriers and the use of interpreters within the context of an evolving healthcare environment in Ireland” (p. 336)	<ul style="list-style-type: none"> <li>Qualitative descriptive</li> <li>Convenience sampling</li> <li>Interviews</li> <li>Demographics</li> <li>Thematic content analysis</li> </ul>	<ul style="list-style-type: none"> <li>Strategies: simplifying information, nonverbal expressions and communication, interpreters</li> <li>Difficulty to assess, gather history</li> <li>Lack of interpreter continuity, concern about interpreter accuracy</li> <li>Concerns over use of family member as interpreter</li> </ul>	<ul style="list-style-type: none"> <li>Limiting Conversations (language)</li> <li>Ways of talking (interpreters)</li> </ul>
Mottelson et al. (2018)	“Investigate the attitudes and experiences of the university hospital’s charge nurses regarding the use of video interpretation” (p. 245)	<ul style="list-style-type: none"> <li>Quantitative descriptive</li> <li>Convenience sampling</li> <li>Questionnaire</li> <li>SurveyXact for quantitative data analysis</li> <li>Thematic analysis for open-ended question</li> </ul>	<ul style="list-style-type: none"> <li>The more charge nurses’ departments used video interpreter, the more satisfied</li> <li>Video interpreter technology found easy to use</li> <li>Some charge nurses still found ad hoc interpreters useful</li> </ul>	<ul style="list-style-type: none"> <li>Pros and cons of video interpretation</li> <li>Professional Concern</li> <li>Administrative barriers to using video interpretation</li> <li>Patient’s health concerns</li> <li>Using Alternative Interpreters</li> <li>19 departments (24%) did not use video interpreter in 12 months</li> <li>53 departments (68%) satisfied with video, but still used face to face, including family (47%) or friends (22%)</li> </ul>
Patriksson et al. (2019)	“To examine health care professionals’ use of interpreters and awareness of local guidelines for interpreted communication in neonatal care” (p. 3)	<ul style="list-style-type: none"> <li>Quantitative descriptive</li> <li>Convenience sampling</li> <li>Survey</li> <li>Demographics</li> <li>Likert scale</li> </ul>	<ul style="list-style-type: none"> <li>Many providers in all categories reported little awareness about policies for interpreter use.</li> <li>Both RNs and nurse assistants used authorized interpreters less than physicians in emergency situations.</li> </ul>	<ul style="list-style-type: none"> <li>Compared with the RNs, nurse assistants had significantly lower awareness of guidelines for interpreter use (p &lt; 0.0001)</li> <li>Significant difference in use of professional interpreters between the provider groups for planned</li> </ul>

Author et al (Date)	Purpose, Framework	Design, Data Collection and Analysis Methods	Major Findings	Key Statistics (Quantitative) and Key Themes (Qualitative)
Plaza Del Pino et al. (2013)	“Determine how nurses perceive their communication with their Moroccan patients and identifying relevant barriers that exist for provision of culturally competent care” (p. 2–3)	<ul style="list-style-type: none"> <li>Mantel-Haenszel chi-square test and Fisher’s non-parametric permutation test</li> <li>SAS for statistical analysis, SPSS for demographic analysis</li> </ul>	<ul style="list-style-type: none"> <li>In planned communication, nurse assistants used authorized interpreters less than both RNs and physicians</li> <li>No significant difference in use of unauthorized interpreter in emergency situation.</li> <li>In planned communication nurse assistants used unauthorized interpreters significantly more often than RNs and physicians</li> <li>Nurse assistants rated their abilities to communicate with an interpreter significantly lower than RNs and physicians</li> </ul>	<ul style="list-style-type: none"> <li>conversation (p &lt; 0.0001) and emergency situations (p &lt; 0.0001)</li> <li>No significant difference in use of unauthorized interpreter between the provider groups during emergency (p 0.38)</li> <li>Physicians use of authorized interpreters significantly higher than RNs (p 0.006) and non-authorized interpreters significantly lower than RNs (p 0.013)</li> </ul>
Rifai et al. (2018)	“Describe the public health nurses’ experiences of using interpreters when meeting with Arabic-speaking first-time mothers.” (p. 575)	<ul style="list-style-type: none"> <li>Qualitative ethnography</li> <li>Purposive sampling</li> <li>Demographics</li> <li>Open coding</li> <li>AQUAD 6 for data organization, analysis</li> </ul>	<ul style="list-style-type: none"> <li>Nurses stereotype patients, prejudice apparent</li> <li>Discriminatory nursing practices</li> <li>Lack of intercultural training</li> <li>Nurses attempt to improve communication</li> <li>Both positive and negative experiences with interpreters</li> <li>Interpreters helped foster understanding and create a trusting relationship</li> <li>Nurses sometimes found interpretation quality insufficient</li> <li>Non-native Swedish mothers are less likely to participate in the child health care program</li> </ul>	<ul style="list-style-type: none"> <li>The cultural boundary</li> <li>The social boundary</li> <li>The language boundary</li> <li>Overcoming borders</li> <li>Overarching theme: Having to accept and learn to incorporate interpreters when meeting with Arabic-speaking first-time mothers</li> <li>Three subthemes                             <ul style="list-style-type: none"> <li>– Enabling an understanding of the situation of the mothers</li> <li>– Contributing to a trustful relationship</li> <li>– Creating disturbing elements in the dialogue</li> </ul> </li> </ul>
Rosendahl et al. (2016)	“Understand and systematically describe personal experiences of the care provided to immigrants with dementia and the experiences of their family members and nursing staff” (p. 3)	<ul style="list-style-type: none"> <li>Qualitative exploratory descriptive</li> <li>Purposive sampling</li> <li>Demographics</li> </ul>	<ul style="list-style-type: none"> <li>Nonverbal communications (gestures, mirroring) used</li> <li>Use of mother tongue help patients emotionally, changes emotional assessment</li> </ul>	<ul style="list-style-type: none"> <li>A new living situation</li> <li>Challenges in communication</li> <li>The role of the family member at the group home</li> </ul>

Author et al (Date)	Purpose, Framework	Design, Data Collection and Analysis Methods	Major Findings	Key Statistics (Quantitative) and Key Themes (Qualitative)
Ross et al. (2016)	“Determine the frequency with which nursing, midwifery and allied healthcare staff encounter refugee patients in two public hospitals, how confident they are working with refugees, the effect on their work and any differences between the rural and urban settings” (p . 680)	<ul style="list-style-type: none"> <li>Qualitative content analysis</li> <li>Quantitative descriptive</li> <li>Stratified, purposive sampling</li> <li>Questionnaire</li> <li>Demographics</li> <li>Chi-square, Student's t-test, Spearman's Rho (rs) and Pearson's r (r)</li> <li>SPSS for statistical analysis</li> </ul>	<ul style="list-style-type: none"> <li>Visitors serve in dual role: link to patient's past and interpreter</li> <li>Family member or bilingual staff interpret</li> <li>70% of respondents desired additional support</li> <li>Confidence in caring for refugees associated with time working or being born overseas</li> <li>Urban providers more confident than rural providers</li> <li>Barriers identified: language, lack of training to use interpreter, patient lack of trust in government systems</li> </ul>	<ul style="list-style-type: none"> <li>Rural respondents reported enhanced practice from working with refugees (p = 0.025)</li> <li>Rural respondents felt less confident in practice than urban respondents (p &lt; 0.001)</li> <li>Positive correlation between frequency of encounters with refugees and disruption to practice (rs = 0.361, p &lt; 0.001)</li> </ul>
Savio & George (2013)	“Find out difficulties that staff nurses experience in communicating with patients from culturally and linguistically different background and the staff nurses' attitude towards the importance of communication in caring for those patients” (p . 142)	<ul style="list-style-type: none"> <li>Quantitative descriptive</li> <li>Convenience sampling</li> <li>Survey</li> <li>Demographic data</li> </ul>	<ul style="list-style-type: none"> <li>Patients from culturally and linguistically diverse backgrounds presented a major language barrier for nurses.</li> <li>Male nurses reported experiencing more difficulty in communicating with these patients.</li> <li>Educational preparation during school and clinical exposure may help nursing students more effectively delivery transcultural nursing care.</li> </ul>	<ul style="list-style-type: none"> <li>A majority of nurses (71%) were over the age of 30, 88% were females, 58% diploma holders and only 28% had baccalaureate degrees.</li> <li>19% of nurses reported experiencing mild difficulties with verbal and nonverbal communication, 79% reported moderate difficulty, and 2% reported severe difficulty.</li> </ul>
Seale, Rivas, Al-Sarraj et al. (2013)	“A comparison of fluent English consultations with ones that involve interpreters ... explore the moral work done by participants” (p . 142)	<ul style="list-style-type: none"> <li>Mixed methods</li> <li>Analysis of data subset from 57 video/audio recorded consultations</li> <li>Interviews/consultations</li> <li>Demographics and language data</li> <li>Coding scheme for transcripts</li> <li>Additional linguistic and keyword analysis</li> </ul>	<ul style="list-style-type: none"> <li>Need to shift the role of the interpreter as an advocate in order to build rapport and make patient feel more comfortable</li> <li>The fluent English speakers able to convey a more positive moral reputation and excuse “bad” behavior</li> <li>English speakers able to act as their own advocate, whereas interpreters sometimes acted as “moral mediators” in order to protect patients, choosing not to translate certain information</li> </ul>	<ul style="list-style-type: none"> <li>Conveying morally relevant information</li> <li>‘Protecting’ the patient</li> <li>Difficulty raising topics (by non-English speakers that were of concern to patients)</li> </ul>

Author et al (Date)	Purpose, Framework	Design, Data Collection and Analysis Methods	Major Findings	Key Statistics (Quantitative) and Key Themes (Qualitative)
Seale, Rivas, & Kelly (2013)	“Compare interpreted with fluent same-language consultations.” (p . e126)	<ul style="list-style-type: none"> <li>SPSS analysis of coded words</li> <li>Qualitative analysis of nurse-patient interactions</li> <li>Analysis of data subset from 57 video/audio recorded consultations</li> <li>Interviews/consultations</li> <li>Demographics and language data</li> <li>Coding scheme for transcripts</li> <li>Quantitative content analysis</li> <li>Additional linguistic and keyword analysis</li> <li>SPSS analysis of coded words</li> </ul>	<ul style="list-style-type: none"> <li>Interpreted consultations were as long as same-language consultations but patients said less</li> <li>Patients who required interpreters asked fewer questions and were less inclined to discuss their health</li> <li>Interpreters often mistranslated or did not translate directly from the patient, adding their own comments.</li> <li>Providers also tended to use the third person more in consultations with interpreters as they were talking through the interpreter rather than directly to the patient</li> <li>To aid in effective self-management for patients, reducing the social distance in conversations that require interpreters is necessary</li> </ul>	<ul style="list-style-type: none"> <li>Patients who spoke English produced 3.6 times the number of words produced by patients in interpreted consultations.</li> <li>Providers were more likely to produce utterances containing humor and to talk about feelings with their English-language patients</li> <li>3077/920 (33.4%) utterances made by patients in the 12 interpreted consultations contained some talk that was not translated, and 674/1644 (41.0%) utterances from the providers contained some talk that was not translated.</li> </ul>
Shuman et al. (2017)	“Describe RNs’ and NAs’ perceptions of LEP patients’ call light use and their current communication practices with LEP patients” (p . 590)	<ul style="list-style-type: none"> <li>Qualitative</li> <li>Convenience sampling</li> <li>Interviews</li> <li>Demographic data</li> <li>Constant comparative and conventional qualitative analysis</li> </ul>	<ul style="list-style-type: none"> <li>Less call light use for LEP patients, concern LEP patients do not understand call light purpose</li> <li>Administrators must be responsible to address barriers to communication</li> <li>Professional interpreters difficult to access, time consuming</li> <li>Ad hoc interpreters (family members and staff) used, but may lead to harm, misunderstanding</li> <li>Pictures, apps, gestures used</li> </ul>	<ul style="list-style-type: none"> <li>Call light use by LEP patients</li> <li>Reliance on family</li> <li>Reliance on interpreter services</li> <li>Limitations of interpreter services</li> <li>Reliance on ad hoc communication aids</li> </ul>
Silvera-Tawil et al. (2018)	“To identify the following: (a) current practice regarding communication during standard care interactions between nursing staff and NESB (non English speaking background) patients, and the context of these interactions; (b) specific communication	<ul style="list-style-type: none"> <li>Mixed methods</li> <li>Focus groups, interviews, observation, survey</li> <li>Content analysis</li> <li>NVivo version 11 for qualitative analysis</li> <li>Inferential statistics</li> </ul>	<ul style="list-style-type: none"> <li>Nurses identified broad range of patient encounters where assisted communication would be beneficial including social chatting, neuro assessment, call light usage, consent</li> <li>No significant difference in frequency of or length of NESB encounters</li> </ul>	<ul style="list-style-type: none"> <li>Staff’s confidence of the patients’ level of understanding (t[80] = 7.49; p &lt; 0.001) and success of the patient encounter (t[80] = 5.69; p &lt; 0.001)</li> <li>Independent t-test: English speaker vs. NESB number of interactions (t[80] = 1.58; p = 0.12) and length of the interactions speakers (t[368] = -1.37; p = 0.17)</li> </ul>

Author et al (Date)	Purpose, Framework	Design, Data Collection and Analysis Methods	Major Findings	Key Statistics (Quantitative) and Key Themes (Qualitative)
	needs of nursing staff and patients during basic standard care interactions; (c) target words and/or phrases used during basic standard care interactions between nursing staff and NESB patients when an interpreter is not present; and (d) potential needs, challenges, technical requirements and uses of a mobile app for nursing staff (p . 4170)	<ul style="list-style-type: none"> <li>Independent t-test</li> <li>Python version 3</li> </ul>	<ul style="list-style-type: none"> <li>Significant difference in nursing scoring of confidence of patient understanding and successful communication interaction between NESB vs. English-speaking patients</li> </ul>	<ul style="list-style-type: none"> <li>Qualitative themes:                             <ul style="list-style-type: none"> <li>Standard care</li> <li>Main challenges (Nurses)</li> <li>Technical requirements for nursing app</li> <li>Current challenges (Patients)</li> </ul> </li> </ul>
Skoog et al. (2017)	"To elucidate CHS nurses' experiences of identifying signs of PPD in non-Swedish-speaking immigrant mothers" (p . 740)	<ul style="list-style-type: none"> <li>Qualitative inductive</li> <li>Purposive Sampling</li> <li>Demographics</li> <li>Interviews</li> <li>Latent content analysis</li> </ul>	<ul style="list-style-type: none"> <li>Quality of the patient-provider relationship is essential to effective screening for PPD</li> <li>Nurses lacked cultural knowledge in certain settings, a hindrance to their work</li> <li>Screening tools difficult to translate effectively with or without the use of an interpreter</li> <li>Nurses unable to encourage mothers with positive PPD screens or symptoms to seek external help</li> </ul>	<ul style="list-style-type: none"> <li>Overarching theme: "a constant challenge for deepening the transcultural caring relationship" with 3 categories                             <ul style="list-style-type: none"> <li>Establishing the transcultural supportive relationship</li> <li>Interpreting the mother's moods using cultural knowledge</li> <li>Striving—sometimes in vain—when screening for PPD</li> </ul> </li> </ul>
Squires et al. (2017)	"Explore a potential vulnerability in home health care service delivery by examining the frequency of language-concordant visit patterns among home health patients as captured in electronic health record and organizational administrative datasets" (p . 161)	<ul style="list-style-type: none"> <li>Quantitative descriptive</li> <li>Retrospective exploratory study</li> <li>Descriptive statistics</li> </ul>	<ul style="list-style-type: none"> <li>Russian speakers had higher visit per case compared to all LEP groups and English for both RN and PT</li> <li>Korean speakers had highest language concordant visit</li> <li>Nurses with language skills visited 20 more patients in 2-year period than monolingual nurses</li> </ul>	<ul style="list-style-type: none"> <li>18.1% of RN visits, 26.7% PT visits with LEP patients language concordant</li> <li>Spanish speakers largest LEP group, 13.1% RN visits language concordant</li> <li>8.9% Spanish speakers, 3.0% Korean speakers, 2.5% Chinese speakers had encounters with human interpreter</li> </ul>
Squires et al. (2019)	"Examine how providers saw their workloads affected by patient assignments involving limited English proficiency patients" (p . 3)	<ul style="list-style-type: none"> <li>Qualitative exploratory descriptive</li> <li>Secondary analysis</li> <li>Purposive, snowball sampling</li> <li>Interview</li> </ul>	<ul style="list-style-type: none"> <li>Quality of first visit set the tone for the subsequent visits</li> <li>High quality LEP visit looked and felt similar to English visit</li> <li>Unless bilingual, nurses felt that LEP patients increased workload</li> <li>Distrust of phone interpretation</li> </ul>	<ul style="list-style-type: none"> <li>Conditions that contribute to higher workload and longer working days</li> <li>Willingness to address language barriers</li> <li>Barriers contributing to workload when addressing language barriers in home health care</li> </ul>



Author et al (Date)	Purpose, Framework	Design, Data Collection and Analysis Methods	Major Findings	Key Statistics (Quantitative) and Key Themes (Qualitative)
Suurmond et al. (2017)	“To explore those obstacles in pediatric cancer care that lead to barriers in the care process for ethnic minority patients” (p . 2)	<ul style="list-style-type: none"> <li>General content analysis, open coding approach</li> <li>Atlas TI 7.3 for coding</li> </ul>	<ul style="list-style-type: none"> <li>Issues around teaching, infection control with telephone interpreter</li> <li>All providers preferred in person interpreter</li> </ul>	<ul style="list-style-type: none"> <li>Language barriers between care provider and parents</li> <li>Experiencing cultural differences between health care staff and parents</li> <li>Reported reaction to barriers</li> </ul>
Tay et al. (2012)	“To identify the factors that promote, inhibit or both promote and inhibit effective communication between inpatient oncology adults and Singaporean registered nurses” (p . 2648)	<ul style="list-style-type: none"> <li>Qualitative</li> <li>Purposive sampling</li> <li>Demographics</li> <li>Interviews</li> <li>Text analytics software Leximancer 3.0</li> </ul>	<ul style="list-style-type: none"> <li>Contact with Turkish and Moroccan parents was more difficult than with Dutch parents due to both language and cultural barriers</li> <li>Healthcare providers did not adequately utilize interpreter services</li> <li>Care providers were unaware of stereotypes, prejudices, and the importance of understanding the parents’ perspective</li> <li>Patients’ negative perception of and lack of respect for nurses affected communication</li> <li>Nurses concerned with accidentally offending patients, and limited their communication with patients of other cultures.</li> <li>Language barriers prevented effective communication</li> <li>Nurses fearful and uncomfortable discussing sensitive topics such as death and dying.</li> <li>Cultural taboos increased nurses’ discomfort</li> </ul>	<ul style="list-style-type: none"> <li>Characteristics of the patient</li> <li>Characteristics of the nurse</li> <li>Nurse-patient interaction</li> <li>Environment</li> </ul>
Taylor, R. & Alfred, M. (2010)	“To explore nurses’ perceptions of ways in which the health care organization can support them in the delivery of culturally competent care” (p . 595)	<ul style="list-style-type: none"> <li>Qualitative case study approach</li> <li>Random sampling for RN, purposive for manager</li> <li>Interviews</li> <li>Open and axial coding</li> <li>Software for data organization</li> </ul>	<ul style="list-style-type: none"> <li>Lack of organizational support, no recognition for extra work</li> <li>Interpreter availability problematic</li> <li>Rapport with patient lost</li> <li>Issues for bilingual staff around workload, time away from assignments</li> <li>Concern about translation accuracy</li> <li>Need additional training, more diverse staff</li> </ul>	<ul style="list-style-type: none"> <li>Language barrier (interpreter services)</li> <li>Ethnic mix of staff</li> <li>Training or lack of knowledge</li> <li>Patient educational materials</li> <li>Data/expectations,</li> <li>Instruments/resources</li> <li>Rewards</li> <li>Capacity</li> </ul>

Author et al (Date)	Purpose, Framework	Design, Data Collection and Analysis Methods	Major Findings	Key Statistics (Quantitative) and Key Themes (Qualitative)
Tuot et al. (2012)	"We placed a dual-handset phone with 24-hour access to professional telephonic interpretation at the bedside of all patients admitted to the general medicine floor of the hospital and assessed change in nurse and physician use of professional interpreters" (p. 82)	<ul style="list-style-type: none"> <li>Quantitative descriptive</li> <li>Surveys before and after implementation of dual-handset phone</li> <li>Demographics</li> <li>Clinical scenarios &amp; HCP action on whether or not an interpreter was utilized</li> <li>Descriptive statistics</li> <li>STATA statistical analysis (unpaired t-tests)</li> </ul>	<ul style="list-style-type: none"> <li>Staff desire hiring more interpreters</li> <li>Professional telephonic interpreter use increased in all clinical situations for both nurses and physicians</li> <li>No effect on access to live interpreters, particularly for delicate situations such as end of life discussions</li> </ul>	<ul style="list-style-type: none"> <li>Internal motives</li> <li>The number of calls per LEP admission increased 4-fold, from 1.3 to 5.2 without a decrease in in-person interpreter use.</li> <li>Self-reported use of ad-hoc interpreters decreased (37% pre-intervention and 18% post, p = .006)</li> <li>Lower odds of using professional interpreter for more experienced nurses (OR 0.95 increase per additional year)</li> </ul>
Valizadeh et al. (2017)	"Identify the factors that influence nurse-to-parent communication in the provision of pediatric culturally sensitive care in Iran" (p. 476)	<ul style="list-style-type: none"> <li>Qualitative</li> <li>Purposive sampling stratified by ethnicity</li> <li>Semi-structured interviews</li> <li>Content analysis</li> <li>Demographics</li> </ul>	<ul style="list-style-type: none"> <li>Country-specific role limitations impacted communication</li> <li>Gender limitations on visitation created language barrier</li> <li>Nurses felt leadership undervalued importance of culture and language</li> <li>Ad hoc interpreters, nonverbal communication used due to poor interpreter access</li> </ul>	<ul style="list-style-type: none"> <li>Organizational factors <ul style="list-style-type: none"> <li>Inefficient policies</li> <li>Professional factors</li> </ul> </li> <li>Human factors <ul style="list-style-type: none"> <li>Nurse related factors</li> <li>Unique characteristics of the family</li> </ul> </li> </ul>
Watt et al. (2018)	"Explore the complexities of communication and interpreter use for CALD women prisoners accessing prison health care, with a view to improving service access for CALD women in prison" (p. 1160)	<ul style="list-style-type: none"> <li>Inductive qualitative</li> <li>Purposive, convenience sampling</li> <li>Focus groups and interviews</li> <li>Thematic analysis</li> <li>NVivo software</li> </ul>	<ul style="list-style-type: none"> <li>Isolation, difficulty accessing healthcare for non-English speakers</li> <li>Peer support for interpreting, knowledge sharing</li> <li>Nurses opted to use limited English skills rather than interpreter</li> <li>Other nurses valued confidentiality and help from interpreter</li> <li>Access to interpreter difficult</li> <li>Overestimating English skills by RNs</li> <li>Peer interpreters helpful for advocacy but created confidentiality concerns</li> </ul>	<ul style="list-style-type: none"> <li>The impact of cultural and language difference on prison life</li> <li>Health communication and the use of interpreters <ul style="list-style-type: none"> <li>Deciding on interpreter use</li> <li>Using formal interpreters</li> <li>Peer interpreters</li> </ul> </li> <li>Perceived challenges with peer interpreters</li> </ul>

Author et al (Date)	Purpose, Framework	Design, Data Collection and Analysis Methods	Major Findings	Key Statistics (Quantitative) and Key Themes (Qualitative)
Watts et al. (2018)	"Explore organizational and systemic challenges encountered by HPs who work with minority cancer patients and caregivers" (p. 2)	<ul style="list-style-type: none"> <li>Qualitative</li> <li>Purposive sampling for variation in age, cultural background, length of sentence, health conditions, and healthcare utilization</li> <li>Focus groups</li> <li>Semi-structured interviews</li> <li>Thematic data analysis</li> </ul>	<ul style="list-style-type: none"> <li>Concern about professional interpreter accuracy</li> <li>Face to face interpreter difficult due to cost, unpredictability of prison setting</li> <li>Both women inmates and staff identified communication difficulties as a barrier</li> <li>Barriers were sometimes seen as discriminatory</li> <li>"Peer interpreters" (fellow inmates or other informal interpreters) used instead of trained interpreters, and were subject to coercion, untrained health advice, errors in interpretation, and loss of patient confidentiality</li> </ul>	<ul style="list-style-type: none"> <li>"The impact of cultural and language differences on prison life"</li> <li>Health communication and the use of interpreters <ul style="list-style-type: none"> <li>Deciding on interpreter use</li> <li>Using formal interpreters</li> <li>Peer interpreters</li> <li>Perceived challenges with</li> <li>Peer interpreters</li> </ul> </li> </ul>
Whitman et al. (2010)	"Describe the perceptions of school nurses of the increase in the ESL student population and the challenges they face in communicating with this population" (p. 209)	<ul style="list-style-type: none"> <li>Quantitative descriptive</li> <li>Data collected by Alabama Board of Nursing</li> <li>Surveys (online questionnaires)</li> <li>Descriptive statistics</li> <li>Pearson's chi-squared analysis</li> </ul>	<ul style="list-style-type: none"> <li>Despite access to trained interpreter, nurses relied on ESL student to translate when speaking with parents</li> <li>Significant differences in experiences by grade level</li> </ul>	<ul style="list-style-type: none"> <li>32.9% of respondents indicated that they encountered difficulties communicating with ESL students</li> <li>50.9% had difficulty communicating with the parents of ESL students</li> <li>Significant differences by county in response to having a trained interpreter that can be contacted if needed (p &lt; .05) and having to rely on the ESL student to act as a translator when speaking to his or her parent (p &lt; .05)</li> <li>Significant difference in grade level in response to nurses having difficulty communicating with ESL students, with elementary nurses experiencing the most difficulty (p &lt; 0.001)</li> </ul>
Willey et al. (2018)	"Explore service provision for Victorian regional refugee families from the perspective of MCH nurses and identify whether there are continuing professional development needs and MCH nurses who work with families from a refugee background" (p. 3389)	<ul style="list-style-type: none"> <li>Qualitative Descriptive</li> <li>Purposive sampling</li> <li>Demographics</li> <li>Focus groups</li> <li>Inductive thematic analysis</li> </ul>	<ul style="list-style-type: none"> <li>Need for ongoing professional development and more time and creativity to build relationships with refugee families</li> <li>MCH nurses lack confidence to assess migration history</li> </ul>	<ul style="list-style-type: none"> <li>How to identify women from a refugee background</li> <li>The Maternal and Child Health nurse role when working with families from a refugee background</li> <li>Interpreting issues</li> <li>Access to other referral agencies</li> </ul>

Table 3

## Summary of Study Strengths and Weaknesses

Author et al (Date)	Strengths	Weaknesses
Ali & Johnson (2017)	<ul style="list-style-type: none"> <li>Member checking, triangulation, peer debrief</li> <li>Interview guides piloted before study</li> <li>Audio recording plus notes on body language/nonverbal cues</li> <li>Reflexive journaling</li> <li>Inclusion of subject matter experts for discussion on practice implications</li> </ul>	<ul style="list-style-type: none"> <li>No theoretical framework</li> <li>Sampling methods may increase potential for bias</li> <li>No mention of data saturation</li> <li>No examination of researcher's role as source of potential bias</li> </ul>
Ali & Watson (2018)	<ul style="list-style-type: none"> <li>Member checking, triangulation, peer debrief</li> <li>Interview guides piloted before study</li> <li>Data saturation</li> <li>Audio recording plus notes on body language</li> <li>Reflexive diary</li> <li>Inclusion of subject matter experts for discussion on practice implications</li> </ul>	<ul style="list-style-type: none"> <li>No theoretical framework</li> <li>No examination of researcher's role as source of potential bias</li> </ul>
Alm-Pirunder et al. (2018)	<ul style="list-style-type: none"> <li>Justification for snowball sampling</li> <li>Examination of researcher's role/potential bias due to work experience in ambulance setting</li> </ul>	<ul style="list-style-type: none"> <li>No theoretical framework</li> <li>No mention of data saturation</li> <li>No triangulation, member checking</li> </ul>
Amoah et al. (2019)	<ul style="list-style-type: none"> <li>Justification for purposive sampling</li> <li>Data saturation reached</li> <li>Reflection and comparisons throughout analysis phase</li> <li>Discuss researcher assumptions and setting/context</li> <li>Other researchers confirmed analysis</li> </ul>	<ul style="list-style-type: none"> <li>No theoretical framework</li> <li>No member checking, triangulation</li> </ul>
Azize et al. (2018)	<ul style="list-style-type: none"> <li>Factorial survey development explained in detail, following recommendations</li> <li>Power analysis determined sample size</li> </ul>	<ul style="list-style-type: none"> <li>Limited description of data analysis of open-ended questions</li> </ul>
Badger et al. (2012)	<ul style="list-style-type: none"> <li>Survey pilot-tested by random sample prior to use in study</li> </ul>	<ul style="list-style-type: none"> <li>Quantitative analysis utilized only descriptive statistics</li> </ul>

Author et al (Date)	Strengths	Weaknesses
Balakrishnan et al. (2016)	<ul style="list-style-type: none"> <li>Non-consecutive convenience sampling</li> </ul>	<ul style="list-style-type: none"> <li>No member checking, triangulation or mention of data saturation in qualitative analysis</li> </ul>
Bames et al. (2011)	<ul style="list-style-type: none"> <li>Interpreters for qualitative interviews not the same as interpreters used in encounters with nurses</li> <li>Attrition similar across groups</li> </ul>	<ul style="list-style-type: none"> <li>Nurses aware of study, possible Hawthorne effect</li> <li>No theoretical framework</li> <li>No member checking, triangulation</li> <li>Data saturation not mentioned</li> </ul>
Beckstrand et al. (2010)	<ul style="list-style-type: none"> <li>Randomized sample</li> <li>Expert information to modify survey questions</li> <li>Statement around</li> <li>Pretested questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>92.6% female, 7.4% male</li> <li>48% response rate</li> <li>Generalizability to only AACN members</li> </ul>
Bramberg & Sandman (2013)	<ul style="list-style-type: none"> <li>Attempt to avoid hierarchy or power dynamic in focus groups</li> <li>Care provider participation in later steps of data analysis</li> </ul>	<ul style="list-style-type: none"> <li>No theoretical framework</li> <li>Data saturation not mentioned</li> <li>No examination of researcher's role as source of potential bias</li> </ul>
Chae & Park (2019)	<ul style="list-style-type: none"> <li>Data saturation</li> <li>Analysis methods driven by theory</li> <li>Detailed analysis description in three phases, preparation, organization and reporting</li> <li>Intercoder reliability calculated using Cohen's kappa coefficient</li> </ul>	<ul style="list-style-type: none"> <li>No theoretical framework</li> <li>No member checking</li> <li>No examination of researcher's role as source of potential bias</li> </ul>
Clayton (2016)	<ul style="list-style-type: none"> <li>Methods driven by theory</li> <li>Data saturation</li> <li>Exclusion of close associates of research</li> <li>Eliminated participants with close relationship with primary investigator</li> </ul>	<ul style="list-style-type: none"> <li>No theoretical framework</li> <li>Limited discussion of data analysis coding, categorizing process</li> <li>No examination of researcher's role as source of potential bias</li> </ul>
Coleman & Angosta, (2017)	<ul style="list-style-type: none"> <li>Methods driven by theories</li> <li>Member checking</li> <li>Written audit trail of coding and thick data analysis</li> <li>Author journaling, bracketing throughout all phases</li> <li>Data saturation</li> </ul>	<ul style="list-style-type: none"> <li>39/40 participants female</li> <li>Little detail of interview structure</li> <li>Unclear if multiple authors involved in data analysis</li> </ul>

Author et al (Date)	Strengths	Weaknesses
Diamond et al. (2012)	<ul style="list-style-type: none"> <li>• Researcher's role as potential bias discussed</li> <li>• No significant difference in Spanish proficiency by sex, age, years of experience, or attending status</li> </ul>	<ul style="list-style-type: none"> <li>• Testing based on self-reported language skills</li> <li>• 30% overlap in respondents</li> </ul>
Eklöf et al. (2015)	<ul style="list-style-type: none"> <li>• Analysis driven by theory</li> </ul>	<ul style="list-style-type: none"> <li>• No theoretical framework</li> <li>• No mention of data saturation</li> <li>• No triangulation, member checking</li> <li>• Limited data analysis description</li> </ul>
Fatahi (2010)	<ul style="list-style-type: none"> <li>• Discussion of validity through attempts to maintain similar environment for all focus groups</li> <li>• Analysis completed by authors not part of focus groups, consensus reached for validity</li> <li>• Triangulation</li> </ul>	<ul style="list-style-type: none"> <li>• No theoretical framework</li> <li>• No mention of data saturation</li> <li>• No examination of researcher's role as source of potential bias</li> </ul>
Galinato et al. (2016)	<ul style="list-style-type: none"> <li>• Analysis driven by theories</li> <li>• Detailed description of coding process, attempts to minimize bias and achieve confirmability</li> <li>• Table of themes and subthemes</li> </ul>	<ul style="list-style-type: none"> <li>• No theoretical framework</li> <li>• No mention of data saturation</li> <li>• No member checking</li> <li>• Authors mention credibility, transferability, dependability met but no description of methods to do so</li> </ul>
Granhagen Jungner et al. (2019)	<ul style="list-style-type: none"> <li>• Use of valid and reliable survey instrument</li> <li>• Response rate 90%</li> </ul>	<ul style="list-style-type: none"> <li>• No inclusion of data generated from open-ended questions</li> </ul>
Hendson et al. (2015)	<ul style="list-style-type: none"> <li>• All involved in data analysis kept journal and took field notes</li> <li>• Modification of semistructured guide based on findings in previous focus group</li> <li>• Peer debrief, triangulation, member checking</li> </ul>	<ul style="list-style-type: none"> <li>• No theoretical framework</li> <li>• Saturation assessed after focus groups completed</li> </ul>
Ian et al. (2017)	<ul style="list-style-type: none"> <li>• Double coding with qualitative researcher</li> </ul>	<ul style="list-style-type: none"> <li>• No theoretical framework</li> <li>• Limited description of sample</li> <li>• No examination of researcher's role as source of potential bias</li> </ul>
Jackson & Mixer (2017)	<ul style="list-style-type: none"> <li>• Triangulation- data reflected back to participants during interview</li> </ul>	<ul style="list-style-type: none"> <li>• No mention of data saturation</li> <li>• Limited description of coding process</li> </ul>

Author et al (Date)	Strengths	Weaknesses
Kallakorpi et al. (2018)	<ul style="list-style-type: none"> <li>Researcher role and bias addressed through bracketing of biases in field notes throughout study</li> <li>Member checking</li> <li>Observation, nursing documentation included in analysis</li> </ul>	<ul style="list-style-type: none"> <li>No baseline of language proficiency taken</li> <li>No theoretical framework</li> <li>No mention of data saturation</li> <li>No triangulation</li> <li>No examination of researcher's role as source of potential bias</li> </ul>
Kaur et al. (2019)	<ul style="list-style-type: none"> <li>Sample size based on power analysis</li> <li>Inclusion of only oncology nurse data for more generalizable analysis</li> </ul>	<ul style="list-style-type: none"> <li>100% female respondents</li> <li>Unknown number of providers who received initial outreach email</li> </ul>
Machado et al. (2013)	<ul style="list-style-type: none"> <li>Description of content analysis and axial coding methods</li> </ul>	<ul style="list-style-type: none"> <li>Limited description of survey instrument</li> <li>Use of only descriptive statistics</li> <li>No comparison between nursing roles (assistant vs. tech vs. RN)</li> </ul>
McCarthy et al. (2013)	<ul style="list-style-type: none"> <li>Individual transcription of interviews to gain familiarity with data by each author</li> <li>Individual analysis prior to consensus</li> </ul>	<ul style="list-style-type: none"> <li>No theoretical framework</li> <li>No data saturation or member checking or mentioned</li> <li>Limited discussion of coding, analysis process</li> <li>No examination of researcher's role as source of potential bias</li> </ul>
Mottelson et al. (2018)	<ul style="list-style-type: none"> <li>Pretesting of questionnaire two times to ensure validity</li> <li>79% response rate</li> <li>All departments represented</li> <li>Management perspective</li> </ul>	<ul style="list-style-type: none"> <li>No description of qualitative analysis for open-ended question</li> <li>Use of charge nurse only, no bedside RN feedback</li> </ul>
Patriksson et al. (2019)	<ul style="list-style-type: none"> <li>Survey developed from focus group findings</li> <li>Inclusion of all neonatal departments</li> </ul>	<ul style="list-style-type: none"> <li>41% response rate</li> </ul>
Plaza Del Pino (2013)	<ul style="list-style-type: none"> <li>Theoretical framework</li> <li>Data saturation</li> <li>Rigorous translation/back translation</li> <li>Mention of reflection on researchers' biases, potential influence</li> </ul>	<ul style="list-style-type: none"> <li>No mention of triangulation or member checking</li> <li>Limited detail regarding coding, grouping of codes to generate themes</li> </ul>
Rifai et al. (2018)	<ul style="list-style-type: none"> <li>Pilot interview to evaluate interview guide</li> </ul>	<ul style="list-style-type: none"> <li>No theoretical framework</li> <li>No mention of data saturation</li> </ul>



Author et al (Date)	Strengths	Weaknesses
Rosendahl et al. (2016)	<ul style="list-style-type: none"> <li>Triangulation through group discussion, consensus</li> <li>Detailed coding, analysis description</li> </ul>	<ul style="list-style-type: none"> <li>No member checking</li> <li>No examination of researcher's role as source of potential bias</li> <li>No theoretical framework</li> <li>No data saturation</li> <li>No member checking</li> <li>No examination of researcher's role as a source of potential bias</li> </ul>
Ross et al. (2016)	<ul style="list-style-type: none"> <li>Questionnaire based on previous research and consultation with experts</li> </ul>	<ul style="list-style-type: none"> <li>Dichotomized questions, rather than Likert scale (confident / not confident; disruptive / not disruptive)</li> <li>49% response rate urban site, 50% response rate rural site</li> </ul>
Savio & George (2013)	<ul style="list-style-type: none"> <li>Pilot study to assess feasibility</li> <li>Pre-test of tool</li> </ul>	<ul style="list-style-type: none"> <li>No data on percent respondent participation, only final N=100</li> <li>88% female participants</li> </ul>
Seale, Rivas, Al-Sarraj et al. (2013)	<ul style="list-style-type: none"> <li>Three researchers independent coding, arrival at consensus</li> <li>Intercoder reliability kappa 0.84</li> </ul>	<ul style="list-style-type: none"> <li>No theoretical framework</li> <li>No examination of researchers' roles as source of potential bias</li> </ul>
Seale, Rivas, & Kelly (2013)	<ul style="list-style-type: none"> <li>Three researchers independent coding, arrival at consensus</li> <li>Intercoder reliability kappa 0.84</li> </ul>	<ul style="list-style-type: none"> <li>No theoretical framework</li> <li>No examination of researchers' roles as source of potential bias</li> </ul>
Shuman et al. (2017)	<ul style="list-style-type: none"> <li>Analysis guided by theories</li> </ul>	<ul style="list-style-type: none"> <li>Limited discussion of coding/analysis process</li> <li>No discussion regarding sample recruitment</li> <li>No description of patient languages</li> </ul>
Silvera-Tawil et al. (2018)	<ul style="list-style-type: none"> <li>Appropriate quantitative statistical analysis</li> <li>Detailed description of app informed by qualitative data</li> </ul>	<ul style="list-style-type: none"> <li>Very limited qualitative analysis description</li> </ul>
Skoog et al. (2017)	<ul style="list-style-type: none"> <li>Pilot interviews to test interview guide</li> <li>Data saturation</li> <li>Detailed coding with category, subcategory example</li> </ul>	<ul style="list-style-type: none"> <li>No theoretical framework</li> <li>No member checking</li> </ul>
Squires et al. (2017)	<ul style="list-style-type: none"> <li>Rationale for use of self-assessed language proficiency</li> <li>Use of patient preferred language rather than based on English skills</li> </ul>	<ul style="list-style-type: none"> <li>Unable to track telephone or ad hoc interpreter use</li> <li>No differentiation in Chinese languages</li> </ul>
Squires et al. (2019)	<ul style="list-style-type: none"> <li>Data saturation</li> </ul>	<ul style="list-style-type: none"> <li>No theoretical framework</li> </ul>

Author et al (Date)	Strengths	Weaknesses
Suurmond et al. (2017)	<ul style="list-style-type: none"> <li>Detailed data analysis description</li> <li>Simultaneous coding with consensus to reduce bias</li> <li>Analysis guided by theories</li> <li>Detailed coding, data analysis description</li> </ul>	<ul style="list-style-type: none"> <li>No member checking</li> <li>No theoretical framework</li> <li>No mention of data saturation</li> <li>No member checking</li> </ul>
Tay et al. (2012)	<ul style="list-style-type: none"> <li>Data saturation</li> <li>Detailed data analysis description</li> <li>Triangulation</li> </ul>	<ul style="list-style-type: none"> <li>No theoretical framework</li> <li>No member checking</li> <li>Mention of reflective journaling for findings, but not to decrease bias, address researchers' roles</li> </ul>
Taylor & Alfred. (2010)	<ul style="list-style-type: none"> <li>Theoretical Framework</li> <li>Random sampling of RNs</li> <li>Inclusion of management perspective</li> <li>Patient documents, translated materials included in analysis</li> </ul>	<ul style="list-style-type: none"> <li>No mention of data saturation</li> <li>Sample size chosen prior to interviews</li> <li>Appears only one author coded, no member checking or triangulation</li> </ul>
Tuot et al. (2012)	<ul style="list-style-type: none"> <li>65% RN participation rate, 67% physician participation rate</li> </ul>	<ul style="list-style-type: none"> <li>Limited in overlap of pre and post-test groups (30% RN, 25% physician)</li> </ul>
Valizadeh et al. (2017)	<ul style="list-style-type: none"> <li>Member checking</li> <li>Follow up interview for clarification</li> <li>Triangulation among researchers and with experienced qualitative researchers</li> <li>Data saturation reached</li> </ul>	<ul style="list-style-type: none"> <li>No theoretical framework</li> <li>No examination of researcher's role as source of potential bias</li> </ul>
Watt et al. (2018)	<ul style="list-style-type: none"> <li>Memo writing to create audit trail</li> <li>Independent coding prior to group discussion for coding</li> </ul>	<ul style="list-style-type: none"> <li>No theoretical framework</li> <li>No mention data saturation</li> <li>Limited data analysis description</li> <li>No member checking</li> </ul>
Watts et al. (2018)	<ul style="list-style-type: none"> <li>Use of theoretical framework</li> <li>Triangulation, inter-coder agreement</li> <li>Attempts to avoid bias through deductive approach</li> </ul>	<ul style="list-style-type: none"> <li>No mention of data saturation</li> <li>No member checking</li> </ul>

Author et al (Date)	Strengths	Weaknesses
Whitman et al. (2010)	<ul style="list-style-type: none"> <li>• 100% respondent rate of lead school RNs</li> <li>• Comparisons - urban/rural, elementary/middle/high school</li> </ul>	<ul style="list-style-type: none"> <li>• “Difficulty” analyzed as yes or no question with no scale</li> </ul>
Willey et al. (2018)	<ul style="list-style-type: none"> <li>• Researcher independent of data conducted initial analysis</li> <li>• Final data synthesis by all researchers</li> </ul>	<ul style="list-style-type: none"> <li>• No theoretical framework</li> <li>• No mention of data saturation</li> <li>• No member checking</li> <li>• No examination of researcher’s role as source of potential bias</li> </ul>