Organizational facilitators and barriers to optimal APRN practice: An integrative review

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Background: The organizational environment can foster or impede full deployment of advance practice registered nurses (APRNs), affecting the quality of care and patient outcomes. Given the critical role APRNs play in health care, it is important to understand organizational factors that promote or hinder APRN practice to maximize the potential of this workforce in health care systems.

Purpose: The aim of this study was to synthesize evidence about APRN practice environments, identify organizational facilitators and barriers, and make recommendations for better APRN utilization.

Methods: A literature search was conducted in CINAHL, PubMed, and PsychInfo, yielding 366 studies. No time or geographic limitations were applied. Study quality was appraised using the National Institutes of Health National Heart, Lung, and Blood Institute Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies and The Joanna Briggs Institute Critical Appraisal Checklist for Qualitative Studies.

Results: Thirty studies conducted in the United States, Canada, and the Netherlands met inclusion criteria. The majority of the studies involved nurse practitioners. Facilitators to optimal practice environment were autonomy/independent practice and positive physician/APRN relations. Barriers included policy restrictions on practice, poor physician relations, poor administrator relations, and others' lack of understanding of the APRN role. Barriers correlate with job dissatisfaction and increased intent to leave job.

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Practice Implications: The review highlights the importance of physician and administration relations, organizational-level policies, and colleagues' understanding of the APRN role in promoting effective practice environments. Organizations should align policy reform efforts with factors that foster positive APRN practice environments to efficiently and effectively utilize this increasingly vital workforce. Future research is warranted.

The U.S. health care system currently faces an economic and quality crisis due to an aging population and more patients living with chronic diseases needing timely access to high-quality care (Association of American Medical Colleges, 2017; Institute of Medicine [IOM], 2011). Furthermore, provider shortages threaten the ability of the system to meet care demands. The use of advance practice registered nurses (APRNs) has been singled out by policy makers and organizations as critical to meeting these increasing demands (IOM, 2011; National Council of State Boards of Nursing [NCSBN], 2015). However, state-based regulations and inhibitive practice environments within APRN employment settings often impede the effective utilization of APRNs to the full extent of their education and training (IOM, 2011).

APRNs are registered nurses (RNs) with advanced education and training, typically a master's or doctoral degree, who can assess, diagnose, and treat patients and whose scope of practice is defined by variable state-based practice regulations (NCSBN, 2015). In the United States, recognized APRN roles include certified registered nurse anesthetists (CRNAs), nurse practitioners (NPs), certified nurse midwives (CNMs), and clinical nurse specialists (CNSs).

Many overlapping terms exist in the literature to discuss the environment nurses work in, including *organizational climate*, *organizational culture*, *work environment*, and *work context*. One of the more common nursing research terms used is *practice environment* (Sleutal, 2000). There is evidence that positive nurse practice environments correlate to improved outcomes, including increased job satisfaction, lower burnout, and reduced patient mortality (Kutney-Lee et al., 2015; Laschinger & Leiter, 2006). Although over 40 years of research reinforces the importance of RN practice environments for patients, nurses, and health care organizations (IOM, 2011; Lake, 2002, 2007; Laschinger, Almost, & Tuer-Hodes, 2003; Laschinger & Leiter, 2006; McGibbon, Peter, & Gallop, 2010; Sleutel, 2000), research surrounding APRN practice environments remains less mature. Although the foundation of APRN practice is nursing, the APRN role is different from those of RNs and includes other responsibilities such as diagnosing and prescribing treatments. Thus, RN practice environment research may not directly translate to APRN practice. The identification of organizational attributes important to APRN practice environment may lead to improvements in patient and APRN outcomes and help reach the overall goal of health care system fiscal and quality progression. The purpose of this review is to synthesize existing evidence on organizational factors that act as facilitators or barriers to optimal APRN practice environment. Understanding the current state of APRN practice environments and identifying relevant gaps in the literature can promote the full deployment of APRNs and inform policy, practice, and future research.

Theory

Institutional theory guided this review (Scott, 2014). An institution is a social construct in which practices universally accepted by employees become part of the culture of an organization. Institutions form when structures and processes become embedded in organizations and acquire legitimacy in their own right, rather than through demonstrated benefit to the organization (Scott, 2014). Once these established practices develop into institution form, they are very resistant to change. Institutions form through several methods, including coercive forces, which exert pressure through manipulation of resources on which the organization depends (Scott, Ruef, Mendel, & Caronna, 2000). Institutions can also form through mimetic forces, where organizations copy successful competitors' practices. In addition, institutions can form through normative forces where structures and processes develop by following established professional standards and norms (Scott, 2014). According to institutional theory, three systems maintain institutions: (a) regulative systems, where behavior is constrained through formal and informal rules; (b) normative systems, where values and norms govern behavior; and (c) cultural-cognitive systems, which govern behavior through shared conceptions of social reality (Scott, 2014). The term *institution* used in this article refers to these aforementioned constructs; the term *organizations* is used to indicate entities where APRNs work.

Organizational change can occur when outside functional, political, or social forces act to destabilize these systems, leading to a breakdown of established institutions in a process called *deinstitutionalization*. As established institutions are challenged, new practices emerge and gain more widespread acceptance (legitimization; Reay, Colden-Biddle, & Germann, 2006). If new practices gain enough traction, they eventually become institutionalized in their own right. Many institutions exist that impede the APRN role in health care delivery, including licensing laws, hospital

privileging, insurance reimbursement, and medication prescribing (Starr, 1982). In addition, gender and power dynamics may play a role in maintaining institutions that impede APRN practice (Rudner, 2016). This review analyzes APRN practice environment literature through the lens of institutional theory to guide understanding of how organizational attributes that affect APRN practice may be the result of such previously established institutions.

Methods

Literature Search

The Whittemore and Knafl (2005) integrative review approach guided the literature search. An electronic search was conducted across three databases (Cumulative Index to Nursing and Allied Health [CINAHL], PubMed, and PsychInfo) in November 2017. The following key words were searched: "advanced practice nurs*, nurse practitioner, nurse anesthetist, nurse midwi*, clinical nurse specialist AND practice environment, work environment, organizational climate, and organizational culture." Studies were eligible if they met each of the following inclusion criteria: (a) peer reviewed research, (b) available in English, and (c) investigated the practice environment of APRNs. All publication years were considered. Furthermore, although APRN practice environments and regulations may differ in countries outside the United States, studies conducted in all countries were eligible for inclusion because they may provide insights into common workplace factors influencing APRN practice. Exclusion criteria included (a) studies not relevant to APRNs (e.g., RNs only) and (b) studies that did not investigate organizational factors affecting APRN practice environment.

Quality Appraisal

Quality appraisals of quantitative studies were conducted using the National Institutes of Health National Heart, Lung, and Blood Institute Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies (U.S. Department of Health and Human Services, 2017). Qualitative studies were appraised using the Joanna Briggs Institute Critical Appraisal Checklist for Qualitative Research (Joanna Briggs Institute, 2016). Three researchers independently appraised the included studies, and consensus was reached for all quality appraisals. Study quality was scored good, fair, or poor based on criteria identified in quality assessment tools (Joanna Briggs Institute, 2016; U.S. Department of Health and Human Services, 2017).

Synthesis

From each study, we extracted data about study characteristics, facilitators, and barriers to optimal APRN practice environments. Next, using Eileen Lake's (2002) "practice environment" definition—"…the organizational characteristics of a work setting that facilitate or constrain professional nurse practice"—as a guide, we assessed for the presence of critical domains for a practice environment in each study. Critical domains of a nurse practice environment include autonomy, a quality-based philosophy of care, status of nursing (including organizational participation), recognition of expertise, professional development, and supportive/collaborative relationships with managers, physicians, and peers (Lake, 2007; Figure 1).

Results

The initial literature search yielded 366 studies. A search of study reference lists identified 20 additional studies. After removing 42 duplicates, two researchers screened the titles and abstracts of each study, applying the inclusion/exclusion criteria. A total of 313 records were removed for the following reasons: (a) the study did not focus on organizational factors that impact APRN practice environment (n = 129); (b) the study focused on practice environment of RNs, and not APRNs (n = 45); and (c) the article did not describe a research study (n = 129). Forty-one articles remained for full-text review. Next, 10 articles were excluded as they did not investigate APRN practice environment (e.g., focused on RN practice environment only), leaving 31 articles eligible for inclusion.

Study Characteristics

Studies were conducted in the United States (n = 25), Canada (i = 3), and the Netherlands (n = 2; Table 1). The majority of studies focused on the practice environment of NPs (n = 14) or NPs in combination with other clinicians (n = 5). Two studies identified its population generally as APRNs; one focused on family planning clinics (typically staffed by NPs and CNMs, but the study did not specify provider type), and another included all APRN types as well as physician assistants. Two studies focused on CRNA population, and five examined practice environments of CNS and NPs.

Twenty-six studies were quantitative, with 25 cross-sectional descriptive studies and one trend study design. Of the 26 quantitative studies, nine studies were appraised as good quality (Almost & Laschinger, 2002; Athey et al., 2016; Bae, 2016; Byers, Mays, & Mark, 1999; Chumbler, Geller, & Weier, 2000; Faris, Douglas, Maples, Berg, & Thrailkill, 2010; Laschinger et al., 2003; Lelli, Hickman, Savrin, & Peterson, 2015; Poghosyan, Liu, & Norful, 2017a). Sixteen studies received a fair quality rating due to low or undetermined response rates, use of a nonvalidated measure, and/or decreased generalizability (Brom, Melnyk, Szalacha, & Graham, 2016; Cheng, Kelly, Carlson, &

Figure 1

Organizational facilitators and barriers to optimal APRN practice environments

Studies	Year	Facilitators		Barriers			
		Increased autonomy	Positive APRN–physician relations	Restrictive APRN policy	Poor APRN–administrative relations	Poor APRN–physician relations	Lack of understanding of APRN role
Poghosyan, et al.	2017	X		X			X
Athey et al.	2016	X	X				
Bae	2016	X					
Brom et al.	2016	X			X		
Motley et al.	2016		X		X		
Poghosyan, et al.	2016b	X					
Poghosyan & Liu	2016a	X					
Lelli et al.	2015	X					
Poghosyan et al.	2015b	X					
Poghosyan & Aiken	2015a		X				
Doran et al.	2014		X				
Pasaron	2013	X	X				
Poghosyan, et al.	2013b	X	X				
Poghosyan, et al	2013a	X	X				
Pron	2013	X					
Meeusen et al.	2011b				X		
Meeusen et al.	2011a	X			X		
Faris et al.	2010	X		X			
Chevalier et al.	2006			X			X
Plager et al.	2006			X			X
Lindeke et al.	2005						X
Laschinger et al.	2003	X					
Almost et al	2002	X		X			
Freeborn et al.	2002	X					
Chumbler et al.	2000	X					
Byers et al.	1999	X					
Domine et al.	1998			X			X
Howard & Greiner	1997			X	X	X	X
Hupcey	1993					X	X

Note: Cheng et al. not included---study did not identify barriers and facilitators

Witt, 2014; Chevalier, Steinberg, & Lindeke, 2006; Domine, Siegal, Zicafoose, Antai-Otong, & Stone, 1998; Doran, Duffield, Rizk, Nahm, & Chu, 2014; Freeborn, Hooker, & Pope, 2002; Hupcey, 1993; Lindeke, Jukkala, & Tanner, 2005; Meeusen, Van Dam, Brown-Mahoney, Van Zundert, & Knape, 2011a, 2011b; Pasaron, 2013; Poghosyan & Aiken, 2015; Poghosyan & Liu, 2016; Poghosyan, Liu, Shang, & D'Aunno, 2017b; Poghosyan et al., 2015; Pron, 2013). One study received a poor rating for high risk of bias in the methodology and was subsequently removed from the synthesis (Hayden, Davies, & Clore, 1982). Of the five qualitative studies, two were rated as good quality (Poghosyan, Nannini, Smaldone, et al., 2013a; Poghosyan, Nannini, Stone, & Smaldone, 2013b), and three were rated as fair due to methodological issues, including the research question not matching the research method, lack of disclosure of researcher influence, or no documentation of institutional review board approval or informed consent (Howard & Grenier, 1997; Motley et al., 2016; Plager & Conger, 2007).

Major Findings

Organizational factors that affect APRN practice environment were categorized as facilitators of or barriers to APRN practice. Major organizational characteristics found to facilitate APRN practice environment were high levels of autonomy/independent practice and positive APRN–physician relations. Barriers to APRN practice environment reported in the literature were policy restrictions on APRN practice, poor APRN–administration relations, physician opposition to independent APRN practice free from physician oversight or supervision, lack of understanding of the APRN role, and lack of professional recognition. One study investigated practice environment through the lens of job design, and the findings could not be categorized into a facilitator/barrier schema (Cheng et al., 2014).

Facilitators to APRN Practice

Autonomy/independent practice. Across studies, APRNs reported moderately high (Lelli et al., 2015) to high levels of

		Table 1	
		Study characteristics	
Study	**n**	**Study focus**	**Quality**
Poghosyan, Liu, & Norful (2017a)	314	PCNP work environments effect on role	Good
Athey et al. (2016)	8,311	NP work setting, autonomy, job satisfaction	Good
Bae (2016)	9,010	NP satisfaction, work conditions	Good
Brom et al. (2016)	181	NP role perception, stress, satisfaction, and intent to stay	Fair
Motley et al. (2016)	39	APCs' perceptions of an ideal work environment	Fair
Poghosyan & Liu (2016)	314	PCNP autonomy, leadership, and NP–physician teamwork	Fair
Poghosyan, Liu, Shang, et al. (2017b)	314	PCNP practice environments, NP retention	Fair
Lelli et al. (2015)	310	PCNP autonomy, satisfaction in retail clinics and primary care	Good
Poghosyan et al. (2015)	569	PCNP organization, regulatory, and practice environments	Fair
Poghosyan & Aiken (2015)	592	PCNP roles and organizational characteristics in 2 states	Fair
Cheng et al. (2014)	406	Factors affecting APRNs intention to stay	Fair
Doran et al. (2014)*	359	RN, CNS, APRN demographics, work patterns, exit rates	Fair
Pasaron (2013)	39	NP, physician satisfaction, retention, recruitment	Fair
Poghosyan, Nannini, Stone, et al. (2013b)	23	PCNP roles, responsibilities, barriers, and facilitators	Good
Poghosyan, Nannini, Smaldone, et al. (2013a)	16	Organizational climate, PCNP professional practice	Good
Pron (2013)	99	NMHC characteristics, PCNP job satisfaction, autonomy	Fair
Meeusen et al. (2011a)**	923	CRNA work environment, satisfaction and intent to stay	Fair
Meeusen et al. (2011b)**	923	CRNA work climate, work characteristics, job satisfaction	Fair
Faris et al. (2010)	1,983	NP, CNS job satisfaction, and practice barriers in the VA	Good
Chevalier et al. (2006)	834	Practice barriers for mental health CNSs and NPs	Fair
Plager & Conger (2007)	30	Role differentiation among graduate CNS, NPs	Fair
Lindeke et al. (2005)	191	NP perceptions of barriers to rural practice	Fair
Laschinger et al. (2003)*	55	RN, ACNP autonomy, magnet status, and satisfaction	Good
Almost et al. (2002)*	117	PCNP workplace empowerment, collaboration with physicians and managers, job strain	Good
Freeborn et al. (2002)	747	PCNP, PA, physician practice environment, job satisfaction in a large HMO	Fair
Chumbler et al. (2000)	373	PCNP demographics, practice attributes, clinical decision-making, productivity	Good
Byers et al. (1999)	58	PCNP, PA, physician job satisfaction in Army clinics	Good
Domine et al. (1998)	1,816	A profile of NPs and CNSs and their practices in the VA	Fair
Howard et al. (1997)	341	Constraints, barriers to CNS and NP psychiatric practice	Fair
Hupcey (1993)	91	NP work settings in one state	Fair

Note. Studies are United States based, except those marked * (for Canada) and ** (for the Netherlands). APC = advanced practice clinician not specified; ACNP = acute care nurse practitioner; APRN = advanced practice registered nurse; CNS = clinical nurse specialist; CRNA = certified registered nurse anesthetist; HMO = health maintenance organization; NMHC = nurse-managed health center; NP = nurse practitioner; PA = physician assistant; PCNP = primary care nurse practitioner; RN = registered nurse; VA = Veteran's administration.

autonomy (Hupcey, 1993; Pron, 2013; Poghosyan & Liu, 2016; Poghosyan, Liu, & Norful, 2017a; Poghosyan, Liu, Shang, et al., 2017b) in their current positions. These studies were predominantly conducted in primary care ambulatory settings (Lelli et al., 2015; Pron, 2013; Poghosyan & Liu, 2016; Poghosyan, Liu, & Norful, 2017a; Poghosyan, Liu, Shang, et al., 2017b). Two studies found autonomy higher in primary care settings than in hospital-based surgical or acute care settings and lowest in hospital-based surgical specialty settings (Almost & Laschinger, 2002; Athey et al., 2016). APRNs reported being satisfied with the level of autonomy in their settings in six studies (Brom et al., 2016; Faris et al., 2010; Freeborn et al., 2002; Motley et al., 2016; Poghosyan, Liu, & Norful, 2017a; Pron, 2013). Factors that

increased autonomy included rural settings (Bae, 2016), increased tenure as an APRN (Chumbler et al., 2000; Faris et al., 2010), age (Faris et al., 2010), fewer on-site physicians, and family or multispecialty setting (Chumbler et al., 2000). Use of clinical guidelines increased APRN autonomy in an ambulatory study (Chumbler et al., 2000). One NP study reported a significantly higher level of autonomy/independent practice if participants had their own designated panel of patients (Poghosyan, Liu, & Norful, 2017a).

Increased autonomy/independent practice was associated with lower job strain (Almost & Laschinger, 2002), increased job satisfaction (Athey et al., 2016; Bae, 2016; Byers et al., 1999; Laschinger et al., 2003; Meeusen et al., 2011a; Pasaron, 2013), increased clinical productivity

(Chumbler et al., 2000), decreased intent to leave current position (Poghosyan, Liu, Shang, et al., 2017b), and increased teamwork (Poghosyan & Liu, 2016). However, one study found freedom to make decisions about work, a form of autonomy, was not a significant factor in satisfaction (Cheng et al., 2014). In one study, APRNs in a state with less restrictive APRN practice laws reported improved workplace autonomy over those in a state with more restrictive laws (Poghosyan et al., 2015). APRNs in another study reported high workplace autonomy despite state practice regulations (Poghosyan et al., 2013a).

Positive APRN–physician relations. Several studies reported positive relations with physician colleagues (Doran et al., 2014; Freeborn et al., 2002; Motley et al., 2016; Pasaron, 2013; Poghosyan & Liu, 2016; Poghosyan, Liu, & Norful, 2017a; Poghosyan, Liu, Shang, et al., 2017b; Poghosyan, Nannini, Smaldone, et al., 2013a; Poghosyan et al., 2015). Positive physician relations were linked to improved job satisfaction (Almost & Laschinger, 2002; Athey et al., 2016; Poghosyan, Liu, Shang, et al., 2017b) and lower intent to leave (Poghosyan, Liu, Shang, et al., 2017b). Positive physician relationships were more common in a state with less restrictive APRN practice laws (Poghosyan et al., 2015). Studies reporting positive relations with physicians were all published after 2013, involved mostly NP participants, and occurred chiefly in primary care settings (Poghosyan & Liu, 2016; Poghosyan, Liu, & Norful, 2017a; Poghosyan, Liu, Shang, et al., 2017b; Poghosyan, Nannini, Smaldone, et al., 2013a; Poghosyan et al., 2015). Other settings reporting positive physician relations included a hospital setting (Pasaron, 2013) and a health care network (Motley et al., 2016). APRN and physicians alike reported favorable relationships (Pasaron, 2013; Poghosyan, Nannini, Smaldone, et al., 2013a).

Barriers to APRN Practice

Policy restrictions on APRN practice. Whereas high autonomy/independent practice was reported to facilitate APRN practice in some studies, organizational policies that limit autonomy/independent practice have been reported as a barrier in others (Almost & Laschinger, 2002; Athey et al., 2016; Chevalier et al., 2006; Domine et al., 1998; Faris et al., 2010; Howard & Grenier, 1997; Hupcey, 1993; Pasaron, 2013; Plager & Conger, 2007; Poghosyan & Liu, 2016; Poghosyan, Liu, & Norful, 2017a; Poghosyan, Liu, Shang, et al., 2017b; Poghosyan, Nannini, Smaldone, et al., 2013a; Poghosyan et al., 2015). In particular, the inability to prescribe medications (Domine et al., 1998; Howard & Grenier, 1997; Hupcey, 1993) and admit patients to facilities (Domine et al., 1998; Howard & Grenier, 1997; Plager & Conger, 2007) and the need for physician cosignatures (Domine et al., 1998; Plager & Conger, 2007; Poghosyan, Nannini, Smaldone, et al., 2013a) constituted barriers to

APRN practice. Restrictions on autonomy were reportedly higher in acute care settings (Almost & Laschinger, 2002; Athey et al., 2016; Chumbler et al., 2000). Third-party reimbursement practices such as reimbursement restrictions on APRN care or reimbursing APRN care at a lower rate than physician colleagues performing similar activities (Howard & Grenier, 1997; Plager & Conger, 2007; Poghosyan, Nannini, Smaldone, et al., 2013a) affected autonomy/independent practice.

Lack of resources or support also restricted APRN practice (Howard & Greiner, 1997; Motley et al., 2016; Poghosyan et al., 2015), including lower funding (Hupcey, 1993), space (Lindeke et al., 2005), or resources preferentially supplied to physician colleagues (Poghosyan, Nannini, Stone, et al., 2013b; Poghosyan et al., 2015). Lack of a voice in governing structures (Athey et al., 2016; Motley et al., 2016; Poghosyan, Nannini, Smaldone, et al., 2013a) and insufficient time for patient care were also barriers to APRN practice (Hupcey, 1993; Plager & Conger, 2007; Poghosyan, Nannini, Stone, et al., 2013b).

Poor APRN–administration relations. Poor APRN–administration relationships were reported as a barrier to practice in several studies (Brom et al., 2016; Domine et al., 1998; Faris et al., 2010; Howard & Greiner, 1997; Hupcey, 1993; Meeusen et al., 2011a, 2011b; Motley et al., 2016; Pasaron, 2013; Poghosyan & Aiken, 2015; Poghosyan & Liu, 2016; Poghosyan, Liu, Shang, et al., 2017b; Poghosyan, Nannini, Smaldone, et al., 2013a). Lack of support from administration (Chevalier et al., 2006; Domine et al., 1998; Faris et al., 2010; Hupcey, 1993; Pasaron, 2013) and treating APRNs differently than physician colleagues despite similar functions (Poghosyan & Aiken, 2015; Poghosyan & Liu, 2016; Poghosyan, Nannini, Stone, et al., 2013b; Poghosyan et al., 2015) were commonly reported. Suboptimal relations with administrators led to decreased job satisfaction (Brom et al., 2016; Faris et al., 2010; Poghosyan, Liu, Shang, et al., 2017b). In one study, the inability to identify immediate supervisor was found to be disempowering (Motley et al., 2016).

Poor APRN–physician relations. The relationship with physicians was found to act as both facilitator and barrier to APRN practice (Chevalier et al., 2006; Hupcey, 1993; Poghosyan & Liu, 2016; Poghosyan, Liu, Shang, et al., 2017b; Poghosyan, Nannini, Smaldone, et al., 2013a; Poghosyan, Nannini, Stone, et al., 2013b; Poghosyan et al., 2015). Language such as lack of physician support (Brom et al., 2016; Faris et al., 2010; Howard & Greiner, 1997; Poghosyan, Nannini, Stone, et al., 2013b) and physician resistance to the APRN role (Chevalier et al., 2006; Hupcey, 1993) characterized physician relations that constituted a barrier to APRN practice. In addition, a lack of physicians willing to serve as an APRN's state-mandated collaborator was also identified as a barrier to APRN practice (Howard & Griener, 1997; Hupcey, 1993). Poor physician relations

were correlated with diminished scope of practice in one study of primary care NPs (Poghosyan, Nannini, Smaldone, et al., 2013a).

APRN role not well understood and lack of professional recognition. Lack of understanding of the APRN role was a consistent barrier to APRN practice across studies (Athey et al., 2016; Brom et al., 2016; Chevalier et al., 2006; Domine et al., 1998; Faris et al., 2010; Howard & Greiner, 1997; Hupcey, 1993; Lindeke et al., 2005; Pasaron, 2013; Plager & Conger, 2007; Poghosyan & Aiken, 2015; Poghosyan, Liu, Shang, et al., 2017b; Poghosyan, Nannini, Smaldone, et al., 2013a; Poghosyan, Nannini, Stone, et al., 2013b; Poghosyan et al., 2015). Coworkers and other health care professionals (Chevalier et al., 2006; Domine et al., 1998; Lindeke et al., 2005; Poghosyan, Nannini, Smaldone, et al., 2013a), physicians (Hupcey, 1993; Poghosyan, Nannini, Smaldone, et al., 2013a; Poghosyan, Nannini, Stone, et al., 2013b), administrators (Hupcey, 1993; Pasaron, 2013; Poghosyan & Aiken, 2015), and patients or the public (Chevalier et al., 2006; Plager & Conger, 2007; Poghosyan, Nannini, Smaldone, et al., 2013a; Poghosyan, Nannini, Stone, et al., 2013b) lacked understanding of the NP role. Primary care APRNs in a state with restricted scope of practice regulations were more likely to report lack of understanding of the APRN role compared to a state with less restrictive laws (Poghosyan et al., 2015). APRNs working in organizations with 10 or fewer APRNs reported less understanding of the role than those working in settings with greater than 10 APRNs (Poghosyan & Aiken, 2015).

The absence of professional recognition has been identified as an APRN practice barrier (Domine et al., 1998; Howard & Grenier, 1997; Motley et al., 2016; Poghosyan & Aiken, 2015; Poghosyan & Liu, 2016; Poghosyan, Nannini, Smaldone, et al., 2013a). Notably, the lack of promotion of the APRN role within the organization and, externally (e.g., promoting on website) (Poghosyan, Nannini, Smaldone, et al., 2013a), the inability of APRNs to be listed as provider of record or carry their own patient panel (Athey et al., 2016; Poghosyan & Liu, 2016; Poghosyan, Liu, & Norful, 2017a; Poghosyan, Nannini, Smaldone, et al., 2013a) and electronic health records that do not capture APRN care (Motley et al., 2016; Poghosyan, Nannini, Smaldone, et al., 2013a)—such practices not only render APRN care invisible (Poghosyan, Nannini, Smaldone, et al., 2013a; Poghosyan, Nannini, Stone, et al., 2013b) but also interfere with patient communication and ability to provide proper follow-up and limit patient choice of providers (Poghosyan, Nannini, Smaldone, et al., 2013a).

Discussion

This review synthesizes available literature about APRN practice environments and examines organizational-level facilitators and barriers to APRN practice through the lens of institutional theory. Increased APRN education, training, and enhanced professional standards are transforming normative systems and facilitating full deployment of APRNs in previously unrecognized advanced roles in health care delivery. The high autonomy/independent practice in ambulatory settings, the improvement of APRN–physician relations, and the movement of APRNs into acute care settings identified in this review are seen as harbingers of an improving APRN practice environment.

Despite advances in APRN roles, it is important to recognize that several organizational barriers, including historical institutions that maintain restrictive policies, still hinder APRN practice. Legislation regarding APRN practice varies from state to state, yet organizations often restrict APRNs beyond what is legally permitted by state law (Anen, & McElroy, 2015). Common restrictions involve the dependence on physicians for prescriptive and hospital admission capabilities, need for physician cosignatures, and inability to care for a panel of patients. These restrictions represent health care institutions that have not yielded to functional, political, and societal forces for change. Outside regulatory institutions such as state laws mandating physician oversight or prohibiting certain APRN activities (Faris et al., 2010; Howard & Greiner, 1997; Poghosyan & Aiken, 2015; Poghosyan et al., 2015), and third-party payer reluctance to reimburse organizations for APRN services (Howard & Greiner, 1997; Plager & Conger, 2007; Poghosyan, Nannini, Smaldone, et al., 2013a) continue to exert coercive influence to maintain status quo. As the United States moves toward value-based payment, functional, political, and societal forces will continue to exert pressure on these institutions that limit nonphysician care.

Per Lake's domains of professional nursing practice environments, several domains of APRN and RN practice environments overlap, including relationships with administrators, organizational participation, and recognition of expertise. However, there were additional domains of a practice environment found to be unique to APRNs, including organizational policies directed by outside forces including state legislation and third-party payers and lack of understanding regarding the APRN role. Considering the projected deficit of health care providers, this review raises concerns that organizational factors leading to poor practice environments may yield higher APRN turnover and result in difficulty with recruitment. Barriers to practice identified in this review contributed to lower job satisfaction (Brom et al., 2016; Meeusen et al., 2011a; Poghosyan, Liu, Shang, et al., 2017b) and increased intent to leave the current position (Cheng et al., 2014; Lelli et al., 2015; Meeusen et al., 2011a; Poghosyan, Liu, Shang, et al., 2017b), lending support to the concern that barriers to APRN practice environments may negatively impact APRN satisfaction and retention. The National Academy of Medicine identified decreased job satisfaction and turnover in health care workers as major concerns for decreased quality of care

and increased costs in the future (Dyrbye et al., 2017). Based on these considerations and the findings in our review, administrators should evaluate existing organizational policies that lead to poor APRN practice environments.

This recommendation is aligned with several studies that have encouraged organizations to increase APRN involvement in decision-making as a way to improve these work environments (Almost & Laschinger, 2002; Freeborn et al., 2002; Laschinger et al., 2003; Pasaron, 2013; Poghosyan, Nannini, Smaldone, et al., 2013a). Hospitals with bureaucratic, hierarchical power structures are prone to centralized decision-making with diminished nurse participation at executive levels (McGibbon et al., 2010). Evidence suggests that federal, state, professional, and market forces are exerting coercive pressure on hospitals, in particular, to decrease these outdated institutions (Scott, 2014). However, it is apparent from the findings of this review that institutions restricting APRN practice in health care remain. De-institutionalization of historical barriers to APRN practice has been linked to improved APRN job satisfaction and retention (Bae, 2016; Byers et al., 1999; Laschinger et al., 2003; Pasaron, 2013; Poghosyan, Liu, Shang, et al., 2017b) and increased clinical productivity (Chumbler et al., 2000) that will optimistically exert mimetic pressure across the industry in the future.

◼ Practice Implications

This review can serve as a guide for organizations interested in achieving the maximum benefit of a fully utilized, stable APRN workforce. The retention of APRNs through supporting positive APRN practice environments will help health care administrators effectively use all health care workforce resources to meet the demands of an aging and complex patient population, while managing the shift to value-based reimbursement (NCSBN, 2015). It has been suggested that market pressures are responsible for the shift from historically medical, physician-oriented health care institutions to systems that embrace APRN care delivery (Scott, 2014). Optimistically, the steadily increasing volume of APRNs will help meet anticipated increased health care demand (Association of American Medical Colleges, 2017). However, attention to organizational attributes that promote APRN practice environment is required to adequately support and sustain this vital labor force. Resolving organizational and interprofessional ambivalence and confusion regarding APRNs could contribute to more efficient use of APRNs.

Future studies are recommended to identify supportive internal policies that reduce APRN practice barriers in their organizations, specifically in the areas of prescriptive authority, admitting privileges, requirement for physician cosignature on orders, and policies regarding APRN patient panels. A great variation in APRN policies exists within and between organizations, even within the same

state (Anen & McElroy, 2015). These policy variations are often the result of organizational policies (institutions) that inhibit the efficient use of APRNs.

Furthermore, results of this review suggest that APRN–physician and APRN–administration relations can profoundly affect APRN practice environment. Structures and processes that promote positive physician–APRN comanagement of patients, including provider communication, mutual respect and trust, and clinical alignment have been encouraged in previous studies (Norful, deJarq, Carlino, & Poghosyan, 2018; Norful, Swords, Marichal, Cho, & Poghosyan, 2017). We recommend administrators make efforts to expand their knowledge of APRN capabilities, improve communication lines between APRNs and physicians, and include APRN participation at decision-making levels in the organization. APRNs are increasingly being called upon to improve efficiency and effectiveness of U.S. health care (Anen & McElroy, 2015). It is incumbent upon organizational administrators to stay abreast of evolving APRN practice abilities to derive maximal benefits from their use. This review also reveals the underrepresentation of CRNAs, CNSs, and CNMs in studies investigating APRN practice environments. Future research should focus on these types of APRNs to understand how to optimize their practice environment and best use them across settings.

Limitations

There are limitations to this review. The sheer number of terms applicable to practice environment makes literature detection difficult. To mitigate this limitation, multiple search terms were employed along with several literature search strategies. A second limitation was the inclusion of only articles published in English. In addition, the APRN search strategy utilized terminology consistent with NCSBN consensus model language, which could bias the review to U.S. studies. An additional limitation concerns the fair data quality of the majority of studies in this review due to descriptive cross-sectional designs. Critics have raised concerns over this problem in nursing practice environment research at large, with calls for more rigorous study designs investigating causal mechanisms (Norman, 2013). Future studies should investigate what relationship APRN practice environment has on patient outcomes and whether intervening factors play a role in this relationship.

Conclusion

This integrative review revealed several facilitators of and barriers to positive APRN practice environments. Evidence surrounding APRN practice environments has steadily increased, and this review acknowledges the influence of relations with physicians and administration, the importance of knowledge of the APRN role, and organizational-level policies that may hinder or restrict APRN practice. Efforts

to promote a positive APRN practice environment, especially through organizational policy reform, are recommended to efficiently and effectively utilize this increasingly vital workforce.

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