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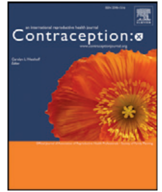
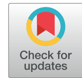


Sexual and reproductive health content in nurse practitioner transition to practice training programs



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ABSTRACT

Objective: To describe the sexual and reproductive health (SRH) offerings of transition to practice training programs for certified primary care nurse practitioners in the United States.
Study design: Program Directors from all identified primary care training programs ($n = 51$) were invited to participate in an online survey to assess the SRH didactic and clinical offerings based on competencies developed by the World Health Organization and adapted for the US across 15 domains and 15 related procedures.
Results: Twenty-two (43%) surveys were completed. There was considerable variation in offerings, with no single domain required by all programs, nor any program requiring trainees to complete didactic and clinical offerings in all domains. On average, programs required didactic and clinical training for approximately a third of the competencies in the Reproductive Tract Cancers domain (the most required domain) and for approximately a quarter of the competencies in the Contraceptive domain. Infertility/Fertility and Environmental Risks to Reproductive Health were the least commonly required domains. Clinical training tended to be more frequently required or offered than didactic instruction in almost all domains.
Regarding procedures, both didactic and clinical training on insertion and removal of intrauterine devices were required by one third of programs. No-scalpel vasectomy was the procedure in which programs were least likely to offer trainees either didactic or clinical training, followed by uterine aspiration for missed or elective abortion or heavy menstrual bleeding.
Conclusion: Although SRH is recognized as an essential component of primary care, its inclusion in transition to practice primary care training programs for NPs is low and inconsistent.
Implications statement: Preparing primary care NPs to deliver competent SRH care is important for workforce development and patient care. Our study highlights a need for additional research to determine the baseline competency in SRH care among primary care NPs in order to further enhance education, training and policies with this aim.
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1. Introduction

Nurse practitioners (NPs) are an increasingly important sector of the health care workforce in the United States (US). Most of the nation's 248,000 NPs (86.6%) are prepared to provide primary care [1]. In 2016, over one quarter of providers in rural primary care practices were NPs, and NPs comprised nearly as much of the primary care workforce in non-rural settings [2]. To obtain licensure, NPs must complete an accredited graduate level education program and pass a national certification exam specific to the population foci for which they have been prepared (Family, Pediatrics, Psychiatric Mental Health, Women's Health, Neonatal, or Adult/Gerontology) [3]. Curricula of NP education programs are based on nationally-established core competencies, as well as detailed competencies specific to each population foci.

Transition to practice after graduation is a recognized challenge for primary care NPs, especially those entering practice in underserved communities [4]. The National Academies of Science has recommended the creation and financing of postgraduate training programs (training programs),[1] such as Nurse Residencies [5]. Community Health Center, Inc. (CHCI) established the first such training program for primary care NPs in 2007, which has served as a model for others. The organization recently published a guide that describes their model, which includes both formal didactic sessions and mentored clinical rotations [6]. By 2016, approximately 51 primary care training programs were in operation across the US. Though not required for entry into practice,

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[1] Hereafter collectively referred to as training programs.

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training programs are increasingly popular [7] and current demand is greater than capacity [6]. Voluntary national accreditation for training programs include a broad set of trainee competencies, however, evidence of improved outcomes among participants of training programs is limited [8].

Sexual and reproductive health (SRH) care is an essential component of primary care [9]. In 2011, the World Health Organization (WHO) issued core SRH competencies with the intent that these would be adapted by individual countries to enhance delivery of SRH care [9]. Though broad interprofessional SRH competencies were subsequently developed for the US [10], these have yet to be widely disseminated or empirically tested. A systematic review of literature from 1990 to 2016 found limited evidence of SRH care content in pre-licensure nursing education [11]; medical school curricula have similar deficiencies [12]. Little has been published about SRH didactic and clinical offerings among NP education or transition to practice programs for primary care NPs [13]. While the model developed by CHCI includes a number of didactic sessions on SRH-related topics (i.e. Sexually Transmitted Infections, Contraception, and Interpreting Pap Smears) and clinical rotations in Women's Health, it is not clear if other training programs offer similar opportunities for their trainees.

We used the SRH competencies developed by WHO and tailored for the US as a framework to assess the offerings and requirements of extant training programs, and to identify gaps in training. This study began as a needs assessment, but because of the dearth of research in this area, the findings were felt to be useful to future efforts to build workforce capacity in SRH care broadly, and among primary care NPs who participate in transition to practice training programs, which comprise a fast-growing subset with high potential for leadership.

2. Methods

Following human subjects review, in November 2016 we emailed program directors of all extant primary care training programs ($n = 51$) an invitation to participate in an online survey or forward the invitation to a designee. We contacted potential participants via email three more times and attempted to reach each non-responder by phone on two occasions. Data collection ended in June 2017. All participants were asked "Does your program currently include didactic content or clinical opportunities in the following areas?" for 15 domains encompassing 45 items based on the SRH competencies (Table 1). We also queried respondents about training program requirements and offerings for 15 SRH-related procedures, included because of their relevance to the WHO and US-adapted competencies. Self-reported categories of inclusion were "required," "optional," or "not offered." We combined categories into both clinical and didactic required, clinical offered or required, didactic offered or required, and either clinical or didactic offered (Table 3). For those domains with multiple competencies, we averaged the proportion of competencies required and/or offered across programs. For those domains with one competency, we report the proportion of programs offering and/or requiring. By grouping the data in this way, we could consider comprehensiveness of offerings and requirements (proportion of competencies) across a continuum (both clinical and didactic required to either clinical or didactic offered).

3. Results

Program directors or their designees completed 22 surveys (43%) (Table 2). We used addresses to determine that the 51 programs were in 21 states largely concentrated on the coasts. Sites included a mix of urban and rural settings, Federally-Qualified Health Centers (FQHCs), FQHC-"Look-alikes,"[2] Veteran's Administration Center of Excellence in Primary Care Centers, and other ambulatory clinics where primary care was delivered. Nine programs reported the host clinical agency received Title X funding, and of those, eight reported trainees delivered services supported by this program. The 22 responding programs were in 14 states (CA, CO, CT, HI, ID, IL, IN, MA, NY, RI, SC, VA, WA), and included a mix of urban and rural settings and types of service delivery sites. All respondents reported trainees in their programs received a total of at least 2 h/wk (range 2–8 h) of formal didactic content on a variety of topics. Twenty-one of the 22 programs required trainees to complete specialty rotations (e.g. Dermatology), and 19 included "Women's Health" among these offerings. Information about the training offerings of non-responding programs were not readily available.

Survey responses showed considerable variation in didactic and clinical requirements and offerings. In none of the domains did all programs require clinical and didactic training for all competencies. The most commonly required domain was Reproductive Tract Cancers. On average, programs required both clinical and didactic training for 35.4% of the competencies in this domain. Comparatively, programs required both clinical and didactic education for only 23% of the competencies in the domain of Contraception. The least commonly required domains were Infertility/Fertility (6% of competencies, on average) and Environmental Risks to Reproductive Health (4% of programs). Across all domains, clinical training tended to be more frequently required or offered than didactic instruction, except for male genitourinary conditions (Table 3).

Regarding procedures, insertion and removal of intrauterine devices (IUDs) was the most frequently reported to have both didactic and clinical requirements (33%), and most programs (91.3%) offered trainees at least one or the other learning approach (didactic or clinical). Subdermal contraception insertion and removal was the next most commonly required procedure (29.1%). In contrast, none of the programs required both didactic and clinical training in no-scalpel vasectomy, intrauterine insemination, or uterine aspiration (for miscarriage, elective abortion or heavy uterine bleeding).

4. Discussion

This study of US programs training certified NPs in primary care found considerable variation in the requirements and offerings related to SRH. All training programs that responded to our request for information offer at least some formal didactic and clinical training in SRH care, however, no program had requirements and offerings that would allow comprehensive training. Of the 15 domains, none were required didactic and clinical offerings across all training programs. Even for the most commonly required domain, Reproductive Tract Cancers, only slightly more than one third of the comprising competencies were required on average, suggesting that SRH care is not a priority for programs overall. While it is possible this is because trainees enter training programs with a high baseline level of knowledge and skill in SRH care, this seems unlikely based on our experience teaching and working with national NP education organizations. Factors reported to impede inclusion of SRH content in nursing education - time constraints, lack of curricular resources and competing demands with other curricular priorities [13] - may be at play in training programs as well. The fragmentation of SRH care in the US may also be a barrier for training programs, as these services are often delivered outside of regular primary care settings. Without baseline data about SRH offerings of NP education programs or students' competence in SRH care upon graduation, it is not possible to fully interpret our findings.

The low level of didactic and clinical training offerings in reproductive health-related genetic screening we found are consistent with recognized challenges in disseminating genomic medicine among health care providers [14]. Primary care NPs are a critical link for patients to genetic counseling and screening. Ensuring their competence in this dynamic field is particularly pertinent to SRH care.

[2] An FQHC "Look-Alike" is an organization that meets eligibility requirements for a Public Health Service Section 330 grant, but does not actually receive grant funding.

Table 1
Sexual and reproductive health domains and competencies included in survey of primary care nurse practitioner transition to practice training programs in the US

Domain	Competency
Sexual Health Promotion and Assessment (7 items)	*Taking a sexual history*
	Screening for sexual health concerns
	Counseling to promote sexual health & well-being across the lifespan
	Education & counseling regarding safer sex practices
	Assessing, managing and referring as needed for sexual concerns
	Sexual & reproductive care that is sensitive to the needs of vulnerable populations
	Sexual & reproductive care that meets the needs of lesbian, gay, bisexual, queer/questioning & transgender patients (refer as needed)
	Assessing for eligibility, prescribing & managing hormone therapy for transgender patients
Sexual/Intimate Partner Violence (3 items)	*Screening & assessing patients who have experienced sexual coercion, violence, abuse or exploitation*
	Providing counseling &/or referrals for patients who have experienced sexual coercion, violence, abuse or exploitation
	Knowing relevant state & federal laws regarding intimate partner &/or sexual violence
Contraception (6 items)	*Providing patient centered contraceptive counseling & determining eligibility for all contraceptive methods including:*
	a. Across the lifespan
	b. Among individuals from vulnerable populations
	c. Following abortion
	Provide & manage all forms of contraception
	Managing patients with complex medical &/or social needs related to contraception
	Managing patients with complex contraceptive requirements secondary to method complications or failure
Pregnancy-related Care (14 items)	*Screening for pregnancy intention*
	Providing preconception care
	*Detecting pregnancy by using/applying diagnostics appropriately (*i.e. *urine/blood testing, ultrasound, pelvic examination/uterine sizing)*
	Providing patient-centered pregnancy options counseling (including parenting, adoption, abortion)
	Providing routine antenatal care (referring for complications)
	Providing sexual & reproductive health care to postpartum patients
	Medication management of spontaneous abortion
	Expectant management of spontaneous abortion
	Uterine aspiration for spontaneous abortion
	Ectopic pregnancy
	Molar pregnancy
	Providing abortion screening, counseling, referrals, & aftercare
	Providing medication abortion
	Knowing relevant federal & state laws
Fertility/Infertility (2 items)	*Providing care for patients with fertility concerns including assessment of subfertility, appropriate use of infertility diagnostics & referral*
	Knowing relevant state laws & insurance policies regarding infertility diagnostics & treatments
Common/Benign GYN Conditions (1 item)	*Diagnosing and managing simple/common gynecologic problems across the lifespan*
Reproductive Tract/Sexually Transmitted Infections (1 item)	*Providing screening, diagnostic testing & treatment for reproductive tract/sexually transmitted infections*
Reproductive Tract Cancers (5 items)	*Applying cervical CA screening guidelines*
	Managing abnormal pap smear results including referring for treatment
	Providing patient-centered counseling regarding breast cancer screening recommendations
	Interpreting mammogram results, communicating results to patient, & referring for follow up as needed
	Identifying patients at increased risk for other female reproductive tract (RT) cancers & providing counseling, appropriate surveillance & referrals
Uro-Gynecologic/Pelvic Floor Disorders (1 item)	*Screening for, assessing & managing uro-gynecologic & pelvic floor problems, & referring as needed*
Genito-Urinary Conditions of Men (GUM) (1 item)	*Assessing, diagnosing, and managing common/uncomplicated genito-urinary conditions in men, and referring as needed*
Peri- and Post-Menopausal Care (1 item)	*Assessing, diagnosing, counseling & managing concerns of peri- & post-menopausal women, and referring as needed*
Genetic Screening (1 item)	*Providing counseling and/or referral for reproductive health-related genetic screening*
Environmental Health (1 item)	*Assessing for and providing counseling regarding environmental risk factors that affect reproductive health*
Ethics (1 item)	(As related to SRH)

Table 2
Characteristics of respondent transition to practice training programs for primary care nurse practitioners (*n* = 22 out of 51 extant programs)

Characteristic	n (%)
Service delivery model	
Federally qualified health center (FQHC)	14 (61)
FQHC "look-alike"	2 (9)
Other ambulatory health center	7 (30)
Location	
Urban	13 (50)
Suburban	8 (31)
Rural	5 (19)
Primary payor source	
Medicaid	14 (66)
Medicare	2 (10)
Private insurance	1 (5)
Other	4 (19)

Our finding that the procedure most commonly required by training programs was IUD insertion mirrors efforts to increase access to this method through training primary care physicians [15]. In contrast, the limited number of programs offering uterine aspiration for spontaneous or elective abortion suggests unrealized potential to train a pool of providers who could expand access [16]. Our finding that clinical training was generally required or offered more than didactic sessions may reflect the limited resources available to support these programs. Future funding for NP residencies could lead to increased didactic offerings within training programs [17].

Limitations of our study include the low response rate, small sample size, and use of self-report without objective verification of responses. We recognize that program directors may not know details about trainees' clinical learning experiences within mentored clinics, especially specialty rotations such as Women's Health. Furthermore, while we do not have reason to think the SRH offerings of responding training programs are greatly different than those that did not, we cannot make this claim with confidence. While our study offers a glimpse into an

Table 3
Didactic and clinical requirements and offerings by SRH domain or procedure among transition to practice training programs for primary care nurse practitioners in the US ($n = 22$ out of 51 extant programs).

Does your program currently include didactic content or clinical opportunities in the following areas?				
	Both required	Didactic offered or required	Clinical offered or required	Either offered
Average among competencies within domain				
Domains				
Sexual Health Promotion and Assessment (8 items)	18.8%	42.2%	59.9%	91.7%
Sexual/Intimate Partner Violence (3 items)	9.7%	45.8%	50.0%	87.5%
Contraception (6 items)	22.9%	44.4%	59.7%	86.8%
Pregnancy-related Care (14 items)	19.6%	37.2%	54.8%	89.0%
Fertility/Infertility (2 items)	6.3%	22.9%	45.8%	81.3%
Common/Benign GYN Conditions (1 item)	33.3%	62.5%	70.8%	100.0%
Reproductive Tract/Sexually Transmitted Infections (1 item)	33.3%	62.5%	70.8%	100.0%
Reproductive Tract Cancers (5 items)	35.4%	55.6%	67.4%	97.2%
Uro-Gynecologic/Pelvic Floor Disorders (1 item)	12.5%	41.7%	62.5%	91.7%
Genito-Urinary Conditions of Men (GUM) (1 item)	29.2%	50.0%	45.8%	83.3%
Peri- and Post-Menopausal Care (1 item)	29.2%	54.2%	70.8%	100.0%
Genetic Screening (1 item)	12.5%	33.3%	37.5%	70.8%
Environmental Health (1 item)	4.2%	20.8%	33.3%	66.7%
Ethics (1 item)	29.2%	41.7%	54.2%	91.7%
Procedures				
Endometrial biopsy	16.7%	25%	60%	91.7%
Vulvar biopsy	12.5%	25%	55%	91.7%
Intrauterine insemination	0.0%	10%	20%	70.9%
Ultrasound				
A) Transvaginal	0.0%	25%	45%	87.5%
B) Transabdominal	0.0%	25%	50%	87.5%
Intrauterine contraception device insertion/removal	33.3%	40%	70%	91.7%
Subdermal contraceptive implant insertion/removal	29.1%	35%	55%	83.3%
Colposcopy	4.2%	15%	45%	75.0%
Uterine aspiration for missed abortion	0.0%	10%	15%	58.3%
Uterine aspiration for elective abortion	0.0%	10%	15%	58.3%
Uterine aspiration for heavy menstrual bleeding	0.0%	10%	20%	58.3%
Incision/drainage of Bartholin's cyst	8.3%	25%	55%	87.5%
Loop electrosurgical excision procedure (LEEP)	0.0%	10%	25%	66.7%
Anoscopy	4.2%	15%	45%	75.0%
No-scalpel vasectomy	0.0%	5%	10%	54.2%
Vaginal microscopy	16.7%	25$%	60%	87.5%

emerging approach to address challenges in transition to practice and retention within the primary care NP workforce, it also reveals the need for further research in several areas. First, identifying enablers and barriers to training across SRH domains could inform future efforts to address gaps. Second, based on our study, we assert SRH care should be included as part of a larger call to measure outcomes among program trainees [18]. Finally, since the number of NPs who participate in training programs is only a fraction of those who graduate each year, investigation of clinical and didactic offerings of education programs and students' competence in SRH care upon graduation could help prepare the broader primary care NP workforce, and provide evidence to support policies with this aim.

Threats to Title X and Planned Parenthood [19] as well as documented political interference in health professions education programs [20] lend new urgency to calls to ensure that primary care providers in the US deliver competent SRH care. Our study found inconsistent and incomplete incorporation of SRH competencies in transition to practice primary care NP training programs. Further research is needed to gauge the learning needs and outcomes of this growing sector of the health workforce in providing competent SRH care to patients.

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