

# Supporting Nurse Practitioner Preceptor Development

Angela F. Bazzell, MSN, FNP-BC, and Joyce E. Dains, DrPH, FNP-BC

## ABSTRACT

Increases in the number of nurse practitioners (NPs) completing their educational programs create a challenge for universities as well as health care organizations. More clinical preceptors are needed to support students and new professionals transitioning to clinical practice. Although preceptors are critical in the evolution from new NP to competent provider, there is a lack of information available to NP preceptors related to developing effective clinical teaching skills. This comprehensive literature review evaluates current, evidence-based strategies for preceptor development. The findings in the literature show improvement in clinical reasoning when structured preceptor methods are incorporated into clinical practice.

**Keywords:** advanced practice nurse, new nurse practitioner, novice nurse practitioner, nurse practitioner, precepting, preceptor education, preceptor training

© 2017 Elsevier Inc. All rights reserved.

Nurse practitioners (NPs) play a key role in the delivery of health care, blending nursing and medicine.<sup>1</sup> Approximately 20,000 NPs completed their educational programs and transitioned to practice in 2014 to 2015.<sup>2</sup> Although the transition period for new NPs begins in graduate programs, much of the expertise and skills are developed in their first professional position.

Preceptors play a key role in the evolution from new NP to competent provider. Preceptors may influence the success and role satisfaction of new NPs as well as their intent to stay in their current position. However, in busy clinical environments, patient care always takes priority over teaching.<sup>3</sup>

The implementation of clinical teaching strategies for NP preceptors that identify tools for effective teaching in busy clinical environments is needed to meet the needs of new NP professionals. NP preceptor training could provide the necessary tools to help bridge the gap between educational preparation and clinical practice for novice NPs in their first professional role.

## SCOPE OF THE PROBLEM

The first year of professional practice is a period of accelerated growth and development in which NPs learn new skills, increase their knowledge, and evolve

into their new role. A survey of NPs in 2004 found only 10% of new professionals felt “very well prepared”<sup>4</sup> for practice after completing their educational program, and 51% felt “they were only somewhat or only minimally prepared”<sup>4</sup> for practice.

Brown and Olshansky<sup>5</sup> have identified 4 categories of transition that NPs experience during their first year of professional practice: laying the foundation, launching, meeting the challenge, and broadening the perspective. Moving from the protection of an educational environment to the first professional NP position, or launching, is considered the most difficult part of the first year of practice. Productivity expectations, feeling like an imposter, dealing with anxiety, and developing organizational and problem-solving skills are some of the stressors faced by new professionals.<sup>5</sup>

One of the factors identified as being essential to the transition of new NPs is collaborative practice.<sup>6</sup> Working with providers who can assist in clinical decision making and serve as an organizational guide, who have an understanding of the NP role, and who are aware of the challenges of the novice NP may positively influence role transition. Learners may not know what skills are necessary to master their new role and may need assistance navigating the transition process.<sup>7</sup> Preceptorship addresses many of these practice needs.

Preceptorship is a 1-to-1 relationship between a novice NP and an experienced provider that offers learning opportunities and supports the role transition of the novice.<sup>8</sup> The preceptorship model in nursing began in the 1970s to help new graduate nurses transition from their educational programs to their first professional nursing jobs.<sup>9</sup> Skillful, competent preceptors are not only subject matter experts but can also demonstrate clinical judgment and facilitate knowledge acquisition to learners.<sup>10</sup>

Many organizations have programs that support preceptor education for registered nurses. The programs are based on research that shows better outcomes for new graduates with preceptor development initiatives.<sup>11,12</sup> The National Council of State Boards of Nursing's Transition to Practice Study identified that preceptors who are educated for the preceptor role are associated with effective transition to practice programs.<sup>13</sup>

Although the literature supports preceptor development programs to teach preceptors how to be effective in their role, there are few organizational resources available for NP preceptors working with NP students or NPs in their first professional role. The 1999 American Association of Nurse Practitioners Preceptor and Faculty Survey found 95% of preceptors surveyed would probably or definitely attend preceptor development programs if available.<sup>14</sup>

As practice-based teaching and accreditation requirements evolve, there is a greater emphasis on the role of the preceptor and preceptor development in all health professions.<sup>15</sup> Given the number of new NPs entering the workforce every year, these findings validate the need for evidence-based clinical teaching initiatives for NP preceptors.

## METHODS

A comprehensive review of the literature was conducted to gather peer-reviewed evidence on preceptor development interventions. The electronic databases searched included PubMed, Scopus, Cochrane Library, and the Cumulative Index to Nursing and Allied Health Literature with the following search terms applied: nurse practitioner preceptor(s), NP preceptor, preceptor training AND nursing, advanced practice nurse preceptor, APN

preceptor, nurse practitioner role transition, one minute preceptor AND nurse, novice nurse practitioner, novice advanced practice nurse, new nurse practitioner, transition to practice AND nurse practitioner, one minute preceptor, NP AND preceptorship methods, nurse practitioner AND preceptorship methods, nurse practitioner AND on the job training AND preceptor, and preceptorship AND nurse practitioner. The Medical Subject Heading terms used were preceptorship/organization and administration, preceptorship/methods, attitudes of health personnel, and nurse practitioners/education. A secondary review of references for relevancy and systematic reviews or meta-analyses to identify additional primary sources were included.

Multiple inclusion and exclusion criteria were applied. Research articles published after January 1, 2000, and before March 1, 2016, in English and related to studies of humans were included. Studies conducted outside of North America were excluded related to differences in education, practice standards, and laws. Research studies addressing registered nurse preceptorship models were excluded related to the role, scope of practice, and learning needs of NPs in clinical practice. Posters, abstracts, and oral abstracts were excluded. Studies focused on preceptor education models for simulation and online education were beyond the scope of this review and were excluded. A comprehensive search of the literature for graduate NP preceptor guidelines was also included in the review.

Two thousand seven hundred eighty-nine full-text articles were initially identified. After applying the inclusion and exclusion criteria, 176 full-text articles remained, including 12 articles retrieved from the reference list review. Many of the articles excluded focused on barriers and facilitators for preceptors, preceptee satisfaction, and roles/characteristics of effective preceptors. A review of the remaining articles found 9 articles met the inclusion and exclusion criteria for preceptor development interventions. No research articles were found that addressed precepting NPs; therefore, precepting models from medicine and pharmacy were examined for this review because the transitions in these disciplines are similar to those experienced by NPs.

## REVIEW OF THE EVIDENCE

### Guidelines

There are no published guidelines for preceptors working with novice NPs. There are established guidelines for clinical preceptors working with NP students in the academic setting. The report by the National Task Force on Quality Nurse Practitioner Education titled “Criteria for Evaluation of Nurse Practitioner Programs” states, “Each preceptor must have educational preparation or extensive clinical experience in the clinical or content area in which he/she is teaching or providing clinical supervision.”<sup>16</sup> Extensive clinical experience in the content area is viewed as a substitute for educational preparation.

The Commission on Collegiate Nursing Education Standards for Accreditation of Baccalaureate and Graduate Nursing Programs states, “Preceptors, when used by the program as an extension of faculty, are academically and experientially qualified for their role in assisting in the achievement of the mission, goals, and expected student outcomes.”<sup>17</sup> The term *experientially qualified*<sup>17</sup> is subjective, and each academic program determines the meaning.

### Preceptor Models

Preceptor models identified in the literature for this review included a Web-based resource for all health professionals, the One-Minute Preceptor (OMP) learning model, and the SNAPPS 6-step technique for case presentations. There were references in the literature to the Aunt Minnie method and think-aloud approach; however, no research articles on these methods were found using the inclusion and exclusion criteria.

**E-tips.** Kassam et al<sup>18</sup> developed a Web-based preceptor education resource for health care professionals. A needs assessment survey of over 500 health profession preceptors was conducted and included preceptors from 10 different health professions, including nursing.<sup>18</sup> The preceptor education model was designed to be an interprofessional resource readily accessible to preceptors related to the Web-based format. The preceptor model contains 8 modules incorporating different teaching strategies, including the OMP, and

allows users to view videos, take quizzes, and complete self-reflection exercises.<sup>18</sup>

**The OMP.** The OMP was developed by the Department of Family Medicine at the University of Washington, Seattle, WA, in 1992. The OMP is a 5-step model of clinical teaching that is applicable across a wide range of clinical settings. The OMP has been used in orienting new nurses and was found to be useful to new and experienced nursing preceptors.<sup>19</sup>

The 5 microskills outlined in the OMP are get a commitment, probe for supporting evidence, teach general rules, reinforce what was done right, and correct mistakes.<sup>20</sup> The preceptor encourages the learner to make a commitment to a diagnosis in the first step, demonstrating the learner is using clinical reasoning skills to process the information. After the learner makes a commitment to a diagnosis, the preceptor questions the learner on the reasoning for the diagnosis or probes for supporting evidence. This process allows reflection for the learner.<sup>20</sup> Teaching general rules is an opportunity for the preceptor to address mistakes identified in the presentation. Providing positive feedback reinforces what was done right in the clinical situation. Correcting mistakes is the last step and allows time for the learner to critique his or her performance. According to Neher et al,<sup>20</sup> mistakes should be framed as *not best*<sup>20</sup> instead of *bad*.<sup>20</sup>

**SNAPPS.** The SNAPPS mnemonic is a precepting model developed for outpatient education; however, it has been used for inpatient precepting also. SNAPPS consists of 6 steps: summarize the history and physical findings, narrow the differential to 2 or 3 relevant possibilities, analyze the differential by comparing and contrasting, probe the preceptor by asking questions about uncertainties, plan management of the patient, and select issues related to the case and follow up with reading focused on the issues that require clarification.<sup>21</sup> According to Wolpaw et al,<sup>21</sup> SNAPPS is a learner-driven precepting approach that encourages thinking and reasoning.

## RESULTS

In reviewing the research articles included in this review, 4 themes emerged as measurement variables in the studies. Synthesis of the intervention results is

organized by the following themes: student evaluation of models, preceptor evaluation of models, improvements/changes in teaching behavior, and student learning outcomes.

### Student Evaluation of Models

Three of the studies identified in the literature assessed student evaluation of the preceptor model. All of the studies examined student preference of the OMP preceptor model. Table 1 illustrates the impact of the OMP on student evaluation of preceptor models.

Third- and fourth-year medical students at 2 medical schools were surveyed by Teherani et al<sup>22</sup> to evaluate the impact of the OMP compared with traditional precepting methods on teaching points and overall preference. The authors describe traditional methods such as the use of case presentations and discussions to verify findings and learning approaches in which the preceptor acts as the expert and provides little instruction to learners.<sup>22</sup> Students viewed 2 videotaped precepting encounters, an OMP encounter and a traditional precepting method. Participants used a 5-point Likert scale to determine teaching points and overall effectiveness of the encounter.<sup>22</sup> The OMP precepting model was preferred by the students (mean = 4.52,  $P = .001$ ) compared with the traditional method (mean = 2.64).<sup>22</sup>

Eckstrom et al<sup>23</sup> developed a questionnaire to measure the effectiveness of an OMP faculty workshop. Sixty-eight internal medicine preceptors participated, 44 in a control group and 24 in the intervention group.<sup>23</sup> Preceptors completed pre- and post-self-evaluation surveys of their skills using the OMP. Residents completed anonymous evaluations of the preceptors every 6 months for 2 years using a scoring system from 1 to 4 in which 1 = almost never and 4 = most or all of the time. In testing the questionnaire, residents rated preceptors who completed the OMP workshop as superior in 2 of the 5 microskills of OMP, get a commitment (mean = 3.85,  $P = .03$ ) and give positive reinforcement (mean = 3.42,  $P = .02$ ).<sup>23</sup> Resident evaluations of the OMP-trained faculty showed improvement in 4 of the 5 microskills; however, the findings did not reach statistical significance.<sup>23</sup>

The only randomized controlled trial of any of the precepting methods identified in the literature was completed by Furney et al.<sup>24</sup> Fifty-seven residents on

inpatient units at 2 institutions participated in the study, with 28 participants in the intervention group and 29 participants in the control group. The intervention group met for 1-hour monthly sessions; the OMP model was discussed, and pocket reminder cards were provided to reinforce the OMP model. Furney et al<sup>24</sup> surveyed medical students on the residents' teaching skills using a 14-item scale encompassing 5 domains of the OMP method: commit, probe, rules, feedback, and overall evaluation. Based on a 5-point rating scale, the residents in the intervention group showed statistically significant improvements ( $P \leq .05$ ) of at least 1 item in all domains except "teaching general rules" (premean = 3.73, postmean = 4.02;  $P = .10$ ).<sup>24</sup>

### Preceptor Evaluation of Models

Kassam et al,<sup>18</sup> Aagaard et al,<sup>25</sup> and Furney et al<sup>24</sup> included preceptor evaluation of the precepting models in their studies. As Table 1 indicates, preceptors reported structured preceptor methods applicable and effective to their role.

E-tips, an interprofessional Web-based preceptor education resource incorporating different teaching strategies, was developed by Kassam et al.<sup>18</sup> Ninety preceptors from 10 health disciplines evaluated 1 or more of the 8 modules included in the model.<sup>18</sup> Using a 5-point scale, 95.5% of the preceptors rated the modules as very applicable or extremely applicable, and all respondents stated they would recommend the modules to colleagues.<sup>18</sup>

Traditional preceptor models were compared with the OMP by Aagaard et al<sup>25</sup> to evaluate the preceptors' ability to correctly diagnose and rate students and preceptor satisfaction with both models. The authors describe the traditional preceptor model as one in which preceptors ask basic questions to clarify clinical data and give lectures to students that do not promote discussion.<sup>25</sup> One hundred sixteen preceptors at 7 universities viewed 2 cases, pneumothorax and hiatal hernia, with the OMP precepting model and the traditional preceptor model. The preceptors rated the students' abilities and their confidence in rating the students and evaluated the effectiveness and efficiency of each model.<sup>25</sup> Using a 5-point Likert scale, preceptors rated the OMP model of precepting as more

**Table 1. Results by Preceptor Models**

Study	Variables			
	Student Evaluation of Models	Preceptor Evaluation of Models	Improvements/Changes in Teaching Behavior	Student Learning Outcomes
Web-based resource				
Kassam R, et al. <i>Am J Pharm Educ.</i> 2012;76(9):168-176		95.5% of preceptors rated the modules as very applicable or extremely applicable	60% of preceptors reported the modules increased their confidence more than anticipated	
SNAPPS				
Nixon J, et al. <i>Acad Med.</i> 2014;89(8):1174-1179				PICO conformity and quality of answers correlated with formatting questions for further learning
Wolpaw T, et al. <i>Acad Med.</i> 2012;87(9):1210-1217			Preceptors responded to uncertainties in the SNAPPS group more but not statistically significant	SNAPPS students were more concise and improved in providing and analyzing differential diagnosis
Wolpaw T, et al. <i>Acad Med.</i> 2009;84(4):517-524				SNAPPS students expressed more uncertainties/clarified questions in case presentations
OMP				
Teherani A, et al. <i>Med Teach.</i> 2007;29:323-327	OMP model preferred		No change in teaching points with OMP model	
Eckstrom E, et al. <i>J Gen Intern Med.</i> 2006;21(5):410-414	OMP-trained faculty rated as superior in 2 out of the 5 OMP domains		Improved faculty self-assessment of teaching skills with OMP model	
Aagaard E, et al. <i>Acad Med.</i> 2004;79(1):42-49		Preceptors rated the OMP model as more efficient and effective	Preceptors were more likely to correctly diagnose the patient with the OMP model	
Irby DM, et al. <i>Acad Med.</i> 2004;79(1):50-55			Teaching points changed from generic clinical skills to disease specific with the OMP model	
Furney SL, et al. <i>J Gen Intern Med.</i> 2001;16(9):620-624	OMP-trained residents exhibited improved teaching skills	Preceptors reported increased overall teaching effectiveness	Preceptors self-reported improvement in the use of OMP teaching skills	

OMP = One-Minute Preceptor; PICO = Patient, Intervention, Comparison, Outcome.

efficient and effective than the traditional model ( $P = .00$ ).<sup>25</sup>

Furney et al<sup>24</sup> found residents functioning as preceptors to medical students in the OMP intervention group reported increased overall teaching effectiveness with the OMP teaching method (premean = 3.36, postmean = 4.08;  $P \leq .01$ ). Residents reported a statistically significant improvement in all of the OMP skills domains, except teaching general rules, which does not have to be applied in every precepting interaction.<sup>24</sup>

### Improvement/Changes in Teaching Behavior

Findings related to improvement or changes in teaching behavior by preceptors were inconsistent in the literature (Table 1). Kassam et al,<sup>18</sup> Wolpaw et al,<sup>26</sup> Teherani et al,<sup>22</sup> Eckstrom et al,<sup>23</sup> Aagaard et al,<sup>25</sup> Irby et al,<sup>27</sup> and Furney et al<sup>24</sup> evaluated improvement or changes in teaching behaviors with the precepting models.

Wolpaw et al<sup>26</sup> compared the uncertainties or doubts of medical students using the SNAPPS technique for case presentations ( $n = 19$ ) with the uncertainties of students using traditional presentations ( $n = 41$ ). A secondary analysis of data from a 2004 to 2005 study was coded for the type of uncertainties and preceptor responses.<sup>26</sup> The coding was of audiotaped presentations of case presentations by the students. Overall, preceptors responded to uncertainties within the SNAPPS group more (82%) than the comparison group (79%); however, the increased response rate was not statistically significant ( $P = .74$ ).<sup>26</sup>

The teaching points preceptors listed after viewing 2 videotaped encounters of 2 case presentations using the OMP and a traditional preceptor model were examined by Irby et al.<sup>27</sup> The authors describe the traditional precepting model as one in which preceptors ask questions of the learner to diagnose the patient instead of evaluating the learner's critical thinking.<sup>27</sup> Preceptors' teaching points changed from generic clinical skills, such as physical examination, with the traditional preceptor model to disease-specific teaching points with the OMP model (differential diagnosis, diagnostic tests, and presentation of disease,  $P < .05$ ).<sup>27</sup>

Changes in teaching behaviors using the OMP method were evaluated by Teherani et al,<sup>27</sup>

Eckstrom et al,<sup>23</sup> Aagaard et al,<sup>25</sup> and Furney et al.<sup>24</sup> Teherani et al<sup>22</sup> found no difference in the teaching points requested by medical students between the OMP model and the traditional teaching model. Aagaard et al<sup>25</sup> found preceptors who viewed videotapes of the OMP model in 1 of the 2 taped cases were more likely to correctly diagnose the patient (92%) compared with the traditional precepting model (76%,  $P = .02$ ). Eckstrom et al<sup>23</sup> and Furney et al<sup>24</sup> relied on self-reporting by preceptors for the assessment of improved teaching skills. Eckstrom et al<sup>23</sup> found faculty self-assessment in the OMP intervention group showed improvement in all 5 of the OMP skills/steps, with a statistically significant improvement in 3 of the 5 ( $P \leq .05$ ). Furney et al<sup>24</sup> found residents assigned to the OMP intervention group self-reported a statistically significant improvement in the use of the OMP teaching skills except "teaching general rules or pearls"<sup>24</sup> ( $P \leq .05$ ).

Sixty percent of preceptors evaluating the usefulness of E-tips indicated the modules increased their confidence more than expected.<sup>18</sup> The authors also found a positive correlation between the reported applicability of E-tips and increases in teaching ability.

### Student Learning Outcomes

Three of the research articles reviewed measured student learning outcomes related to preceptor methods. Nixon et al,<sup>28</sup> Wolpaw et al,<sup>26</sup> and Wolpaw et al<sup>29</sup> evaluated student learning outcomes with the SNAPPS preceptor method. As Table 1 indicates, students were more likely to ask questions about areas of uncertainty and showed improved clinical reasoning with structured preceptor methods compared with traditional teaching methods.

PICO (Patient, Intervention, Comparison, Outcome)-formatted questions were added to the last step of SNAPPS (select an area of further learning) by Nixon et al.<sup>28</sup> The content and quality of the PICO questions were evaluated by the authors. Over a 4-year period, 191 medical students submitted educational prescriptions on prescription forms with the PICO format preprinted on the front and a space for students to list their references and level of evidence on the back.<sup>28</sup> The prescriptions were coded for PICO conformity, the presence of an



answer on the back of the form, and quality of the answer. There was a positive correlation between the PICO conformity score and the quality of answers, with quality based on directness, evidence, and management ( $P \leq .001$ ).<sup>28</sup>

Wolpaw et al<sup>29</sup> evaluated whether medical students presenting cases to preceptors using the SNAPPS technique expressed more clinical reasoning than students not trained in SNAPPS. Sixty-four students were placed into 3 groups: the SNAPPS group, the feedback training group, and the customary instruction group.<sup>29</sup> The students audiotaped case presentations the last week of their rotations, and the audiotapes were coded for comparison. Students in the SNAPPS group were more concise ( $P \leq .00$ ), taking 14% less time in presenting and summarizing findings. The SNAPPS group also outperformed the other 2 groups in providing and justifying differential diagnoses ( $P \leq .000$ ).<sup>29</sup>

The fourth step of SNAPPS is probing, or asking questions about areas of uncertainty. The expression of uncertainties using the SNAPPS technique provides learners an opportunity to question and discuss areas needing clarification. Wolpaw et al<sup>26</sup> evaluated medical students' expression of uncertainties using the SNAPPS technique during case presentations. The results found students in the SNAPPS group expressed uncertainty in all case presentations compared with 54% of students in the control group ( $P = .0001$ ).<sup>26</sup>

## DISCUSSION

### Strengths and Limitations

The limitations of many of the studies reviewed were the lack of other health professions included as participants. Only Kassam et al<sup>18</sup> included nursing as 1 of the 10 specialties evaluating E-tips. There was no discussion as to the scope of practice of the nursing professionals used to evaluate E-tips. The Institute of Medicine has recommended academic and health systems leaders put resources into interprofessional education to improve the delivery of health care.<sup>30</sup> NPs are a central part of health care delivery and should be included in the development and evaluation of precepting methods.

Another limitation of the studies was a lack of follow-up over time measuring the impact of the

precepting methods on patient care. Wolpaw et al<sup>26</sup> found the SNAPPS group showed a statistically significant improvement in providing and analyzing differential diagnosis; however, there was no long-term measurement of patient outcomes in the SNAPPS group. None of the studies used patient outcomes as a studied variable.

The only randomized controlled trial within the literature reviewed was conducted by Furney et al.<sup>24</sup> The other research articles evaluated were level III or level IV in the hierarchy of evidence, which affect the strength of the evidence in the findings. The published guidelines outlined for preceptors in academic settings are based on expert opinion and consensus reports.

## CONCLUSION

Overall, the findings of the literature reviewed show improvement in clinical reasoning when structured preceptor methods are incorporated into clinical practice. Barker and Pittman<sup>31</sup> identified barriers to precepting, including the effect on productivity, patient expectations of the provider's attention, and being uncomfortable with the teaching role. Web-based preceptor resources, such as E-tips, may improve the teaching skills of preceptors without impacting the busy lives of health care professionals.

Although not discussed in this review, the relationship between preceptor satisfaction and motivation to stay in the preceptor role must be considered. Preceptor satisfaction is increased when preceptors feel their role is supported and goals are defined.<sup>32</sup> A survey of preceptors working with neonatal nurse practitioner students identified "offering an on-site workshop for preceptors"<sup>33</sup> and "providing preceptors with a module related to clinical teaching and precepting strategies"<sup>33</sup> as activities that would support their role the most. The implementation of preceptor development programs to support NP preceptors shows organizational support of the clinical teaching role.

The findings of this review have implications for both nursing research and clinical practice. The absence of NP preceptor methods found in the literature identifies the need for further nursing research exploring preceptor methods for working with novice providers as well as NP students that

involve all members of the health care team. Organizations must examine the stress placed on novice NPs in clinical practice and the effect on patient outcomes, retention, and job satisfaction. There is also a need for higher quality research to guide organizations and academia in selecting the best preceptor methods for implementation. **JNP**

#### References

- American Association of Nurse Practitioners. Your partner in health: the nurse practitioner. 2013. <https://www.aanp.org/images/documents/about-nps/npbrochure.pdf>. Accessed March 25, 2016.
- American Association of Nurse Practitioners. NP fact sheet. June 2016. <https://www.aanp.org/all-about-nps/np-fact-sheet>. Accessed October 4, 2016.
- Gallagher P, Tweed M, Hanna S, Winter H, Hoare K. Developing the One-Minute Preceptor. *Clin Teach*. 2012;9:358-362.
- Hart AM, Macnee CL. How well are nurse practitioners prepared for practice: Results of a 2004 questionnaire study. *J Am Acad Nurse Pract*. 2007;19(1):35-42.
- Brown MA, Olshansky EF. From limbo to legitimacy: a theoretical model of the transition to the primary care nurse practitioner role. *Nurs Res*. 1997;46(1):46-51.
- Billay D, Myrick F, Yonge O. Preceptorship and the nurse practitioner student: navigating the Liminal Space. *J Nurs Educ*. 2015;54(8):430-437. <http://dx.doi.org/10.3928/01484834-20150717-02>.
- Benner P. From novice to expert. *Am J Nurs*. 1982;82(3):402-407.
- Goldenberg D. Preceptorship: a one-to-one relationship with a triple "P" rating (preceptor, preceptee, patient). *Nurs Forum*. 1987;23(1):10-15.
- McClure E, Black L. The role of the clinical preceptor: an integrative literature review. *J Nurs Educ*. 2013;52(6):335-341.
- Davis MS, Sawin KJ, Dunn M. Teaching strategies used by expert nurse practitioner preceptors: a qualitative study. *J Am Acad Nurse Pract*. 1993;5(1):27-33.
- Goss CR. Systematic review building a preceptor support system. *J Nurses Prof Dev*. 2015;31(1):E7-E14.
- Windey M, Lawrence C, Guthrie K, Weeks D, Sullo E, Chapa DW. A systematic review on interventions supporting preceptor development. *J Nurses Prof Dev*. 2015;31(6):312-323; quiz E19.
- Spector N. The National Council of State Boards of Nursing's Transition to Practice study: implications for educators. *J Nurs Educ*. 2015;54(3):119-120.
- Amella EJ, Brown L, Resnick B, McArthur DB. Partners for NP education: the 1999 AANP preceptor and faculty survey. *J Am Acad Nurse Pract*. 2001;13(11):517-523.
- Weitzel KW, Walters EA, Taylor J. Teaching clinical problem solving: a preceptor's guide. *Am J Health Syst Pharm*. 2012;69(18):1588-1599.
- National Task Force on Quality Nurse Practitioner Education. *Criteria for Evaluation of Nurse Practitioner Programs*. 4th ed. 2012. <http://c.yomcdn.com/sites/www.nonpf.org/resource/resmgr/docs/ntfevalcriteria2012final.pdf>. Accessed March 25, 2016.
- Commission on Collegiate Nursing Education. *Standards for Accreditation of Baccalaureate and Graduate Nursing Programs*. 2013. <http://www.aacn.nche.edu/ccne-accreditation/Standards-Amended-2013.pdf>. Accessed March 26, 2016.
- Kassam R, McLeod E, Kwong M, et al. An interprofessional Web-based resource for health professions preceptors. *Am J Pharm Educ*. 2012;76(9):168.
- Kertis M. The One-Minute Preceptor: a five-step tool to improve clinical teaching skills. *J Nurses Staff Dev*. 2007;23(5):238-242.
- Neher JO, Gordon KC, Meyer B, Stevens N. A five-step "microskills" model of clinical teaching. *J Am Board Fam Pract*. 1992;5(4):419-424.
- Wolpaw TM, Wolpaw DR, Papp KK. SNAPPS: a learner-centered model for outpatient education. *Acad Med*. 2003;78(9):893-898.
- Teherani A, O'Sullivan P, Aagaard EM, Morrison EH, Irby DM. Student perceptions of the one minute preceptor and traditional preceptor models. *Med Teach*. 2007;29(4):323-327.
- Eckstrom E, Homer L, Bowen JL. Measuring outcomes of a one-minute preceptor faculty development workshop. *J Gen Intern Med*. 2006;21(5):410-414.
- Furney SL, Orsini AN, Orsetti KE, Stern DT, Gruppen LD, Irby DM. Teaching the one-minute preceptor. A randomized controlled trial. *J Gen Intern Med*. 2001;16(9):620-624.
- Aagaard E, Teherani A, Irby DM. Effectiveness of the one-minute preceptor model for diagnosing the patient and the learner: proof of concept. *Acad Med*. 2004;79(1):42-49.
- Wolpaw T, Côté L, Papp KK, Bordage G. Student uncertainties drive teaching during case presentations: more so with SNAPPS. *Acad Med*. 2012;87(9):1210-1217.
- Irby DM, Aagaard E, Teherani A. Teaching points identified by preceptors observing one-minute preceptor and traditional preceptor encounters. *Acad Med*. 2004;79(1):50-55.
- Nixon J, Wolpaw T, Schwartz A, Duffy B, Menk J, Bordage G. SNAPPS-Plus: an educational prescription for students to facilitate formulating and answering clinical questions. *Acad Med*. 2014;89(8):1174-1179.
- Wolpaw T, Papp KK, Bordage G. Using SNAPPS to facilitate the expression of clinical reasoning and uncertainties: a randomized comparison group trial. *Acad Med*. 2009;84(4):517-524.
- Institute of Medicine. *Measuring the Impact of Interprofessional Education on Collaborative Practice and Patient Outcomes*. 2015. [http://www.nationalacademies.org/hmd/~media/Files/Report%20Files/2015/IPE\\_RAAG.pdf](http://www.nationalacademies.org/hmd/~media/Files/Report%20Files/2015/IPE_RAAG.pdf). Accessed March 28, 2016.
- Barker ER, Pittman O. Becoming a super preceptor: a practical guide to preceptorship in today's clinical climate. *J Am Acad Nurse Pract*. 2010;22(3):144-149.
- Hyrkas EK, Linscott DA, Rhudy JP Jr. Evaluating preceptors' and preceptees' satisfaction concerning preceptorship and the preceptor-preceptee relationship. *J Nurs Educ Pract*. 2014;4(4):120-133.
- Wilson LL, Bodin MB, Hoffman J, Vincent J. Supporting and retaining preceptors for NNP programs: results from a survey of NNP preceptors and program directors. *J Perinat Neonatal Nurs*. 2009;23(3):284-292.

Both authors are affiliated with The University of Texas MD Anderson Cancer Center in Houston, TX. Angela F. Bazzell, MSN, FNP-BC, is the associate director of advanced practice nursing and can be reached at [abazzell@mdanderson.org](mailto:abazzell@mdanderson.org). Joyce E. Dains, DrPH, JD, FNP-BC, FAANP, is the chair ad interim with the department of nursing and director of advanced practice nursing. In compliance with national ethical guidelines, the authors report no relationships with business or industry that would pose a conflict of interest.

1555-4155/17/\$ see front matter  
© 2017 Elsevier Inc. All rights reserved.  
<http://dx.doi.org/10.1016/j.nurpra.2017.04.013>