


# Interprofessional Education Between Midwifery Students and Obstetrics and Gynecology Residents: An American College of Nurse-Midwives and American College of Obstetricians and Gynecologists Collaboration

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Despite areas of excellence, US perinatal care outcomes lag behind most developed countries. In addition, a shortage and maldistribution of health care providers exists. The American College of Nurse-Midwives and the American College of Obstetricians and Gynecologists (ACOG) partnered to obtain funding to develop interprofessional education modules and other learning activities for midwifery students and obstetrics and gynecology residents in 4 demonstration sites. The multidisciplinary 2016 ACOG document *Collaboration in Practice: Implementing Team-Based Care* was adopted as a framework. Core competencies of values and ethics, roles and responsibilities, interprofessional communication, and teams and teamwork developed by the Interprofessional Education Collaborative were used to guide the work. Seven modules have been developed including guiding principles, patient-centered care, role clarification, collaborative practice, history and culture, care transition, and difficult conversations. Learners participate in laboratory and simulation activities and work together in clinical care settings. Stakeholder experiences as well as barriers to implementation are discussed. Learning materials and activity descriptions are open resourced and shared on a project website for use by programs interested in implementing an interprofessional curriculum. Ongoing formal evaluation including pilot testing of a program evaluation method is described.

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## INTRODUCTION

The importance of interprofessional health care teams, collaborative practice, and interprofessional education (IPE) has been acknowledged since the 1970s.<sup>1–3</sup> More effective, comprehensive, and efficient care is provided when health care professionals work together in cohesive teams focused on patient-centered care. In addition, enhanced communication and teamwork have been shown to improve health care outcomes.<sup>4–7</sup> Team members must have trusting relationships and understand each other's educational backgrounds, professional philosophy, and scope of practice.<sup>8</sup> Developing interprofessional teams beginning early in the health care provider's education program increases the likelihood of future effective collaborative practice.<sup>9</sup>

The American College of Nurse-Midwives (ACNM) and the American College of Obstetricians and Gynecologists (ACOG) have had joint statements addressing collaborative practice between midwives and obstetrician-gynecologists since 1971 and explicitly recognize the importance of teamwork and interdependent practice. The current version of this statement highlights IPE to promote future collaborative practice patterns.<sup>10</sup> In 2014, a small task force was convened with representatives from both organizations to explore IPE for graduate midwifery students and obstetrics and gynecology residents. The group determined that external funding would be required to develop a meaningful project,

## Quick Points

- ◆ Interprofessional education is necessary to prepare clinicians to participate in team-based care that is more efficient and effective.
- ◆ Educating midwifery students and obstetrics and gynecology residents together prepares these learners to work together effectively in the future to improve US perinatal care and address workforce deficits.
- ◆ Midwives and obstetrician-gynecologists have partnered to develop interprofessional education learning activities that can be adopted by other programs with the goal of increasing collaborative care models and ultimately improving perinatal care.

and funding was obtained. This article describes the ACNM-ACOG IPE project goals, focusing on the development of interprofessional educational resources and the implementation of interprofessional activities in 4 demonstration sites. The outcome evaluation plan for this project and opportunities for other midwifery and obstetrics and gynecology programs to use the IPE curricula, building on the resources developed in this project, are presented.

An increase in maternal mortality and morbidity in the United States over the past 2 decades has drawn attention to the system of antepartum, intrapartum, and postpartum care with calls for improvements. The United States spends more on perinatal care than any other nation yet has the highest maternal mortality rate among developed countries.<sup>11</sup> In 2018, the US Department of Health and Human Services, Health Resources and Services Administration (HRSA) hosted the HRSA Maternal Mortality Summit and brought experts from around the world together to develop strategies to solve this crisis.<sup>12</sup> Factors such as racial bias, maternal obesity, mental health conditions, opioid use, and chronic health conditions, as well as lack of access to care (both direct access to high-quality perinatal services as well as access to insurance coverage for services), and health care provider preparedness in emergencies contribute to poor maternal outcomes.<sup>12</sup> Although the HRSA report did not specifically address IPE, team-based support for women was identified. The recently published *Blueprint for Advancing High-Value Maternity Care through Physiologic Childbearing* has identified IPE for perinatal care professionals as one of 6 recommended strategies to improving perinatal care in the United States.<sup>13</sup>

In 2010, ACOG and ACNM partnered as part of the ACOG President's *Issue of the Year* in a competitive call for papers describing examples of successful collaborative practice between ACNM member midwives and ACOG Fellows.<sup>14</sup> The initiative resulted in submission of 60 manuscripts jointly authored by midwives and obstetrician-gynecologists; the papers were reviewed by a team of ACNM member midwives and ACOG Fellows. Fourteen of the papers have since been published in obstetrics and gynecology and midwifery journals.<sup>14-27</sup>

A qualitative analysis of 12 of those published papers found that the motivation for launching a collaborative practice was usually a desire to improve patient care.<sup>28</sup> Several themes identified in this analysis illustrate elements of successful collaborative practice. These include excellent communication, mutual consultations, functional financial structures, and a commitment to the success of the partnership

including mutual respect and trust.<sup>28</sup> Also identified as contributing to success were care integration centered upon women's needs, with midwives and obstetrician-gynecologists using a common approach to specific care situations, and education of health professionals in an interprofessional care environment.<sup>28</sup>

In 2016, ACOG published a monograph entitled *Collaboration in Practice: Implementing Team-Based Care*.<sup>29</sup> This monograph was the product of the work of the multidisciplinary task force convened in 2014 that was charged with exploring team-based practice as a health care delivery model. The monograph encourages a patient and family-centered approach in which health care providers partner with patients and the health care team to provide high quality care. The task force considered efficiency, quality, and value in implementing team-based care rather than giving primary consideration to current or proposed payment models. The authors noted that emerging demands of health care delivery have prioritized the triple aim of 1) improving the care and experience of individuals and families, 2) improving the health of populations, and 3) lowering health care costs.<sup>30</sup> Representatives of multiple professional organizations, including ACNM, participated in creating the ACOG document. The monograph was endorsed by 20 national health care organizations and supported by others.<sup>29</sup>

ACNM and ACOG believe that bringing both midwifery and obstetrics and gynecology learners together is critical to prepare for future collaborative practice improvements in our evolving perinatal care system and to meet workforce needs. Implementation and perpetuation of team-based care require the development of effective interprofessional educational tools that learners experience during their specialty educational programs. This project represents a substantial step in that direction.

### ACNM-ACOG IPE PROJECT

The ACNM-ACOG project, *ACNM-ACOG Maternity Care Education and Practice Redesign* was launched in February 2017. The primary project goals include 1) developing and implementing an IPE curriculum that promotes collaborative practice between obstetrician-gynecologists and midwives and includes core modules, skill-based activities, and interprofessional practice opportunities; 2) aligning accreditation requirements and educational competencies related to IPE for midwifery and obstetrics and gynecology; 3) identifying and resolving barriers to implementing IPE within midwifery

**Table 1. Guiding Principles for Team-Based Care**

The patient and families are central to and actively engaged as members of the health care team
The team has a shared vision
Role clarity is essential to optimal team building and team functioning
All team members are accountable for their own practice and to the team
Effective communication is key to quality teams
Team leadership is situational and dynamic

Source: Collaboration in Practice: Implementing Team-Based Care.<sup>29</sup>

and obstetrics and gynecology programs; and 4) increasing the number of midwifery graduates long term by exploring ways to add midwifery students to obstetrics and gynecology training locations.

Four demonstration sites serve as the educational settings for this project. These include 2 traditional university settings that have both a basic midwifery and an obstetrics and gynecology residency program, an independent academic medical center that includes a basic midwifery and an obstetrics and gynecology residency program, and a partnership site that includes a distance midwifery program and 2 obstetrics and gynecology residency programs. A midwife and an obstetrics and gynecology physician from each education program colead the development and implementation of an IPE curriculum that includes didactic modules, laboratory simulation opportunities, and clinical practice experiences for graduate midwifery students and obstetrics and gynecology residents at their locations. Learning materials are shared among demonstration sites, and our IPE curricular materials have been disseminated for use by other institutions via the project website ([acnm-acog-ipe.org](http://acnm-acog-ipe.org)).

Demonstration site representatives and project leaders met in June 2017. Team members participated in TeamSTEPPS (Team Strategies and Tools to Enhance Performance and Patient Safety)<sup>31</sup> training as learners, or as trainers for those who had previously completed the course, along with a local expert trainer. The training was included in the initial meeting as an example of a common way of teaching team communication tools and strategies in our interprofessional curricula. The TeamSTEPPS curriculum developed by the Agency for Healthcare Research and Quality has been implemented widely across numerous health care systems.<sup>31</sup> During this meeting a core set of IPE modules was identified that would be developed for use by learners and shared with other interested programs. In addition, the group adopted the 6 guiding principles from ACOG's *Collaboration in Practice: Implementing Team-Based Care* (Table 1) as the overarching framework.<sup>29</sup>

All demonstration site programs were engaged in some IPE activities with obstetrics and gynecology residents and midwifery students prior to project initiation. We anticipated that by developing a set of core modules framed by the guiding principles, learners would be better prepared to work together in simulated and clinical settings. Each demonstration site has enhanced their existing IPE simulation and clinical activities

and created new activities. This occurred at the same time as 7 modules were developed, reviewed among the sites, and revised for implementation. The modules were implemented in June and July 2019 along with a formal evaluation process.

### Core Modules

The 7 modules developed used a common template that includes learning objectives, readings, a slide set, and specific learning activities. The project team also agreed to use the Interprofessional Education Collaborative (IPEC) Core Competencies<sup>32</sup> in developing their materials. (Table 2). The IPEC competencies were developed by the associations of schools of dentistry, nursing, medicine, osteopathic medicine, pharmacy, and public health to guide health professions education programs in these and other health professions in developing IPE programs. The modules developed for this project are identified and described in Table 3. Programs determine individually when in their curricula the modules will be used and if they will be presented as IPE activities or within the curriculum of each profession.

### Skill-Based Activities

Faculty at the 4 demonstration sites developed activities to teach various skills to the learners. These included specific technical skill labs, formal skills courses, simulations including trained standardized patients, and discussions focused on communication and specific clinical cases.

### Technical Skills Courses

At some demonstration sites, residents and midwifery students are participating in specific formal communication and skills courses together such as TeamSTEPPS,<sup>31</sup> Newborn Resuscitation Program,<sup>33</sup> and basic technical skills learning sessions such as cervical dilation, effacement, and station assessment; labor support techniques; and manual removal of the placenta.

### Simulation

Simulation in which learners work through possible clinical situations with trained actors (standardized patients) in a safe place to learn to work together is an important part of any health profession's education program. One demonstration site conducts an Objective Structured Clinical Examination/Experience (OSCE) to bring midwifery students and obstetrics and gynecology residents together in simulated patient scenarios to solve health care situations by planning and carrying out the care together. High-risk emergency scenarios where midwife students practice consulting with obstetrics and gynecology residents and the residents practice interacting as the consultant are in development. Prebriefing and debriefing are included as components of simulation activities. Another site used a simulation where learners from both professions interact with community members and learn about poverty and its effects on health care access and outcomes. In a third site, midwifery students and residents participate in a large day-long simulation with other learners such as

<b>Table 2. Core Competencies for Interprofessional Collaborative Practice</b>	
<b>Competency Domain</b>	<b>General Competency Statement</b>
Values and ethics for interprofessional practice	Work with individuals of other professions to maintain a climate of mutual respect and shared vision
Roles and responsibilities	Use the knowledge of one's own and other professions to appropriately address the health care needs of patients and promote and advance the health of populations
Interprofessional communication	Communicate with patients, families, communities, and professionals in health-related fields in a responsive and responsible manner supporting a team approach to the health promotion and prevention and treatment of disease
Teams and teamwork	Apply relationship-building values and principles of team dynamics to engage in different team roles in providing patient- and population-centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable

Source: Interprofessional Education Collaborative.<sup>32</sup>

anesthesiology residents, nurse practitioner and nurse anesthesia students, physician assistant students, and nursing and medical students in teams solving obstetrics and gynecology emergency scenarios, followed by debriefing with faculty.<sup>34</sup>

Project faculty have developed online simulations for midwifery students located at a distance from an obstetrics and gynecology residency program. Scenarios include situations where midwife students consult with residents and residents consult with student midwives. Discussions are facilitated virtually by midwifery and obstetrics and gynecology faculty to bring IPE opportunities to learners that are not in the same physical location.

#### *Seminar and Discussion Activities*

Half-day IPE seminars in one demonstration site bring residents and midwifery students together 3 to 4 times a year to discuss topics of common interest. Development of these seminars followed a careful examination and comparison among the joint Accreditation Council of Graduate Medical Education, American Board of Obstetrics and Gynecology, and ACOG Milestone Project<sup>35</sup> and the ACNM Core Competencies<sup>36</sup> to identify curriculum content common to both groups of learners. A more detailed description of each demonstration site's activities is provided on the project website.

#### **Interprofessional Clinical Practice Opportunities**

Bringing learners from the 2 professions together in meaningful ways in the clinical care environment can be challenging, as each profession has competencies, time schedules, and specific experiences to complete during their respective programs. Three demonstration sites have created opportunities for midwifery students and residents to partner in the care of patients in labor. Midwifery students provide low-risk care, supporting physiologic labor and consulting with the residents when higher levels of care are required in 2 sites. In a third demonstration site, a midwifery student joins the resident and attending obstetrician team, collaborating in providing obstetric care.

Morning rounds or safety rounds occur daily on many labor units, providing an opportunity for midwifery students

and obstetrics and gynecology residents to interact together and with a broader interprofessional team. At these rounds, the current status of each labor patient is presented, and management is discussed. Common specific topics of interest or current published papers are also presented, leading to rich interprofessional discussion. In one site, midwifery students present the midwifery patients at the rounds discussion. In another site, midwifery students present and lead discussions at selected sessions on quality improvement projects they have completed.

#### **IMPLEMENTATION AND MEASUREMENT**

Each program in the demonstration sites has identified specific IPE learning activities to implement from among the IPE modules developed through the project plus TeamSTEPPS, simulation, seminars, and clinical learning activities. Module implementation formally began in summer 2019. Learners new to the curriculum in 2019 and those who will experience additional IPE activities during the evaluation year completed the IPEC Self Assessment Tool, which has questions that measure aspects of the IPEC competencies,<sup>37</sup> and the Interprofessional Collaborative Competencies Attainment Survey, which has questions asking learners to assess their level of IPE competencies.<sup>38</sup> Measurements using these tools at baseline and one year after the formal program implementation will be compared. Evaluation of specific learning activities and learner responses to activities are being tracked during the evaluation year, including their degree of meeting learning objectives and satisfaction with specific activities.

#### **ACCREDITATION AND EDUCATIONAL COMPETENCIES**

As midwifery and obstetrics and gynecology faculty enhance their curricula by including IPE, related organizations that create educational standards and competencies are expanding their requirements to include IPE. ACOG held a leadership summit in 2017 to address education of obstetrics and gynecology physicians. The resulting white paper on future education for obstetrics and gynecology included priorities for the Council on Resident Education in Obstetrics and Gynecology (CREOG) in support of IPE.<sup>39</sup> ACNM is revising the Core Competencies for Basic Midwifery Practice<sup>36</sup> to

**Table 3. Core Modules for ACNM-ACOG Maternity Care Education and Practice Redesign**

Module Title	Description
Introduction to guiding principles for interprofessional collaboration	Background and importance of team-based care; overview of midwifery and obstetrician-gynecologist workforce; review of ACOG <i>Collaboration in Practice</i> document, focusing on its 6 guiding principles; includes case examples from the practice setting
History and culture of birth in the United States	History and previous patterns of traditional collaboration and competition between the 2 professions, plus US childbirth history during the 20th century, including the role of women in society; birth culture including views of birth as pathological vs physiologic; current US state of childbirth, including natural childbirth movement, workforce issues, and maternal mortality
Midwife and obstetrician-gynecologist role clarity for team-based practice	Educational pathways and credentialing of midwives and obstetrician-gynecologists; the scopes of practice and values of midwives and obstetrician-gynecologists, including areas of overlap and differences; patterns of collaborative practice including appropriate language use in partnering with patients in respectful team-based care
Effective care transitions in maternity care	Overview of key principles of team-based health care; care transitions between health care providers and between and within care settings; best practices in care transitions; concepts of situational awareness, self-monitoring, and leadership using role-playing scenarios
Patient-centered care	Defines patient-centered care and person-centered decision making, including culturally responsive care; uses exercises in self-reflection and video vignettes of collaborative care between midwives and obstetrician-gynecologists
Collaborative practice	Importance of team functioning and collaborative leadership in the health care setting; strategies to enhance team functioning and interprofessional collaboration using video vignettes and exercises in role playing and self-reflection; key principles for optimal team functioning
Communication and difficult conversations	Demonstrates collaborative, respectful, and responsive communication with other health professionals, including providing and receiving high quality peer feedback; identify methods to discuss differences in belief systems and negotiate difficult conversations

Abbreviations: ACOG, American College of Obstetricians and Gynecologists; ACNM, American College of Nurse-Midwives.

include enhanced interprofessional competencies that must be achieved by graduates of Accreditation Commission for Midwifery Education (ACME) accredited programs. ACME's 2019 revision of accreditation criteria now includes a specific criterion addressing IPE.<sup>40</sup> This ACNM-ACOG collaboration will assist other programs in achieving these priorities.

### BARRIERS TO IMPLEMENTATION OF IPE

Partners involved in this project maintain high enthusiasm for bringing learners from midwifery and obstetrics and gynecology together; however, challenges have been identified as programs partner to meet project goals. Midwifery students are enrolled in graduate programs with specific courses required each term with credit hours, tuition charges, specific allotment of clinical hours, and the usual exams, papers, and related activities associated with traditional credit bearing graduate programs. Residency programs are graduate education programs; however, obstetrics and gynecology residents are typically hospital funded and hospital based, with a smaller portion of their program focused on didactic education. Given these structural differences, it has been necessary to focus on flexible joint learning activities within each learning environment instead of a universal curriculum.

The varied educational background of midwifery students and residents has also presented challenges in determining

which level of midwifery student and which level of resident to pair for each learning activity. Determining which activities are best done together or separately by profession, and where an online format might work, particularly for midwifery distance programs, has proven complex. Universally, electronic health records add complexity because midwifery students cannot independently sign orders and care notes because of their student status, despite frequently being more knowledgeable than newer residents because of their previous experience as registered nurses.

With over 240 obstetrics and gynecology residency programs<sup>41</sup> and approximately 40 ACME accredited midwifery programs,<sup>42</sup> many residency programs do not have a natural midwifery program partner. Partnering with either a traditional midwifery program or a distance midwifery program is an option to offering IPE. Orienting learners to online collaborative learning is another barrier, as many obstetrics and gynecology residency programs have not previously used team-based virtual learning.

### ENHANCING THE PERINATAL CARE WORKFORCE

Another project goal is to examine opportunities for educating more midwives through implementing IPE programs at existing residency programs with additional capacity for clinical learning. ACOG has reported a shortage of perinatal

care providers and the factors leading to the shortfall of providers.<sup>41</sup> ACOG and ACNM agree there is a need for more of both types of perinatal care providers.<sup>10</sup> Midwives teach in many residency programs.<sup>43</sup> Testing IPE models at these locations first is one way to examine opportunities to expand educational opportunities for midwifery students.

A brief informal query of residency programs where midwives are engaged in teaching was conducted to learn more about potential student capacity. Of 74 residency programs contacted, 30 responded. Of those, midwives were teaching residents in 25 programs, and obstetrician-gynecologists were teaching midwifery students in 8 programs. Seven programs, or approximately a quarter of respondents, indicated capacity to include additional midwifery learners. Nine of the 30 respondents had formal midwifery education programs and likely are already at their capacity and may account for a smaller number of programs able to welcome additional learners. A project goal is that availability of IPE resources and the experience will yield additional interprofessional clinical learning opportunities.

## DISCUSSION

Although the formal evaluation of this project is ongoing, faculty and learners participating in project activities to date have provided some qualitative feedback related to specific activities including successes and ongoing barriers to be resolved. Partnering with 4 midwifery programs and 5 obstetrics and gynecology residency programs with varying organizational structures to develop a set of didactic modules and associated interprofessional learning activities has been successful. The faculty involved in this project are experienced in IPE, which has helped us continue existing activities and develop new experiences for our learners. The enthusiasm among the faculty at these demonstration sites has remained high as positive responses from learners are reported. Informally, we have found that the learners from both professions are genuinely interested in learning about each other, learning together, and learning from each other based on their expertise, one of the guiding principles framing our project (Table 1).

Faculty working with interprofessional learners for the first time will benefit from formal preparation. At the same time, busy faculty and clinical teachers are likely limited in their ability to attend lengthy programs and workshops. Some materials developed through the National Center for Interprofessional Practice and Education are available online<sup>44</sup> and may be helpful to midwifery and obstetrics and gynecology faculty who wish to begin IPE activities in their programs. In addition, several published articles cited here<sup>45-47</sup> provide some background and suggestions for faculty beginning to work with multiple types of learners.

Our experiences with addressing scheduling complexities and issues related to use of the electronic health record and having learners in different physical and geographic locations have been primarily positive because of prior and newly developing relationships among faculty and enthusiasm for IPE. Navigating these barriers may become easier with more experience. For example, both midwifery and residency programs have been flexible in changing some of their scheduled learning days to bring their learners together. One of the residency

programs that does not have a co-located midwifery program has offered to accept 2 additional midwifery students in their clinical practice. Additional similar opportunities may be possible based on our informal survey of a subset of residency programs, thus helping to meet our goal of enhancing the workforce by educating more midwives in partnership with residency programs. Midwifery students have been welcomed to partner with residents in the clinical learning environment at other demonstration sites. Further opportunities for midwifery and resident clinical learning situations as more midwives and obstetrician-gynecologists develop similar partnerships are anticipated based on positive responses to formal presentations of this project at ACNM and CREOG meetings, contributing to ongoing expansion of IPE.

## CONCLUSION

Bringing midwifery students and obstetrics and gynecology residents together in varied settings is rewarding and has the potential to improve the current care model, specifically in prenatal, perinatal and postnatal care, as learners work collaboratively in their respective educational programs. As concluded by the Institute of Medicine<sup>48</sup> and a recent systematic review,<sup>7</sup> more research is needed to evaluate the impact of IPE on patient outcomes. Our project will provide initial information about midwifery students and obstetrics and gynecology residents learning together and serves as a baseline for future examination of the direct impact of IPE on outcomes of care provided by midwives and obstetrician-gynecologists. The materials developed may serve as a model for others to incorporate IPE into their classroom and clinical learning environments. Exploring ways to open additional learning opportunities for midwifery students within residency programs may provide options to expand the workforce. Bringing health professionals together during their formal education encourages learning from each other, learning from the people for whom they provide care who are their partners, and working toward the ultimate goals of improving quality patient care and strengthening the workforce.

## CONFLICT OF INTEREST

The authors have no conflicts of interest to disclose.

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