Training to competence and beyond:
Evaluation of a standardized training program for establishing and maintaining competence in early aspiration abortion care

Amy Levi, CNM, WHNP, PhD ■ Diana Taylor, RNP, PhD ■ Jeffrey Waldman, MD, PPFA ■ Suzan Goodman, MD, MPH ■ Molly Battistelli, BA ■ Deborah Karasek, MPH ■ Tracy Weitz, PhD, MPA

Objective
Initial training and maintenance of clinical competence is essential to effective and safe patient care. As part of the Health Workforce Pilot Project #171 in California, a combination of self-directed didactic learning and precepted clinical skill development has been used to expand the skill set of nurse practitioners (NPs), nurse midwives (CNMs), and physician assistants (PAs) to include manual and electric vacuum aspiration.

As part of the project, we are testing a standardized competency-based curriculum and training plan. We have used a variety of evaluation methods to ensure that the curricular tools and clinical experiences that have been provided to the trainees produce the expected clinical competency for safe, effective practice.

Methods
Knowledge attainment is measured by written exam after completion of a case-based curriculum. Each trainee completes a minimum of 40 procedures over 6 clinical days under direct physician trainer supervision. Daily and final competency assessments on patient comfort, procedural completeness, speed, and ability to identify problems are completed by both the trainer and trainee.

We analyzed data from patient procedures throughout clinician training and practice phase to evaluate the safety of abortion care provision as clinical competency progresses.

Results
Thirty-nine clinicians have been trained to competence since August, 2007: 27 NPs, 5 CNMs, and 7 PAs representing an average practice experience of 12.5 years. All trainees achieved a score of 90% or greater on a short answer test of the didactic curricular content; they were rated as competent by their physician trainers with an average of 45 (range 40-61) procedures performed over 6.9 (range 6-10) training days. Most trainees (90%) completed their clinical training requirements in 7 days or less.

Average number of procedures completed by end of training (n=39 trainees)

As expected, clinicians develop a beginning level of competence across the four domains with increasing experience. Confidence as rated by both trainers and clinicians averaged 6 on a 1-9 scale by the end of the 6th training day, lagging behind competency ratings.

Competence and confidence in providing for patient comfort is achieved first, as this factor is the foundation of all patient care. Speed in completing the abortion procedure, along with competence in complete uterine evacuation, is more variable and depends on the clinician’s knowledge and skill with other intrauterine and pregnancy-related procedures. Alternately, clinicians become more confident in their emergency management skills as they learn to diagnose and treat immediate problems such as hemorrhage and hematometra and to manage post-abortion problems such as an incomplete or failed abortion in family planning clinics.

Summary of NP/CNM/PA incidents (n=6,951 procedures)

<table>
<thead>
<tr>
<th>Incident classification*</th>
<th>%</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>System incident</td>
<td>0.1</td>
<td>6</td>
</tr>
<tr>
<td>Non-abortion-related incident</td>
<td>0.3</td>
<td>19</td>
</tr>
<tr>
<td>Abortion-related complication</td>
<td>1.6</td>
<td>107</td>
</tr>
<tr>
<td>Total</td>
<td>1.9</td>
<td>132</td>
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</tbody>
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*Abortion-related complications are distinguished from “system” incidents, in which a patient self-refers to an ER but receives no treatment, and “concomitant” incidents such as a pre-existing medical condition found during abortion care.

Conclusions
A combination of self-directed didactic learning and precepted clinical skill development following a standardized, competency-based curriculum is an acceptable method for adding manual and electric uterine vacuum aspiration skills to the practice of nurse practitioners, nurse midwives, and physician assistants.

Increasing access to first trimester abortion care demands an increase in the number of available providers. NPs, CNMs and PAs represent an underutilized resource for expanding access to abortion care, and a competency-based training program can successfully prepare them for providing this service.

Ongoing monitoring of complication rates as these clinicians continue to practice will provide more data to evaluate the success of these teaching methodologies longitudinally and help us to identify essential factors for maintaining clinician competency and confidence.