

THE CALIFORNIA HEALTH WORKFORCE PILOT PROJECT PROGRAM (HWPP #171)

Study findings and methods^a

Background

- Approximately 45% of pregnancies in the United States are unintended;^{1,2} nearly half of these (about 926,000 in 2014) end in abortion.¹
- Providing reliable access to all methods of unintended pregnancy prevention—pregnancy prevention, abortion care, preconception care, and economic supports—can help reduce unintended pregnancies.³⁻⁶
- Abortions are safest during the first trimester of pregnancy when they can be performed using nonsurgical medication or aspiration procedures.^{7,8}
- In the United States, nurse practitioners (NPs), certified nurse midwives (CNMs), and physician assistants (PAs) provide primary care services to more medically underserved patients than their primary care physician counterparts,⁹ but most states have laws limiting abortion provision to physicians (MDs/DOs).¹⁰
- In 2014, 90% of U.S. counties lacked an abortion care provider, and 39% of women between the ages of 15 and 44 live in one of these counties.¹
- As of 2011, 99% of facilities providing >400 abortions yearly are located in metropolitan areas.¹¹
- Lack of access to abortion care services is a major reason for delaying abortion.¹²
- Expanding the abortion care workforce could address the problem of access by allowing women to receive abortion care services from primary care providers in their own communities.¹

The HWPP study was designed to address the following aims and questions

- 1. Patient safety/provider effectiveness aim:** To measure the acceptability, safety, and effectiveness of NPs, CNMs, and PAs providing first-trimester aspiration abortions.
- a. Can NPs, CNMs, and PAs perform early aspiration abortions with outcomes comparable to those of their physician counterparts?

Quick facts

- Approximately 45% of pregnancies in the United States are unintended, and nearly half of those end in abortion.
- Abortions are safest during the first trimester. Lack of access, however, leads to delays. In 2014, 90% of U.S. counties—home to 39% of U.S. women of childbearing age—lacked an abortion care provider.
- Expanding the abortion care workforce would help—but while abortion care by NPs, CNMs, and PAs is both equally safe and as acceptable to patients as care by MDs, most states allow only physicians to provide abortion.

- b. Will women accept and have a positive experience with abortion care provided by NPs, CNMs, PAs be comparable to that provided by physicians?

2. Abortion training standards aim: To evaluate the implementation of a [standardized competency-based training curriculum](#) in the provision of aspiration abortion care.

3. Improving abortion care aim: To develop and validate a taxonomy and monitoring framework for defining and classifying abortion-related incidents (adverse events and morbidity).¹⁷

Study sample, design and methods¹⁰

- Approval and waiver were obtained from the California Office of Statewide Health Planning and Development (OSPHD) as well as university-based and independent review boards.¹⁰
- Primary sponsor was Advancing New Standards in Reproductive Health (ANSIRH) at the University of California, San Francisco (UCSF) Bixby Center for Global Reproductive Health.

- Partner organizations were four Planned Parenthood facilities (across California) and Kaiser Permanente of Northern California (KPNC).

Sample^{10,14}

- 47 trainees (28 NPs, 5 CNMs, and 7 PAs); 1.5 mean years' experience providing abortion care
- 96 physicians at study facilities served as comparison group; 14 mean years' providing abortion care.^b
- 16,998 patients (>age 16 at KPNC or >age 18 at PP); 9063 patients in NP/CNM/PA group and 7935 patients in MD group.¹⁴

Design¹⁰

- This was a prospective, observational, cohort study comparing safety, patient acceptability, and patient experience of abortion care services provided by NPs, CNMs, and PAs to those provided by MDs.
- A non-inferiority design with a pre-determined margin of 2% was selected since the goal was to augment, not replace, care by physicians by investigating whether there was statistical support for adding NPs, CNMs, and PAs to the abortion care workforce from the standpoints of safety, acceptability, and satisfaction.

Methods¹⁰

- 47 NPs, CNMs, and PAs were trained to competence (assessed by authorized physician trainers) in providing aspiration abortions using a standardized curriculum^{10,13} involving didactic and practical training.
- 16,998 patients were consented and enrolled between August 2007 and December 2013; 9,063 of these received abortion care services from a NP, CNM or PA while 7,935 received services from an MD.
- Patients were assessed for immediate (on-site) adverse events/morbidity and given a survey regarding delayed adverse events/morbidity (within 4 weeks following abortion).
- At least three attempts were made to contact patients who did not respond to follow-up survey or telephone contact, and medical records at facilities where abortions were performed were abstracted to further assess for possible delayed complications.

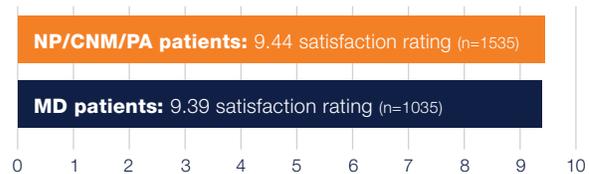
Outcomes^{10,14,15}

- The overall complication rate was low across all providers in HWPP (1.3%) compared to a 2.1% complication rate in a 2015 study of 55,000 abortions performed in California.^{10,16} Of the 152 complications (1.3% of all abortions in the HWPP study), 146 (96%) were classified

as minor. Fewer than .001% of all complications required treatment in a hospital setting.^{10,14}

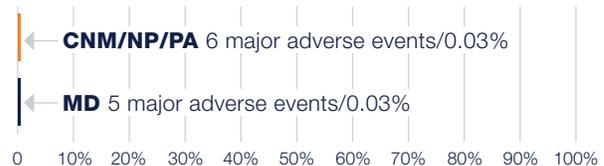
- Patient experience scores were very high (mean overall satisfaction=9.4, 0-10 scale) for all clinicians trained in abortion provision (NPs, CNMs, PAs, and MD trainees). Clinic environment, treatment by clinic staff, and adequate pain management contributed to patients' experience of abortion care, whereas clinician type was not significantly associated with satisfaction scores.^{10,15}

How satisfied were you with the care you received? (n=2,570)



- Differences in adverse event and morbidity rates between NP/CNM/PA group and MD group was 0.51%, which was well under the pre-determined 2% threshold for demonstrating non-inferiority, indicating that even newly trained NPs, CNMs, and PAs provided early aspiration abortions as safely as those provided by experienced MDs.¹⁴

Serious (major) adverse event rates by provider type (n=19,673)^{17,c}



- Competency-based abortion care training curriculum was effective in preparing NPs, CNMs, and PAs as safe providers of aspiration abortion.^d

The HWPP study demonstrated that

- Outpatient abortion is a safe procedure whether provided by NPs, CNMs, PAs, or MDs.^{10,16}
- NPs, CNMs, and PAs can provide early abortion care that is clinically as safe as that provided by expert, experienced physician providers when trained using a competency-based, learner-centered curriculum and training process.^{10,14}
- Abortion care provided by NPs, CNMs, and PAs is highly acceptable to patients.^{10,15}
- A framework distinguishing adverse events related to procedural abortion care from morbidity related to all other factors confirmed the rarity of serious adverse events resulting from early, clinic-based abortion care.¹⁷

Endnotes

- ^a Based on published reports from the AJPH 2013 paper (reference #10) and the AJPH January 2014 update (reference #14): the updated sample size in AJPH 2014 = 16,998.
- ^b 97 medical resident trainees (Family Medicine or Obstetrics/Gynecology) receiving procedural abortion training served as a training comparison group (n=660 procedures)
- ^c Seriousness of abortion-related adverse event or morbidity is evaluated based on diagnosis, management, and outcomes. **Major adverse events** are those requiring surgery, blood transfusion, or hospital admission, or resulting in harm or injury such as death or loss of bodily function. In this study, there were 11 total major adverse events resulting in additional surgery (to repair a missed ectopic pregnancy or uterine perforation), transfusion (for hemorrhage due to

uterine perforation), or hospitalization (for treatment of septic abortion). No deaths or disability was recorded in this study. We found no statistically (or clinically) significant differences between major adverse event type or rate between clinician groups.

Additional HWPP study data were collected through June 2014 increasing the total sample size to almost 20,000 patients in order to empirically validate a standardized system for defining and classifying "abortion complications" with specific criteria for abortion-related "incidents," "adverse events" and "morbidity" that are consistent with federal safety definitions and metrics.¹⁷

- ^d See [Early Abortion Education & Training Guidelines for Primary Care Providers](#), which integrates the HWPP Curriculum with the regularly updated [TEACH Workbook in Early Abortion Care](#).

References

- ¹ Jones RK, Jerman J. Abortion Incidence and Service Availability In the United States, 2014. *Perspect Sex Reprod Health*. 2017;49(1). doi:10.1363/psrh.12015.
- ² Finer LB, Zolna MR. Declines in Unintended Pregnancy in the United States, 2008-2011. *N Engl J Med*. 2016;374(9):843-852. doi:10.1056/NEJMsa1506575.
- ³ Morse J, Ramesh S, Jackson A. Reassessing unintended pregnancy. *Obstet Gynecol Clin*. 2017;44(1):27-40.
- ⁴ Levi A, Angel James E, Taylor D. Midwives and Abortion Care: A Model for Achieving Competency. *J Midwifery Womens Health*. 2012;57(3):285-289. doi:10.1111/j.1542-2011.2012.00182.x.
- ⁵ Taylor D, James EA, Angel James E, student W-Bcp. An Evidence-Based Guideline for Unintended Pregnancy Prevention. *J Obstet Gynecol Neonatal Nurs*. 2011;40(6):782-793. www.ncbi.nlm.nih.gov/pmc/articles/PMC3266470/pdf/nihms320201.pdf. Accessed March 12, 2017.
- ⁶ Dehlendorf C, Krajewski C, Borrero S. Contraceptive counseling: best practices to ensure quality communication and enable effective contraceptive use. *Clin Obstet Gynecol*. 2014;57(4):659-673. doi:10.1097/GRF.0000000000000059.
- ⁷ Bartlett L, Berg C, Shulman H, et al. Risk factors for legal induced abortion-related mortality in the United States. *Obstet Gynecol*. 2004;103(4):729-737.
- ⁸ Bennett IM, Baylson M, Kalkstein K, Gillespie G, Bellamy SL, Fleischman J. Early abortion in family medicine: clinical outcomes. *Ann Fam Med*. 2009;7(6):527-533. doi:10.1370/afm.1051.
- ⁹ Grumbach K, Hart LG, Mertz E, Coffman J, Palazzo L. Who is caring for the underserved? A comparison of primary care physicians and nonphysician clinicians in California and Washington. *Ann Fam Med*. 2003;1(2):97-104. doi:10.1370/afm.49.
- ¹⁰ Weitz TA, Taylor D, Desai S, et al. Safety of aspiration abortion performed by nurse practitioners, certified nurse midwives, and physician assistants under a California legal waiver. *Am J Public Health*. 2013;103(3):454-461. doi:10.2105/AJPH.2012.301159.
- ¹¹ Jones R, Kooistra K. Abortion incidence and access to services in the United States, 2008. *Perspect Sex Reprod Health*. 2011;43(1):41-50. doi:10.1363/4304111.
- ¹² Drey E, Foster D, Jackson R, Lee S, Cardenas L, Darney P. Risk factors associated with presenting for abortion in the second trimester. *Obstet Gynecol*. 2006;107(1):128-135. doi:10.1097/01.AOG.0000189095.32382.d0.
- ¹³ Goodman S, Wolfe M. *The TEACH Trainers Collaborative Working Group Early Abortion Training Workbook. 4th ed.* San Francisco: UCSF Bixby Center for Reproductive Health; 2012.
- ¹⁴ Weitz TA, Taylor D, Upadhyay UD, Desai S, Battistelli M. Research informs abortion care policy change in California. *Am J Public Health*. 2014;104(10):e3-e4. doi:10.2105/AJPH.2014.302212.
- ¹⁵ Taylor D, Postlethwaite D, Desai S, et al. Multiple Determinants of the Abortion Care Experience: From the Patient's Perspective. *Am J Med Qual*. 2013;28(6):510-518. doi:10.1177/1062860613484295.
- ¹⁶ Upadhyay UD, Desai S, Zlidar V, et al. Incidence of Emergency Department Visits and Complications After Abortion. *Obstet Gynecol*. 2015;125(1):175-183. doi:10.1097/AOG.0000000000000603.
- ¹⁷ Taylor D, Upadhyay U, Fjerstad M, Battistelli M, Weitz TA, Paul M. Standardizing the classification of abortion incidents: The Procedural Abortion Incident Reporting and Surveillance (PAIRS) Framework. *Contraception* 2017. doi: 10.1016/j.contraception.2017.05.004. www.sciencedirect.com/science/article/pii/S0010782417301361.