

these authors did, the groups may still differ in unknown and possibly unmeasured characteristics that influence the outcomes. In addition, one cannot control for events external to the trial that might change with time, such as heightened awareness of preventive services in the general public or a depressed economy during one of the periods but not the other.

**Outcomes measured.** The authors compared the historical control and environmental patient education groups with respect to the rates of cholesterol testing, Papanicolaou smears, tetanus boosters, and mammograms among those eligible for these services. A service was considered to have been performed if it was ordered any time during the 4-month study periods.

**Results.** Rates of ordering the four preventive services were not significantly different during the control and intervention periods, ie, environmental patient education did not appear to work. In trials with negative results, in which no difference is found between groups, "power calculations" are essential to inform the reader of the chances of a type II error. This type of error occurs when the study fails to detect a difference in the sample that actually exists in the population as a whole. This report includes power calculations both before and after data analysis, allowing more precise interpretation of the negative results.

**Recommendations for clinical practice.** The authors are to be applauded for challenging standard assumptions about prevention and patient education. They evaluated environmental patient education in two ways: by barring staff from discussing the patient education materials in the waiting area, and by measuring changes in physician behavior rather than other less direct outcomes. Because of the stringent outcome criterion, the negative results are not surprising. Moreover, in real life, medical assistants could be encouraged to chat with patients about preventive services while checking them in.

While we cannot be entirely confident of this study's negative results because of the nonrandomized historical control group, don't toss those patient education pamphlets yet. The entire office system may need to be involved to achieve effective preventive services. Prevention cannot thrive by video alone!

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#### References

1. Pommerenke FA, Dietrich A. Improving and maintaining preventive services. Part I: applying the patient model. *J Fam Pract* 1992; 34: 86-91.
2. Campbell DT, Stanley JC. *Experimental and quasi-experimental designs for research*. Chicago, Ill: Rand McNally, 1963.

## MATERNITY CARE BY FAMILY PHYSICIANS VS OBSTETRICIANS

**TITLE:** Practice variations between family physicians and obstetricians in the management of low-risk pregnancies

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*Clinical question.* Do practice patterns and neonatal outcomes differ for women with low-risk pregnancies based on whether they obtained maternity care from family physicians or obstetricians?

**Background.** Studies comparing management of labor and delivery by family physicians and obstetricians have produced conflicting results. Small sample sizes and use of single hospital sites have limited previous comparisons. While studies showing no differences have been conducted in the United Kingdom and Canada, these results may not apply to the medical environment in the United States. The current study is the first large multicenter comparison of differences in the management of labor and delivery provided by obstetricians and family physicians in the United States.

**Population studied.** The study included a retrospective random sample of 7367 women giving birth at five participating hospitals in Morehead, Kentucky; Greenville, North Carolina; Sioux Falls, South Dakota; Grand Rapids, Michigan; and Schenectady, New York, during 1990 and 1991. Women were cared for by 178 family physicians and 181 obstetricians. Those considered to be at increased risk according to explicit criteria were excluded, for a final sample of 2000 women managed in labor by family physicians and 2865 managed by obstetricians.

**Study design and validity.** This is a retrospective, cross-sectional study design. The greatest concern about the study's validity is uncertainty about the comparability of the patients managed by each group of specialists. Ideally, the best design involves randomization of patients to receive care from either a family physician or obstetrician. When that is not possible, an attempt is made to develop equivalent groups in the design phase, in the analysis phase, or in both. The authors made a considerable effort to develop comparable groups for this study. In the design phase of the study, they set clear inclusion and exclusion criteria and categorized patients according to the speciality of the physician who initially supervised labor care. In the analysis, the authors adjusted for differences in the study groups by using Mantel-Haenszel summary chi-squares and logistic regression. They controlled for refer-

ral bias by re-examining cesarean section delivery rates on the basis of the specialty of the physician with whom prenatal care was begun. Despite all these adjustments, the equivalence of patients cared for by the family physicians vs those cared for by the obstetricians remains uncertain. Patient self-selection of specialty care could still explain any observed differences.

Even if the patient groups cared for by family physicians and obstetricians were truly equivalent, it is possible that the hospitals selected are not representative of all hospitals. This would affect the "external validity" or generalizability of the findings. The investigators were wise to choose a variety of geographic settings, including rural, suburban, and urban, which increases the external validity. However, each of the participating hospitals had a family practice residency program, which is not typical of most hospitals in the United States.

*Outcomes measured.* Neonatal outcomes, such as Apgar scores, and procedures related to management of labor and delivery were among the outcomes measured. We are not told what specific variables of interest were defined before the chart audits were performed, nor are we told how many variables were studied. Because the study does not appear to be hypothesis-driven and because no statistical adjustment was made for multiple comparisons, the findings require confirmation in subsequent studies.

*Results.* Women managed by family physicians were less likely to have their labors induced than those managed by obstetricians (8.6% vs 10.4%, respectively), receive oxytocin augmentation (14.9% vs 17.8%), have epidural anesthesia (5.4% vs 17.0%), have episiotomy (53.7% vs 74.5%), or undergo cesarean section (9.3% vs 16.0%). There were no differences in neonatal complication rates. However, serious adverse neonatal events, such as death and seizures, are quite rare among patients with low-risk pregnancies, and this study did not include a sufficient number of patients to detect a small but clinically significant difference in these outcomes.

*Recommendations for clinical practice.* Despite these limitations, Hueston and his colleagues have produced the best data to date describing variations in the management of labor and delivery between family physicians and obstetricians in the United States. The "lower tech" approach of family physicians as compared with obstetricians is consistent with other specialty comparisons. It is hoped that their work will pave the way for an even larger definitive study of obstetric and neonatal outcomes of pregnancies managed by obstetricians, family physicians, and nurse midwives.

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