

OBSTETRICS

On call: a survey of Wisconsin obstetric groups

Charles W. Schauberger, MD; Robert K. Gribble, MD; Brenda L. Rooney, PhD

OBJECTIVE: The purpose of this study was to identify patterns of obstetric call in order to identify areas of focus for future evaluation of "best practices."

STUDY DESIGN: A telephone survey of obstetricians in Wisconsin was conducted, attempting to sample 1 physician from each group or call pool in every hospital in the state.

RESULTS: Sixty-six physicians responded to this survey. The range in size of call pools was 1 to 11, with the median being 5. The duration of call is usually 24 hours. All have other nondelivery responsibilities

while on call. In-house call is almost always limited to hospitals with residencies (6/8). Twenty-three percent of groups have formalized back-up systems, and 26% of groups have recovery provisions after call.

CONCLUSION: There is no standard call system. Practicing obstetricians are commonly on call for longer hours and have less time off after call than is now mandated for obstetric residents, though work intensity may vary.

Key words: call, obstetric practice

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Call may be defined as the interval of time during which an individual is responsible for the provision of care for a patient population that is agreed upon and shared by a group of clinicians with similar skills and responsibilities. These responsibilities typically extend beyond the usual hours of provision of services, but may also interrupt or interfere with standard daily operations or personal activities if they are felt to be critical to the overall mission of the group. Call may be a shared responsibility or a solitary task and usually rotates among group members. A call pool may be defined as a group of physicians who share these responsibilities and are self-regulating, as

no external entity regulates call and members of the call pool agree to rules and procedures that they help determine.

Obstetricians tend to be busy and hard working people. Surveys suggest that the average obstetrician-gynecologist works approximately 60 hours per week.¹⁻⁵ It is widely acknowledged that obstetric call can be among the busiest of all specialty calls and is an important part of obstetric practice. However, 1 survey reported that call was the least satisfying element of many obstetricians' practices.⁵

Residents' long work hours and chronic sleep deprivation have been recognized as potential patient safety concerns.⁶⁻¹⁰ This has resulted in similar concerns regarding physicians in private practice. There is also evidence that fewer medical students are selecting obstetrics and gynecology, not only due to the potential stress of malpractice litigation, but also due to lifestyle issues.¹¹

In this environment, it is important to identify "best practices" both for patient safety and to identify call practices that improve our ability as obstetricians to continue to take call that is humane and sustainable for the length of our careers. As an initial part of that process, we need to evaluate the current state of call. This evaluation also needs to address the variability of call since the size of practice

groups and the nature of the mix of obstetrics and gynecology in the practice may influence and cause significant differences in the requirements of call. To our knowledge, this is the first study to examine the demands and patterns of call utilized today.

MATERIALS AND METHODS

A survey was developed by the authors. Reproducibility of the survey was measured by surveying 3 obstetricians each from Gundersen Lutheran and Marshfield and finding identical results, verifying the accuracy of responses in terms of reflecting actual call practices. The project was reviewed and approved by the Institutional Review Boards of both sponsoring organizations.

A list of hospitals in the state of Wisconsin was obtained from the American Hospital Association. All hospitals that provide obstetric services were contacted to identify if obstetricians provided care at that hospital. Obstetric call pools or groups providing obstetric care were identified by their obstetric department staff, or by 1 of the physicians called. An attempt was made to contact, by phone, 1 member of each group, usually 1 of the physician leaders, or the doctor on call at the time of the phone call.

The first 2 authors made all the calls, such that the interviews were obstetri-

From the Gundersen Lutheran Medical Center, La Crosse, WI (Drs Schauberger and Rooney); and Marshfield Clinic, Marshfield, WI (Dr Gribble).

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Reprints: Charles Schauberger MD, MS, Gundersen Lutheran Medical Center, 1900 South Avenue, La Crosse, WI 54601, cwschaub@gundluth.org

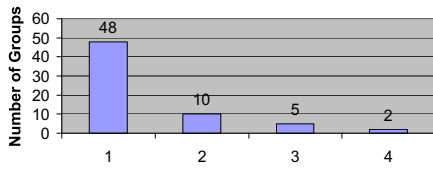
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FIGURE 1
Number of hospitals in which deliveries are performed



cian to obstetrician. All survey respondents were informed of the intent of the survey, institutional review board (IRB) approval, and their right to terminate the survey at any time. The survey took approximately 15 minutes. The responding physicians were given an opportunity to provide additional information or ask questions about the survey after the survey was completed. Two physicians declined participation. The majority of the calls were made in the summer of 2004.

The responses were entered into an Excel spreadsheet (Microsoft, Redmond, WA). Practice locations were categorized as rural or urban based on Medicare definitions of metropolitan statistical areas. Statistical analysis was performed using SAS statistical package (Cary, NC). Chi-square or Fisher exact tests were used to test for significance and a P value $< .05$ was considered to be statistically significant.

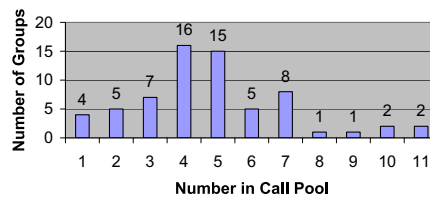
RESULTS

Sixty-six physicians, each representing a unique call pool, were successfully surveyed with adequate information obtained to answer most questions. These 66 obstetricians represented approximately 300 obstetricians.

Based on the hospital classification, there were 52 urban and 14 rural groups. Twenty-six percent provided obstetric services in more than 1 hospital (Figure 1). There was a significant and predictable geographic distribution to this pattern, as physicians who practiced in urban hospitals were more likely to deliver in more than 1 hospital ($P = .0074$).

Call duration varied from 12 hours to 7 days, but 24 hours was the most frequent duration (65%). Some groups in urban settings shared call coverage only on weekends, or during vacations or holidays.

FIGURE 2
Call pool size



The size of the call pools is demonstrated in Figure 2. The range was 1-11. The mean for urban hospitals was 5.1, whereas the mean for rural hospitals was 3.9 ($P = .065$). At this time, no practices in Wisconsin indicated having moved to a "laborist" system, or a system that provides for a night call doctor.

WHAT WE DO WHEN ON CALL

By the nature of the survey, obstetric care was a consistent feature, being provided by 100% of the respondents. The frequencies of other call responsibilities are indicated in Table. "Backup" provided to family practitioners and nurse-midwives included cesarean section services and consultations. No group supervising midwives provide coverage for home deliveries. All respondents indicated that while on call, they provide emergency nonobstetric care, such as providing consultations for other specialists, seeing patients in the emergency room, or receiving phone calls from patients.

Eight (12%) respondents indicated that call required in-house presence, or was customary due to the amount of re-

sponsibilities. In 6 of these 8, requirements to be in-house were codified due to obstetric residency requirements.

Eighty-two percent indicated that call did not interfere with daily work such as office visits, whereas 18% indicated that the duties of call, or geographic distance between office and hospital, prevented them from seeing patients in the office while on call. One hundred percent indicated that scheduled surgery might be performed while on call.

Teaching responsibilities or supervising residents occupied a significant role for physicians on call. Thirty-six percent taught or supervised obstetric or family practice residents, and 26% were involved in medical student education on a consistent basis when on call. Participation in residency programs requires in-house call for at least 1 obstetrician at a time, so those call groups that participate in educating residents often have a complex system of infrequent in-house call, but out-of-house call for their own groups on a more frequent basis.

Rules regarding call responsibilities are largely uncoded. Twenty-six percent of respondents indicated that their call pool/group had formal rules regarding the level of responsibilities. Many of these rules are governed by the hospital staff by-laws, or departmental policies. As a sample, the following practices were reviewed:

Vaginal birth after cesareans (VBAC): 89% of respondents indicated that their group allows VBAC. Eighty percent of these groups indicated that in-house presence of the obstetrician was required. Only 64% of groups in rural hospitals allowed VBAC, whereas 96% of those in urban hospitals allowed VBAC ($P = .0006$).

Oxytocin usage: only 24% of respondents indicated that in-house presence was required of them to induce or augment labor with oxytocin. No differences were noted in rural or urban settings.

Anesthesia coverage differed between rural and urban settings. In-house anesthesia coverage was present in 14% of rural hospitals and 65% of urban hospitals ($P = .007$).

TABLE
Duties performed when on call

	Percentage
Obstetric care	100
Emergency, nonobstetric care	100
Scheduled patients in clinic	82
Scheduled surgery	100
Teaching residents	36
Training students	26
Backup midwives	24
Backup family practitioners	68

A survey was conducted to elucidate the variations in on-call practices of Wisconsin obstetricians.

All surveyed obstetricians were questioned about back-up call systems. Twenty-three percent of respondents reported that their group had a “second on-call” schedule formalized. The rest of the respondents indicated that they felt comfortable in calling any of their partners to assist them if they had too many deliveries or other responsibilities occurring at the same time. However, they had no predefined mechanism for ensuring the back-up person’s availability.

WHAT WE DO AFTER CALL

A number of respondents reported personally restricting, or being required to restrict, their activities after call. Twenty-six percent indicated that their group had provisions for reduced work hours or the day off after call. Several groups indicated that they arrange for their “afternoon off” to follow their call day to allow for recovery. Only 18% indicated that they restrict themselves from major surgery. Several volunteered that they would cancel or postpone surgery, or transfer the patient to a partner’s care if they were sleep deprived and felt they might be unable to perform surgery safely.

PROVISIONS FOR DISCONTINUING OR RESTRICTING CALL

A number of respondents indicated that call was a requirement of their practice. However, a large variety of arrangements for restricting call, especially related to the aging physician, were discovered. Twenty-one percent indicated that physicians were allowed decreased call with age, with the age of 55 as a beginning point for this consideration.

Several medical center physicians (4.5%) indicated that members of their department had become involved in administrative duties and had restricted their practices, including call, as a result. Some respondents indicated that decreased call responsibilities were accepted by members of their medical staff due to other reasons, such as family responsibilities or physical infirmity, but no effort was made to quantify these occurrences.

HOW DOES CALL AFFECT US?

Respondents were asked to provide their personal perceptions to 2 questions near the end of the survey:

Due to excessive workload, how often have you felt your ability to provide safe care is compromised (never, seldom, occasionally, frequently). Only 8% felt that this problem was an occasional concern, whereas the remainder stated that it was seldom or never a concern.

When asked about sleep deprivation, 13% indicated that they felt it was an occasional or frequent concern, and 87% that it was seldom or never a concern. The responses to these questions were not significantly different for those who took in-house versus out-of-house call ($P = .15$). There were also no differences based on geography (rural vs urban, $P = .54$).

MISCELLANEOUS RESPONSES

Several physicians pointed out that a large portion of their remuneration was earned while on call and admitted that economic pressure to provide coverage for their own patients was an important driver of their practices. They may make themselves available for deliveries beyond the call system. Many physicians acknowledged that call is very busy, but that they accept these as responsibilities of the job. Many indicated satisfaction with their present arrangements, though some indicated that more partners, yielding less frequent call, was desirable. Several expressed fears that the government or some other body would put similar restrictions on their practices as required of residents.

Another frequently expressed concern related to inadequate preparation of residents for primary care practice, as it often exists today. They were concerned that the willingness to provide care in a 24-hour/7 day-a-week mode was becoming increasingly difficult with partners who seem to be less prepared for the call requirements typical in their practices.

COMMENT

In reviewing the literature, it was apparent that call, an important element of ob-

stetric practice, has been widely unexplored. A “call pool” is very poorly defined and very fluid. This pattern allows for flexibility in managing time and practices. Small groups appear to be more flexible, with more variations, whereas larger groups are usually more structured. Furthermore, there were identifiable differences in geography, with groups in urban settings more likely to provide care at multiple hospitals and for longer periods of time. Many provide coverage for their own obstetric patients, even when not on call. Most of the obstetricians in rural locations provide call for 24-hour periods, and usually only at 1 hospital.

The range of duties assigned to the on-call doctor varied from pool to pool. Coverage for gynecologic emergencies and consultations on hospitalized patients was universal, but most physicians indicated that they were infrequent occurrences. A significant amount of time and effort is dedicated to supervision and support of other obstetric care providers, such as nurse-midwives and family practitioners. Recent birth certificate statistics demonstrates that 6.7% of babies in Wisconsin are delivered by midwives.¹² Statistics are unavailable to compare delivery statistics for obstetricians and family practitioners.

We did not attempt to evaluate the issue of subspecialists (oncologists, reproductive endocrinologists) taking obstetric call and the complexities associated with academic medical center call. Several perinatologists were interviewed, but an inadequate number to allow for comparisons with nonperinatologists. We also did not compare results based on gender.

It is uncertain how many people discontinue call for medical, social, or professional reasons. From the perspective of near-retirement decisions, it appears that most continue to take call as long as they have obstetric privileges or work full-time. However, Chan and Willett verified that age was a key determinant of whether physicians continued to practice obstetrics.¹³

Significant differences exist between resident call and practicing obstetrician call. Resident call is typically more in-

tense, shorter, more focused, and participants are more likely to go without sleep. In contrast, call in the typical obstetric practice will require less sleep deprivation but longer hours on call, balancing multiple responsibilities, and sometimes in multiple locations. Therefore, it is inappropriate to address the issue of "preparing residents for practice" simply by returning to the days of longer resident call hours. It is also inappropriate to attempt to extrapolate residency call/work restrictions, or the research that supports such restrictions, onto practicing physicians.

We recognize the strengths and limitations of this study. We believe the obstetrician-to-obstetrician telephone call ensured the high response rate, and probably increased the accuracy of the results, as physician may be more candid with another physician. The respondents may not have represented the opinions of all of their partners. We recognize that Wisconsin may not represent the rest of United States. However, we believe the patterns found could be commonly demonstrated in the rest of the country. From a qualitative point of view, we seemed to reach a saturation point, in that no new patterns became apparent, well before the study was completed. Though presence or absence of some system characteristics can be quantified, other factors escape counting. However, the majority of the variables do not require strict quantification to be relevant to the discussion of the issues.

We believe this is a first step in understanding "call" and that further work needs to be performed. Of particular concern are the number of call practices that raise significant safety issues such as duration of call extending up to 72 hours on weekends, lack of specific requirements for recovery time after call, and balancing multiple responsibilities, including scheduled surgery while on call. Twenty percent of call groups do not require in house call when a patient is attempting a VBAC in spite of ACOG guidelines requiring that a physician capable of performing a cesarean delivery be

"immediately available."¹⁴ Less than a quarter of groups have a defined system to assure backup call coverage. These practices must be addressed from both the patient safety and professional satisfaction perspectives.

Laborists and other systems with dedicated in-house obstetric coverage may be 1 of the best ways of managing these concerns.¹⁵ However, implementing such systems in smaller hospitals and call groups may not be feasible from an economic standpoint. Nor may it be beneficial from an overall quality of care perspective, if it results in limiting patient care provided by obstetricians to larger hospitals and larger communities. In addition, research in areas such as the impairment that results from sleep deprivation is applicable to typical residency practices, but not necessarily appropriate to postresidency call requirements for which sleep deprivation may be less of a concern than the balancing of multiple responsibilities at the same time.

In view of the current lack of research on optimal call practices, these systems are usually being refined based on local "expert opinion." Any standards established by professional organizations, regulatory agencies, or legal concerns are viewed as arbitrary. Consideration should be given to exploration of variables through a human factors engineering perspective. What improvements can be made? Specifically, studies might be considered in evaluating safety implications of long durations of usually less intense call, coverage at multiple hospitals, competing responsibilities, after-call workloads, and backup call systems. Time-motion studies might be contemplated. Furthermore, we believe that residencies must look at the differences between resident call versus private practitioners call and identify ways of preparing them for the typical postresidency practice. ■

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