

ORIGINAL ARTICLE

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How Satisfied Are Mothers with 1-Day Hospital Stays for Routine Delivery?

CONTEXT. Payers and health plans are encouraging shorter hospital stays after routine vaginal delivery.

OBJECTIVE. To assess the satisfaction of mothers who had 1-day or 2-day stays after routine delivery.

DESIGN. We mailed questionnaires to mothers 7 to 9 months after delivery. The self-administered survey contained questions about the mothers' satisfaction with the care they received, clinical complications, and the mothers' preparedness after discharge.

SETTING. A mixed-staff, network-model managed care plan in Minnesota that encourages but does not require 1-day hospital stays after routine delivery.

PARTICIPANTS. All plan members who delivered a baby vaginally in the first quarter of 1995 ($n = 1009$).

RESULTS. 56% of the mothers responded to the survey. Of these, 202 had 1-day stays and 292 had 2-day stays. Mothers with 1-day stays were more likely than mothers with 2-day stays to report that their length of stay was "too short" (75% vs. 37%; $P < 0.001$), and 81% of mothers with 1-day stays would want to stay longer if they had another child. The frequency of self-reported maternal or infant complications did not differ substantially between the two groups. More mothers with 1-day stays than mothers with 2-day stays received home health care visits (44% vs. 10%; $P < 0.001$).

CONCLUSION. Although length of stay does not seem to be related to clinical outcomes after vaginal delivery, mothers with 1-day stays are less satisfied with their length of stay.

The mother's length of stay in the hospital after routine vaginal delivery has decreased substantially over the past several decades, from 7 to 10 days in 1960 to 1 to 2 days in recent years. In some settings, stays of less than 24 hours have been encouraged. However, efforts to reduce length of stay after vaginal delivery are meeting with increasing resistance from patient groups and their political representatives. For example, the Minnesota state legislature passed a bill in March 1996 that required all health plans to provide coverage for hospital maternity care for 48 hours after vaginal delivery. The bill included a provision for home care coverage for patients with shorter stays. Congress passed a similar bill shortly thereafter but did not include a stipulation for home care.

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Although no evidence shows that reducing the length of hospital stay after routine vaginal delivery is detrimental from a clinical perspective,¹⁻⁴ little is known about the effect of short-stay deliveries on the mother's satisfaction with care. Therefore, we surveyed women enrolled in a health plan that encourages but does not require short stays after routine vaginal delivery. We sought to determine whether the satisfaction, attitudes, and clinical outcomes of mothers with 1-day stays (<36 hours) differed from those of mothers with longer stays.

Methods

Setting

This study was based on patients enrolled in HealthPartners, a large, mixed-staff, network-model managed care organization in Minnesota. HealthPartners explicitly encourages early discharge (approximately 24 to 36 hours) after vaginal delivery when such discharge is medically reasonable. The plan has worked with appropriate providers (physicians, registered nurses, and educators) to implement appropriate clinical pathways aimed at facilitating safe, early discharge. These pathways provide guidance for post-delivery care and suggest 1 to 2 home care visits for patients who are discharged early. To align patient expectations with the plan's program, information packets are distributed to mothers at prenatal visits and classes. Although short stays are encouraged, the early discharge plan is described to patients as "optional" and longer stays do not need to be approved.

Patients

We identified all mothers who delivered vaginally between January 1 and March 31, 1995, under the care of a provider in the Contracted Care Division of HealthPartners (membership, approximately 450,000). Medicaid enrollment in the plan is low in general, and there were no Medicaid mothers or infants in the study. Of the 1009 mothers who received our survey, 563 (56%) provided completed responses. On the basis of information received from the respondents, we excluded women with hospital stays exceeding 2 days ($n = 19$), women whose delivery and discharge dates were incompatible ($n = 13$), women who had cesarean sections ($n = 2$), and women whose discharge dates differed from those of their infants ($n = 32$). Because two mothers each met two exclusion criteria, a total of 64 patients were excluded.

For the remaining 499 women, we determined length of stay according to the time and date of delivery and the time and date of hospital discharge (mothers' self-reports were used for both variables). Mothers discharged within 36 hours of delivery ($n = 202$) were cate-

gorized as having 1-day stays; the rest ($n = 297$) were categorized as having 2-day stays.

Survey

The self-administered survey contained 40 items covering several domains, including patient characteristics and demographic information. Women were asked about delivery and discharge dates, sites of care, classes and materials received, and insurance data. They were queried about any complications in themselves or their infants. Finally, they were asked about their perceptions of the postpartum experience and their satisfaction with the hospital stay.

The survey instrument was developed by using a pilot study of 50 commercially insured postpartum women. After modifications, the survey on which this analysis is based was mailed to 1009 mothers in October 1995 (7 to 9 months after delivery).

We used chi-square tests to compare the survey responses of mothers with 1-day stays and mothers with 2-day stays. The analysis was done with the SAS statistical software package (SAS Institute, Inc., Cary, North Carolina).

Results

Patient Characteristics

Mothers with 1-day stays and mothers with 2-day stays were of similar age and education level (Table 1). Most mothers in each group reported having had prenatal visits within the first 15 weeks of pregnancy; approximately half had attended prenatal classes. More mothers with

TABLE 1
Characteristics of Respondents and Their Pregnancies and Labor*

CHARACTERISTIC	MOTHERS WITH A 1-DAY STAY	MOTHERS WITH A 2-DAY STAY
Age > 29 years	55%	63%
College graduate	54%	55%
Had prenatal visits within the first 15 weeks of pregnancy	97%	98%
Attended prenatal classes	51%	55%
Was advised of being at risk for preterm labor	10%	16%†
Duration of labor ≥ 24 hours	3%	3%

*According to self-report.

† $P < 0.04$

TABLE 2

Maternal and Fetal Complications*

COMPLICATIONS	1-DAY STAY	2-DAY STAY
Maternal		
Fever	4.4%	4.7%
Dysuria	4.9%	5.4%
Leg pain or swelling	2.9%	2.5%
Vaginal bleeding	6.8%	8.3%
Breast infection	7.3%	5.1%
Episiotomy	1.5%	1.9%
Other	6.3%	7.6%
Any	34.1%	35.7%
Readmission within 14 days of discharge [†]	0.6%	0.2%
Fetal		
Cord healing	3.3%	4.5%
Feeding	7.7%	9.0%
Circumcision	1.9%	1.9%
Colic	3.4%	5.1%
Jaundice	29.3%	20.6% [‡]
Other	4.8%	3.5%
Any	50.5%	44.7%
Readmission within 14 days of discharge [†]	0.6%	2.2%

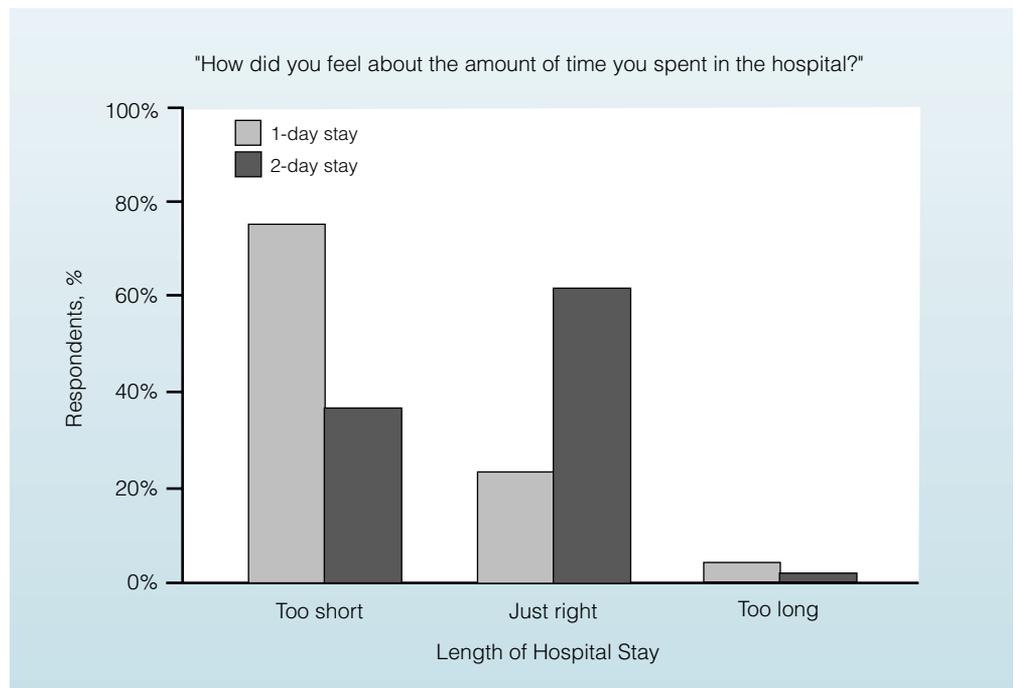
*According to self-report.

[†]From claims data.

[‡] $P = 0.03$.

2-day stays than mothers with 1-day stays had been advised that they were at increased risk for preterm labor (16% vs. 9.5%; $P < 0.05$).

FIGURE 1. Satisfaction with length of stay.



Self-Reported Outcomes and Resource Use

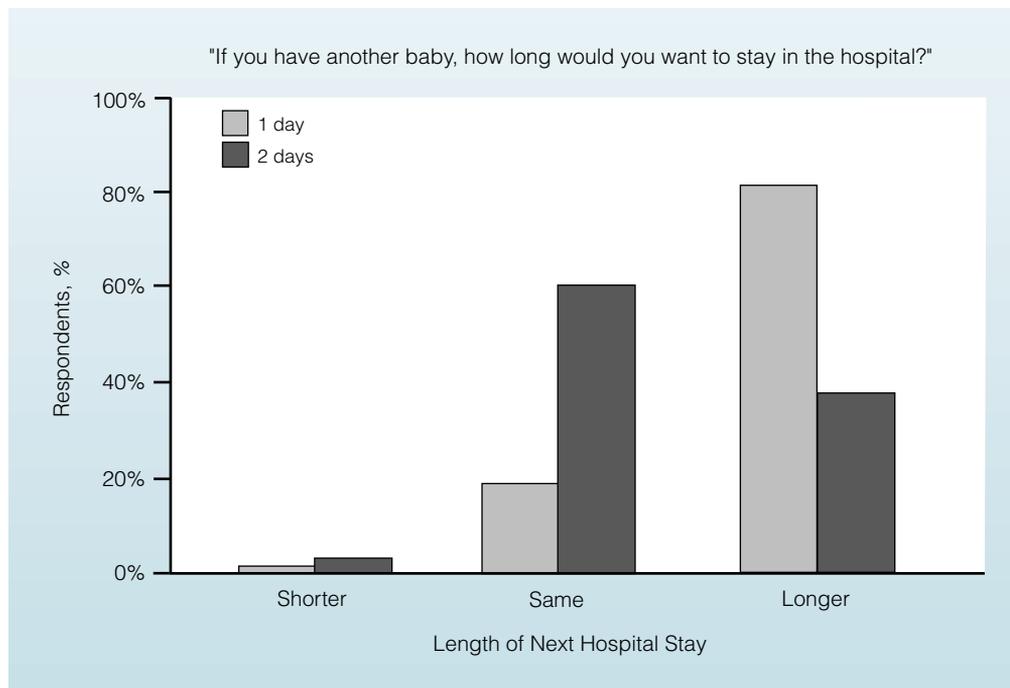
The two groups reported similar rates of maternal complications and infant complications (Table 2). However, infants of mothers with 1-day stays had somewhat higher rates of jaundice than did infants of mothers with 2-day stays (29% vs. 21%; $P = 0.03$). Although the infants with 2-day stays had more readmissions than the infants with 1-day stays (2.2% vs. 0.6%), the difference was not statistically significant. As expected, mothers with 1-day stays received substantially more home health care visits than did mothers with 2-day stays (44% vs. 10%; $P < 0.001$).

Patient Attitudes and Satisfaction

We asked women about the major influence on their length of hospital stay after delivery; they had a choice of 10 possible answers and “other.” Of mothers with 1-day stays, 36.5% believed that the length of stay was their decision (24.0%) or their physician’s decision (12.5%). In contrast, 51.4% of mothers with 2-day stays reported that their length of stay was their own decision (21.8%) or their physician’s decision (29.6%). The plan was cited as the greatest influence on length of stay by 52% of mothers with 1-day stays and 41.5% of mothers with 2-day stays.

Seventy-five percent of mothers with 1-day stays and 37% of mothers with 2-day stays thought that their stay was too short (Figure 1). In contrast, only 23% of mothers with 1-day stays but 62% of mothers with 2-day stays reported that their length of stay was “just right.” Reflecting similar attitudes, 81% of mothers with 1-day

FIGURE 2. Preference for length of stay for future deliveries.



stays said that they would prefer a longer stay if they had another child (Figure 2). Conversely, 60% of mothers with 2-day stays would choose the same length of stay with their next child.

Despite their dissatisfaction with short-stay deliveries, mothers with 1-day stays felt as prepared to care for their infants after discharge as mothers with 2-day stays did (Table 3). Confidence levels were high in both groups.

Discussion

Even months after discharge, mothers discharged after 1-day hospital stays were less satisfied with the length of

their stay than were mothers who stayed in the hospital for 2 days. Most mothers with 1-day stays believed that their stays were too short and would choose a longer stay with subsequent deliveries. Although the physician and the mother make the actual discharge decision, our survey suggests that the mothers often perceive that the health plan has a strong influence on the decision about length of stay.

Although many observational studies, commentaries, and anecdotes are available,⁵⁻¹⁵ we identified only three randomized, controlled trials assessing clinical or psychosocial outcomes associated with short-stay deliveries. Unfortunately, these trials have limited value. One Swedish trial done 12 years ago (when several-day stays were the rule) enrolled only 10% of the eligible population and thus has limited generalizability.¹⁶ Another trial was restricted to cesarean deliveries.¹⁷ Finally, all three trials had limited sample sizes and thus lacked the statistical power to rule out ill effects of early discharge.¹⁶⁻¹⁸ Braveman and colleagues' literature review⁴ concluded that little good scientific evidence exists on either side of the question. Among all of these studies, only one large population-based observational study³ suggests that early discharge creates a health risk.

Our study has several limitations. First, because it is an observational study and not a randomized, controlled trial, we cannot rule out confounding: Mothers with 1-day stays and mothers with 2-day stays may differ in ways not captured in our analysis. However, it is unlikely that the possible unmeasured differences between the two groups could explain the

TABLE 3
Maternal Preparation for Childrearing*

VARIABLE	1-DAY STAY	2-DAY STAY
Planned to breast-feed	75%	71%
Felt breast-feeding instruction was adequate	70%	76%
Had confidence in identifying jaundice	59%	61%
Had confidence in caring for other children	61%	58%
Had confidence in caring for self	82%	82%

*According to self-report.

large differences in their preferences about length of stay. Second, the response rate for our survey (approximately 50%) was low. This raises the possibility of selection bias: Mothers who were not satisfied with their stay may have been more likely than those who were satisfied to respond to the survey. Finally, our results, which are based on a single health plan in Minnesota, may not be generalizable to other delivery settings and populations.

Despite these limitations, our study suggests that mothers are very dissatisfied with 1-day stays after routine vaginal delivery. This finding is generally consistent with reports of patient “backlash” against short hospital stays after delivery and legislative efforts aimed at curbing this practice. Plans that are interested in containing costs and maintaining high levels of member satisfaction will need to find innovative ways to encourage short stays that are more acceptable to mothers.

Take-Home Points

- Efforts by health plans to shorten hospital stays after routine vaginal delivery are controversial.
- We surveyed mothers who had 1-day hospital stays and mothers who had 2-day hospital stays to compare their feelings about length of stay.
- Although the two groups reported similar rates of complications, 75% of mothers with 1-day stays reported that their stays were too short and 81% stated that they would choose a longer stay with the next delivery.
- In contrast, only one third of mothers with 2-day stays felt that their hospital stay was too short.
- Plans that are interested in containing costs and maintaining high levels of member satisfaction will need to find innovative ways to encourage short-stay deliveries that are more acceptable to mothers.

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