A Performance Monitoring Resource for
Critical Access Hospitals, States, and Communities

Flex Monitoring Team | University of Minnesota
University of North Carolina at Chapel Hill
University of Southern Maine

Policy Brief #18
March 2011

Changes in obstetrical services among Critical Access Hospitals

Mark Holmes, PhD, Saleema Karim, MBA, MHA, George Pink, PhD
North Carolina Rural Health Research and Policy Analysis Center, University of North Carolina

Introduction

Obstetrical services are important health services to communities. Previous surveys by the Flex Monitoring Team[1] have found that obstetrical services are a line of service commonly discontinued by Critical Access Hospitals (CAHs). Furthermore, in a recent survey of financial improvement strategies,[2] administrators of CAHs reported "increasing OB beds" as having a negative impact on financial performance.

The purpose of this study was to identify any change in the provision of obstetrical services by CAHs and to determine whether any changes could be explained by particular factors facing CAHs. Medicare Cost Report data on nursery patient days were used as a measure of provision of obstetrical services.

Method

Using Medicare Cost Report data, we identified all Cost Reports from 2000 to 2009 for rural hospitals with fewer than 50 beds. A hospital was deemed to provide obstetrical services in a reporting period if at least one nursery day was reported on its Medicare Cost Report.[3] The sample was limited to hospitals reporting at least eight fiscal years of data with at least 360 days between 2000 and 2009 (N=1,374). The sample included hospitals that were CAHs before 2000, hospitals that became CAHs during the study period, and rural PPS hospitals with less than 50 beds that did not become CAHs.

Results

Figure 1 displays the percent of CAHs with at least one nursery day between 2000 and 2009. The figure shows a sharp increase in hospitals offering OB services between 2000 and 2003 and a small decrease after 2007. However, these results are difficult to interpret because the total hospital number, the average number of beds, and the average daily census of CAHs changed substantially over the ten-year period. In 2000, there were

Key Findings

- The percent of CAHs with at least one nursery day increased markedly between 2000 and 2006 and only a small decrease occurred after 2007. However, this was due to substantial changes in the number of CAHs, the average number of CAH beds, and the average daily census of CAHs over the ten-year period.
- Among hospitals that were or would become CAHs, the percent with at least one nursery day decreased from 64.0 percent pre-conversion to 55.5 percent within three years after conversion.
- No similar change in OB service provision occurred among rural hospitals that did not convert from PPS to CAH during the same time period Thus, reduction of OB services cannot be readily explained by other factors facing rural hospitals generally, such as OB provider shortages or malpractice rates.
- Despite the reduction in the number of CAHs with nursery days, there was little change in the total number of nursery days in CAHs. Hospitals that continued to offer OB services experienced a roughly 20 percent increase in their average number of annual nursery days.

1. Casey M and Klingner J. 2004 CAH National Survey Data. Flex Monitoring Team, August 2004.
2. Holmes GM and Pink GH. Adoption and Perceived Effectiveness of Financial Improvement Strategies in Critical Access Hospitals. *Journal of Rural Health*. In press.
3. Alternative definitions, such as more than twelve nursery days or the OSCAR definition, provided qualitatively similar results.

This study was conducted by the Flex Monitoring Team with funding from the Federal Office of Rural Health Policy (PHS Grant No. U27RH01080).

Figure 1

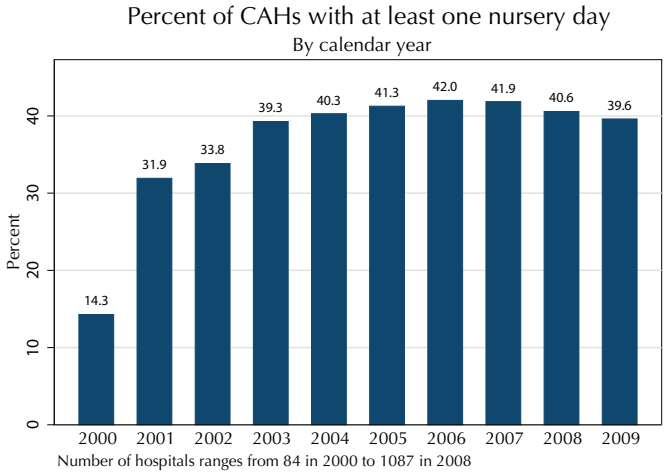
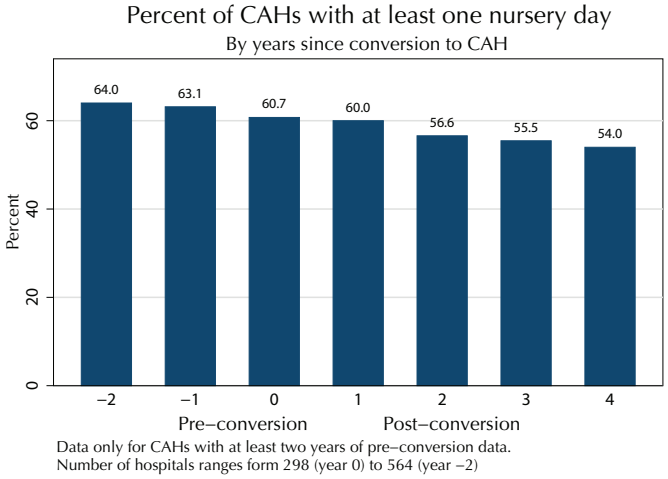


Figure 2



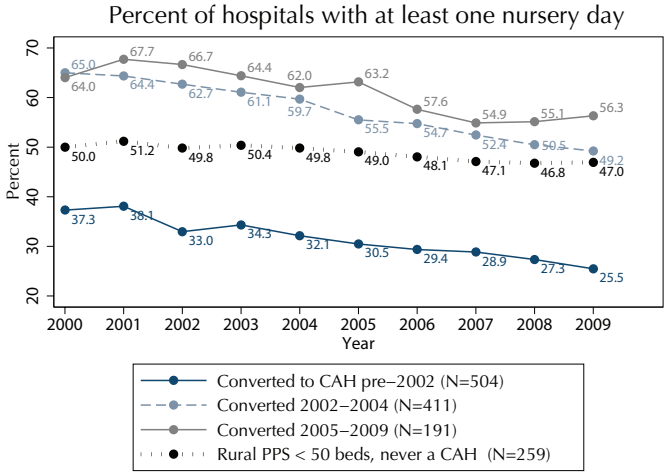
229 total CAHs with an average of 15.5 beds and an acute average daily census of 1.97. By 2009, there were 1,302 total CAHs with an average of 21.7 beds and an acute average daily census of 4.6. Therefore, some of the large increase in the proportion of CAHs with at least one nursery day was due to the substantial change in the sample of hospitals between 2000 and 2009. In other words, this figure may be misleading because it fails to consider how CAHs in 2009 differ from those in 2000.

A clearer picture is shown in Figure 2, which shows the percent of CAHs with at least one nursery day relative to conversion to CAH status. In the figure, year 0 on the x-axis denotes the year of conversion from PPS to CAH. In the fiscal years before conversion (years -2, -1), a decrease in the percent of CAHs with OB services is evident, decreasing from 64 percent two years before conversion to 54 percent three years after conversion. Therefore, it appears that there is a relationship between conversion to CAH and provision of OB services.

Figure 3 presents the percent of rural hospitals with at least one nursery day for three cohorts of CAHs (those that converted pre-2002, between 2002-04, and between 2005-09, creating three cohorts based on conversion date) and rural PPS hospitals with less than 50 beds. The same pattern of a decrease in the percent of CAHs with at least one nursery day in the immediate pre- and post-conversion period is evident within cohorts. In addition, there is little evidence of a substantial change in the percent of rural PPS hospitals with OB services over the 10-year period. This suggests that the decrease in the percent of CAHs with OB services is due more to conversion to CAH rather than secular trends in circumstances facing rural hospitals more generally (such as medical malpractice rates, provider supply, or shifting rural demographics).

Despite the decrease in the number of rural hospitals offering OB services, the total number of nursery days did not change substantially within cohorts. The total number of nursery days in 2009 was within 10 percent of the number in 2000 for all cohorts except hospitals that converted to CAH pre-2002. This suggests that nursery days were transferred from CAHs that closed OB services to other CAHs (and perhaps other larger hospitals) that retained OB services. As a consequence, the total number of nursery days was distributed among fewer CAHs.

Figure 3



Further study, such as the effect of malpractice rates and population changes and the effect on access and outcomes, is ongoing. Meanwhile, this issue warrants monitoring by policymakers and program officials.

For more information, contact Mark Holmes (mark_holmes@unc.edu).