Which Rural Hospitals Merge and What Happens to Them Afterward?

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Abstract
The goals of this dissertation were to determine 1) when and how many rural hospitals merged, 2) pre-merger hospital- and market-level antecedents of rural hospitals, and 3) whether post-merger inpatient charges, outpatient charges and capital expenditures changed at target rural hospitals. Multiple secondary data sources were combined to form a panel for years 2004-2016. A hospital’s merger status was derived from proprietary data found in the “The Health Care Services Acquisition Report” by Irving Levin Associates for 2005–2016.

In study one, a discrete-time hazard analysis with generalized estimating equations was used to determine whether hospital- and market-level factors were associated with rural hospitals merging between 2005 and 2016. Rural hospitals with higher odds of merging were less profitable, for-profit, larger and were less likely to be able to cover current debt. Additional factors associated with higher odds of merging were reporting older plant age, not providing obstetrics, being closer to the nearest large hospital, and not being in the West region.

In study two, a difference-in-differences approach was used to determine whether inpatient and outpatient charges changed at rural hospitals after a merger. The adjusted difference-in-differences estimates revealed that, compared to similar non-merged rural hospitals over the same period, merging was associated with a statistically significant 3.04% decrease in inpatient charges. For outpatient charges, merging was associated with a 1.07% increase in outpatient charges (p=0.082). While the outpatient finding was not statistically significant at p<0.05, it showed a statistical trend and may have been of clinical importance.

In study three, a difference-in-differences approach was used to determine whether total capital expenditures changed at rural hospitals after a merger. The adjusted difference-in-differences estimates revealed that, compared to similar non-merged rural hospitals over the same period, merging was associated with a statistically significant 26.4% increase in total capital expenditures.

Taken together, these studies provided insight into some factors associated with rural hospital mergers for both pre- and post-merger time periods and could assist policy- and decision-makers responding to rural hospital merger activity and effects.

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