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Sustainability of Rural
Hospitals in the United
States

STEPHANIE COLE, KATHLEEN LANHAM & ALBERTO COUSTASSE

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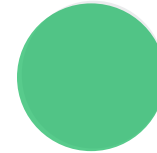
What is rural?

RURAL, DEFINED

- Populations or regions that are NOT urban
- Urban, defined
 - Regions w/50,000 or more people
 - “Urban clusters” with at least 2,500 and less than 50,000 people
- Rural hospital designation
 - Hospitals that serve non-urban areas
 - Non-urban areas hold 19.3% of the U.S. population; encompasses 97% of the nation’s land area

CHALLENGES

- Numerous adversities
 - Low reimbursement rates
 - Government regulations
 - Decreased patient volumes
 - Uncompensated care
 - Service to a larger segment of the socioeconomically disadvantaged
- Consequences
 - Poor health outcomes and higher overall costs for healthcare
 - Financial struggles
 - Closure risk for 1/3 of U.S. rural hospitals in 2016





Critical Access Hospitals (CAHs)

- Rural hospital designation
- Increased reimbursement
- Meet specific criteria
 - 25 or fewer acute care inpatient beds
 - Location more than 35 miles from another hospital
 - Annual average acute care patient LOS of 96 hours or less
 - 24/7 emergency care services

SUSTAINABILITY

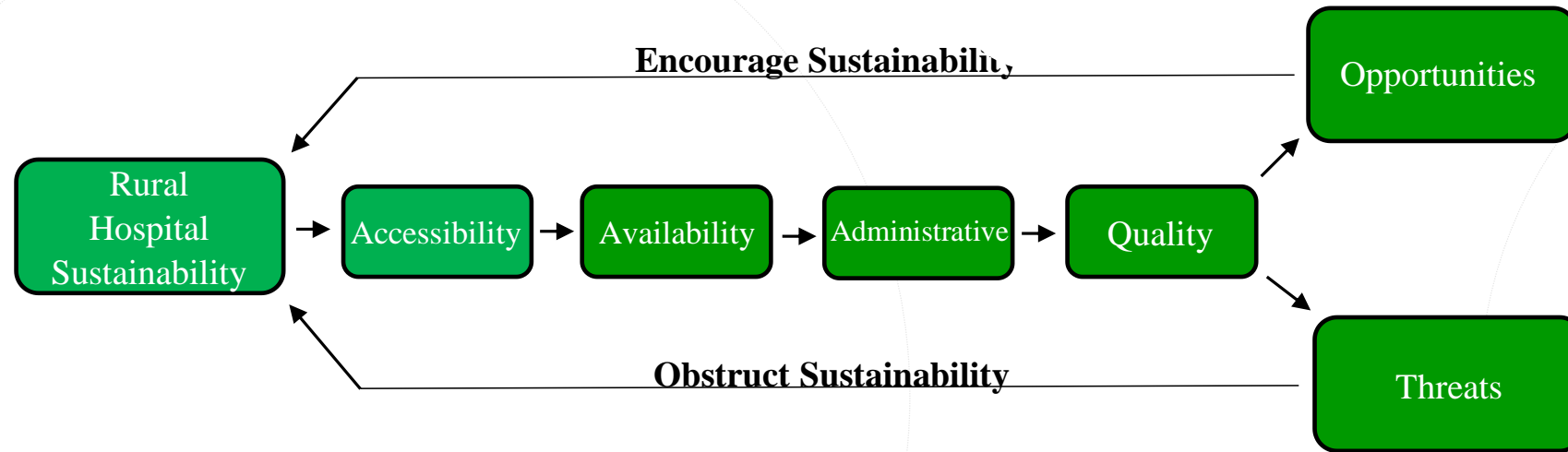
- Sustainability, defined
 - Capacity to realize financial viability
 - Determined by goal and objective realization
- Opportunities
 - Local resource availability
 - Community ties
 - Primary employer

PURPOSE

The purpose of this study was to gauge the potential for the sustainability of rural hospitals in the U.S. by examining identifiable variables that affect these institutions such as accessibility, availability of services, quality outcomes, and effective administrative practices.

The primary hypothesis of this research was, with proper management of resources such as finances and labor, rural hospitals could be sustainable by taking actionable administrative measures to promote ideas that increase hospital demand such as offering comprehensive healthcare services locally, thereby increasing quality and placing value on the organization's community relations.

- The study was a literature and case study review that followed a systematic qualitative approach adapted from the conceptual framework of Yao, Chu, and Li (2010).

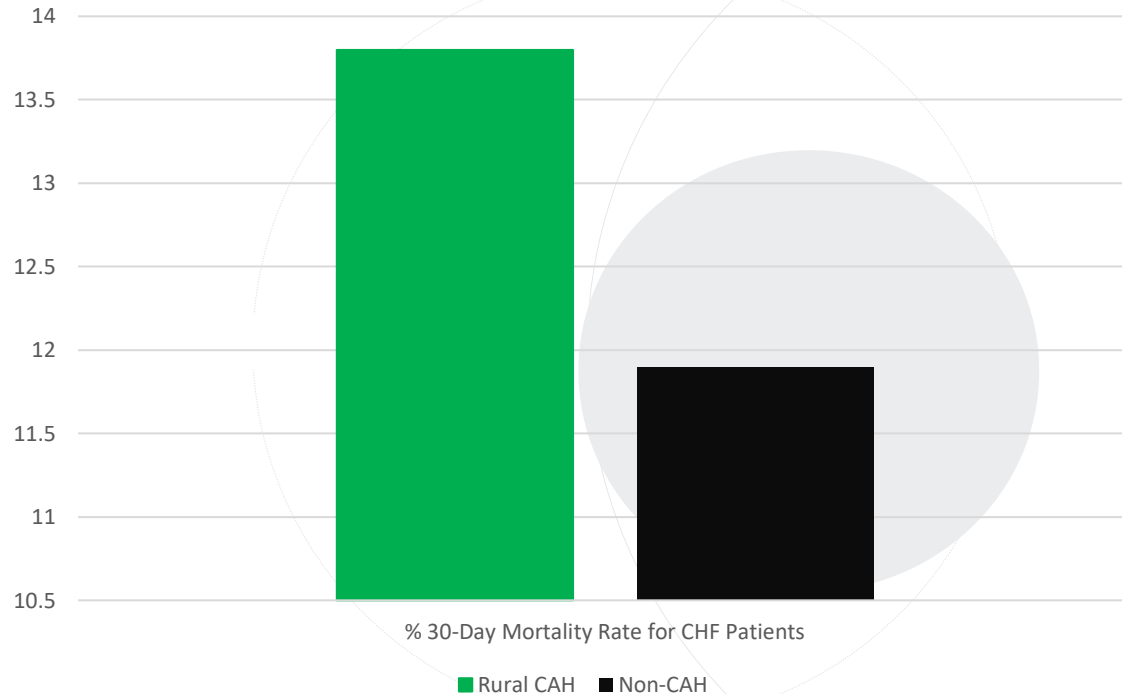


- Databases searched: PubMed, EBSCO, ProQuest, Google, and Google Scholar
- An open-ended survey with an expert in Hospital Administration added to the data collected. The survey was conducted via an online platform with a list of pre-determined questions
- Keywords: 'rural hospitals' and 'sustainability' or 'accessibility' or 'availability' or 'administrative' or 'quality'.
- Literature review: 48 total articles found; 32 used

Accessibility and Outcomes

- Mean miles traveled for patient pick up was 25.41 miles.
- In 2012, 1,506 rural area patients traveled greater than 50 miles and 259 patients traveled greater than 100 miles to access services.
- Of 374 rural hospitals 209 (57%) had access to quality improvement plan for pain management, while 142 (39%) offered quality improvement for end-of-life care.
- Considering likelihood of death following a traumatic injury, of 8,673,213 cases, rural patients were 14% more likely to die from a trauma than non-rural patients.
- In 2019, in-hospital mortality in rural hospitals was twice that of urban hospitals.
 - 2% rural to 1% urban respectively for minor risk of passing
 - 2% rural to 1% urban for moderate risk patients
 - 6% rural to 3% urban for major risk liver disease patients

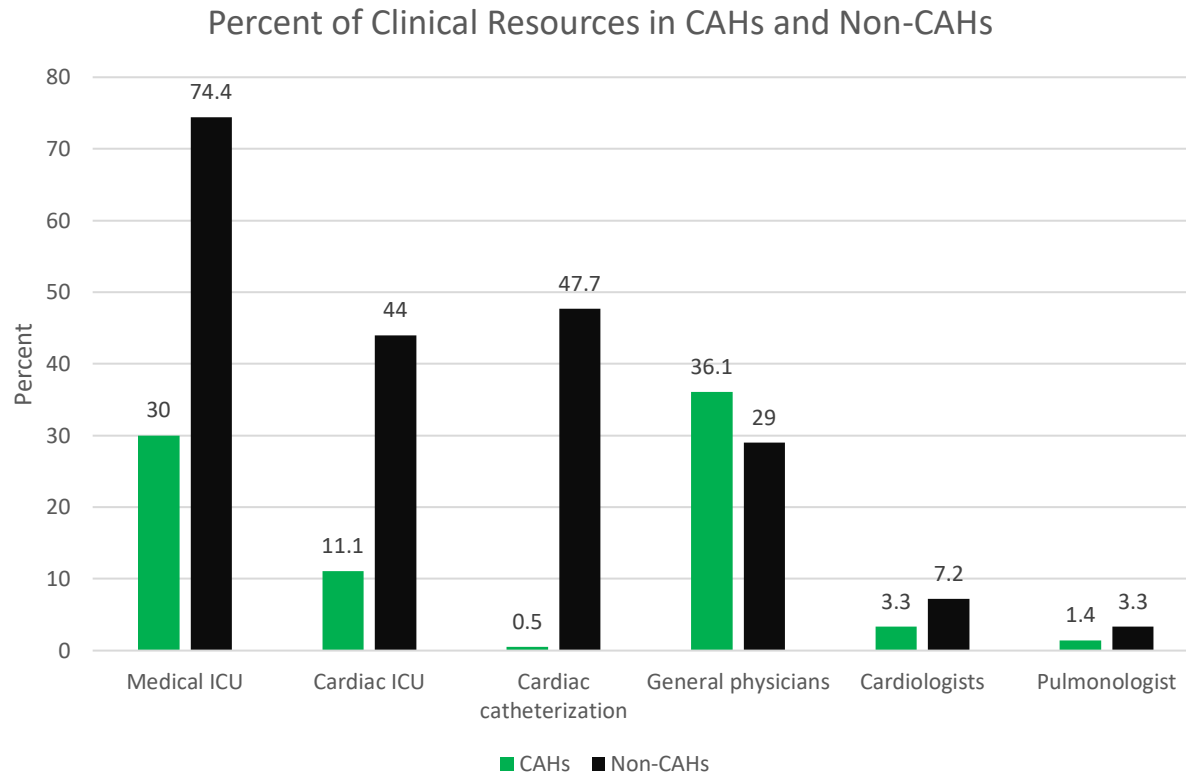
Mean Percent 30-Day Mortality Rate for CHF Patients in Rural CAHs and Non-CAHs



Mean Percent 30-Day Mortality Rate for CHF Patients in Rural CAHs and Non-CAHs (Joynt, et al., 2011).

- Quality of care and patient outcomes were examined in rural CAHs and compared to non-CAHs, for the diagnosis of Congestive Heart Failure (CHF)
 - Mean Health Quality Alliance (HQA) score of 78.7 for CAH, and 84.8 HQA for non-CAHs
 - 30-day mortality rate of 13.8% for CAH CHF patients, and 11.9% 30-day mortality rate for CHF patients

Availability of Services



Percent Comparison of Clinical Resources in CAHs and Non-CAHs (Joynt, et al., 2011)

- Of rural hospitals with an ICU, 52% (24) staffed the unit with non-critical care inpatient physicians during non-peak hours.
- In 2017, 52.2% (21) of patients transferred from rural facility for Cardiology with most frequent diagnosis of acute coronary syndrome 57.5% (23). Critical care/higher level care next in line for reason of transfer necessity at 8 patients and 20%.
- In 103 rural EDs in Iowa hospitals, 28% (29) had MRI access, 98% (101) had CT scan access, and 12% (12) had partial access to neurological services while 78% (80) without neuro coverage.
- 76% (282) had a contractual relationship with hospice.

Financial Management

- ROE was 5% (\$0.05) in rural hospitals and 12% (\$0.12) among urban hospitals.
- Mean uncompensated care in rural hospitals that accepted the Medicaid expansion was \$987,059 with average Medicaid revenue totaling \$1,740,393.
- Mean uncompensated care for rural hospitals in non-expansion states \$1,219,517 with a mean net Medicaid revenue of \$766,757.20.



Sustainability of rural hospitals in the U.S. is multifactorial

- Patient outcomes in rural hospitals fluctuated.
- Rural hospitals did offer improvement services or referral for such quality improvement plans as pain management.
- It proved difficult for rural hospitals to maintain specialties such as medical ICUs or neurology and specialized testing equipment such as MRI or CT machines.
- Staff retention and recruitment was found as a reason for unit closure within rural hospitals. 79% of rural hospitals between 2010 and 2014.
- ROE was more than double in urban hospitals compared to rural hospitals.
- Optional state Medicaid expansion proved profitable for rural hospitals in expansion states.

Online Survey with Expert in Hospital Administration

- The expert participated in an online opinion survey that gauged the current views of the sustainability of rural hospitals, providing qualitative support for the topic.
- Defined “rural” as most often Critical Access Hospitals with limited capacity and capabilities with no other services for 30 miles.
- Rural hospitals are a conduit to the community and their needs and have been a vital hub to stabilize, facilitate access for the patient and make referrals to more specialized care.
- Advantages of rural hospitals are convenience and personal touch for the patient.
- Disadvantages of rural hospitals were limitations of resources.
- Partnering with regional centers and/or telemedicine could heighten sustainability.

Limitations and Practical Implications

Limitations

- Lack of funding for research and technology for rural healthcare limited available data, according to our expert.
- Funding for research limited by narrow definition of rural and what government aid was provided.
- With 5 databases used, publication bias could be introduced.
- With members of the group employed in the healthcare system, research bias could be introduced.

Practical Implications

- Further research is needed to discover specific models to promote partnerships with regional hospitals and enhance the sustainability of rural hospitals which could support the health and well-being of rural populations with the knowledge of ways to enhance rural health care delivery.
- By demonstrating, through this study, the vitality of rural hospitals, so have some of the challenges that impede sustainability such as limited availability of services, highlighting the need for further study.

CONCLUSION

The research demonstrated the sustainability of rural hospitals in the U.S. is conceivable. Although barriers existed, promoting standards such as collaborating with larger regional facilities, investing in people and technology, and utilizing government aid could offer rural hospital a secure future.

THANK YOU

QUESTIONS?