

# Defining “Rural” – What’s in a Name?

Scott W. Rodi, MD, MPH

Christopher R. Carpenter, MD, MSC

Steven P. Hirsch, MST, MSLS

## *Institutional Affiliations:*

Chief and Medical Director, Section of  
Emergency Medicine  
Associate Professor of Medicine, Geisel  
School of Medicine at Dartmouth  
Clinical Director, Center for Rural  
Emergency Services and Trauma  
Dartmouth-Hitchcock Medical Center

([Scott.W.Rodi@hitchcock.org](mailto:Scott.W.Rodi@hitchcock.org))

Associate Professor of Emergency  
Medicine  
Director of Evidence Based Medicine  
Washington University in St. Louis School  
of Medicine

United States Department of Health and  
Human Services  
Health Resources and Services  
Administration  
Federal Office of Rural Health Policy

Keywords: rural, emergency medicine,  
nomenclature, health disparities

Over a decade ago the American College of Emergency Physicians (ACEP) supported the first Rural Emergency Medicine Task Force. As one consequence the ACEP Rural Section was born in 2004 to recognize that much of emergency medicine (EM) is practiced in non-urban environments with unique challenges that include limited access to advanced imaging and specialty services. This “high thought, low tech” practice milieu is different from the tertiary academic medical centers where most (EM) physicians train and probably requires a unique curriculum. The early leaders of the ACEP Rural Section did not explicitly define “rural”, “rural provider”, or “rural emergency department”, nor did they debate whether their target audience was in austere settings across the world, simply agricultural or non-urban America, or both. The ACEP Rural Section received a Section Grant to develop a “Rural Emergency Medicine” textbook in 2010, which transformed into a perceptible desire for a sustained voice for rural emergency department (ED) practitioners. Following a survey of the ACEP Rural Section membership in 2013, the *Journal of Rural Emergency Medicine* (JREM) arose and published Issue 1 in June 2014. While seeking JREM support from the ACEP Board of Directors, pertinent questions arose about how the JREM Editorial Board defined “rural”, “rural provider” or “rural ED”. This essay is an attempt to answer these queries.

Layman’s definitions of “rural” sometimes denote derogatory characteristics like unsophisticated or rough. Others define “rural” as relating to or characteristic of the country, farming, or agriculture. Common synonyms for rural include rustic, pastoral, or bucolic. In the House of Medicine a “rural provider” would include any healthcare professional who delivers medical care in rural settings, including pharmacists, medical technicians, nurses, physician extenders, and physicians. A “rural ED” would be a section of a rural hospital dedicated to acute care medicine, including trauma and critical care. Some opine that rural is in the eyes of the beholder, apparent when seen, but difficult to capture in words, definitions, or objective measures. As noted in the Introduction to JREM Issue 1, at least 14 journals already exist with direct or indirect relevance to rural emergency medicine (Table).<sup>1</sup> Understanding how existing professional journals define

**TABLE**  
**Existing Rural or Rural Relevant Journals in 2015**

The Canadian Journal of Rural Medicine  
The Journal of Rural Health  
Rural and Remote Health  
Australian Journal of Rural Health  
Journal of Neurosciences in Rural Practice  
Tropical Medicine & International Health  
Telemedicine and e-Health  
Journal of Health Care for the Poor and Underserved  
Journal of Telemedicine and Telecare  
Royal Society of Tropical Medicine and Hygiene  
Healthcare in Low-resource Settings  
Online Journal of Rural Nursing and Health Care  
Journal of Rural and Tropical Public Health  
Journal of Rural Community Psychology

“rural” could provide one path to defining the same for *JREM*. ACEP President Dr. Michael Gerardi organized the second ACEP Rural Emergency Medicine Task Force in October 2014. In order to meet one of their objectives, this Task Force contacted all 14 of the rural journals noted in Table 1 seeking to understand how each journal defined “rural”. Two Task Force members sent a standardized email query to the Editor-in-Chief of each journal identified via the journal online author instructions. If no response was received, a second email query was sent two weeks later. Only 5/14 journal editors responded and agreed to either answer questions via email (2) or via telephone (3). None of these 5 journals has developed a standard definition for “rural”. One Editor-in-Chief noted that “we leave it to the submitting authors to tell us how their population or setting is rural”. Reviewing the websites of all 14 journals for definitions of “rural” identified no references, guidance, definitions, or suggested synonyms for this term to guide authors.

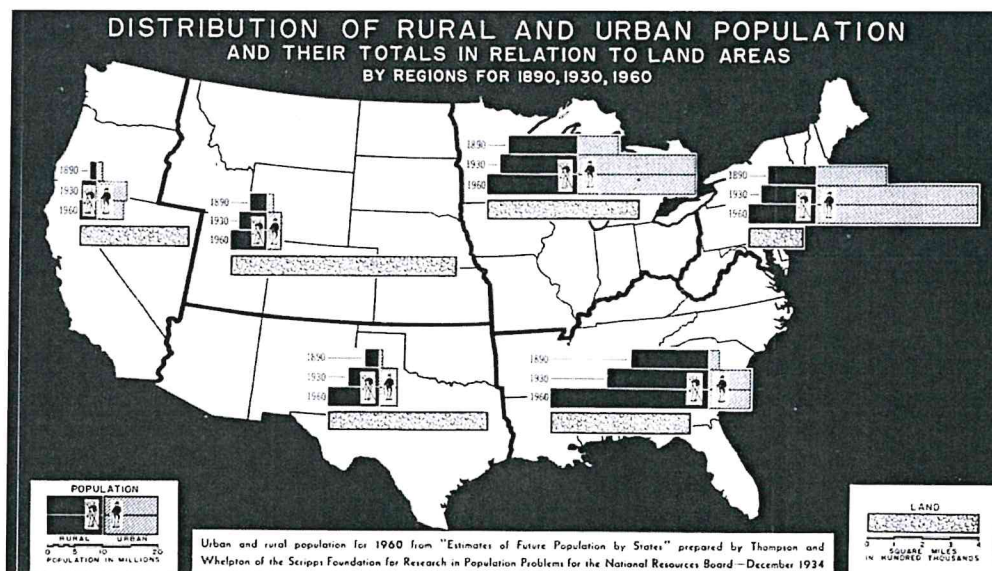
In the absence of a formal definition of “rural” among existing relevant medical journals, we looked to the federal government, which has many definitions of “rural” created by statute or by agencies for programmatic or research use, for the most appropriate definition for our purposes.<sup>2</sup> The two definitions that are most commonly used are from the Census Bureau and the Office of Management and Budget (OMB). The Census Bureau first began to designate populations as rural in the late 19<sup>th</sup> century. At that time any

town with a population over 8,000 was considered urban. The population cutoff was later changed to 2,500 and any incorporated place of 2,500 or more persons was considered urban. The rest of the United States (U.S.) land and population was considered rural. Until the 1920 Census, the majority of the U.S. population was rural. The dawn of the Industrial Revolution and the increasing availability of factory jobs led to a population shift towards predominantly urban after 1920 (Figure).<sup>3</sup>

Suburbs began to expand beyond the incorporated limits of cities following World War II and the Census Bureau changed their definition so that it no longer strictly followed the boundaries of incorporated places, but expanded urbanized areas to the point at which the population density fell to under 1,000 people per square mile.<sup>3</sup> The current definition used by the Census Bureau no longer uses the boundaries of incorporated places. Instead, they describe two kinds of urban areas: (1) urbanized areas with a population core of at least 50,000 people and (2) urban clusters that have a population core of at least 2,500 people, but fewer than 50,000 people. Surrounding areas are included in the urban area or cluster as long as the population density remains above 500 people per square mile.

Since almost 81% of the population lived in urban areas in 2010 (nearly 250 million people), it’s surprising that less than 5% of the total land area of the U.S. is in urbanized areas or clusters. One challenge of using the Census Bureau’s definition is that because it no longer follows the boundaries of

**Figure**



National Park Service. *Distribution of Rural and Urban Population*. Photograph. *Census.gov*. Web. 11 April 2015

incorporated places or county borders, it is difficult to tell where urban areas end and where rural areas begin. In contrast, use of Metropolitan Statistical Areas, as designated by the White House's OMB, is simple. Whole counties are the geographical unit used to delineate the two kinds of Core-Based Statistical Areas (CBSAs): Metropolitan Statistical Areas and Micropolitan Statistical Areas. Metropolitan Statistical Areas have a core, urban area of at least 50,000 people. Micropolitan Statistical Areas have an urbanized core of at least 10,000 people, but fewer than 50,000 people.<sup>4</sup> After the 2010 Census, 1167 counties were designated as Metropolitan, 641 counties were designated as Micropolitan, and the remaining 1335 were not included in CBSAs. According to this OMB definition, Metropolitan counties now contain 85% of the U.S. population within 1167 counties that make up only 28% of this country's land area. For practical purposes many agencies combine the Micropolitan counties and the non-CBSA counties together as the non-metro (or rural) areas of the U.S.

Neither the Census Bureau nor OMB actually defines "rural". By default, rural areas are what remain after the Census Bureau has designated urban areas, while the non-metro counties are all those which were not included in Metropolitan areas designated by OMB. In medical parlance, "rural" is effectively a diagnosis of exclusion, a label applied after "urban" has been ruled out.

Limitations with both the Census Bureau and the OMB definitions of rural areas are worth noting. Both are moderately complex and create some classifications that defy common sense. The Census Bureau's definition includes a large amount of suburban areas as rural because the population density falls below 500 people per square mile. For example, nearly half of Howard County Maryland, located between Baltimore and Washington, DC, is considered rural because of its low population density. At the other end of the extreme, urban counties as defined by OMB include rural or even frontier areas such as the Grand Canyon (located in Metropolitan Coconino County) and part of Death Valley National Park (located in Metropolitan San Bernardino County).

The U.S. Department of Agriculture's (USDA) Economic Research Service has created other classifications beyond the division of countries into Metropolitan, Micropolitan and

non-CBSA in order to "measure rurality in more detail and to assess the economic and social diversity of non-metro America."<sup>5</sup> These classifications include Rural-Urban Continuum Codes, with a system that divides Metropolitan counties into 3 categories depending on the size of their core urban population and the non-metro counties are divided into 6 categories depending on the status of their adjacency to Metropolitan counties.<sup>6</sup> Urban-Influence Codes are a 12 category classification system for counties where the Metropolitan counties are divided into 2 categories, those with total populations over 1 million and those with populations under 1 million. Micropolitan counties are divided into 3 categories by adjacency to the Metropolitan counties and non-CBSA counties are divided into 7 groups by their adjacency to Metropolitan or Micropolitan areas and whether or not they contain a town of at least 2,500 residents.<sup>7</sup>

While use of the USDA county based systems permits more accurate classification than simply dividing counties into Metropolitan, Micropolitan and non-CBSA categories, they still use the county as the geographical unit of measurement and counties vary widely in area and population settlement patterns. In collaboration with the Federal Office of Rural Health Policy, the Economic Research Service developed and maintains the rural-urban commuting area (RUCA) codes to classify a sub-county unit, the Census Tract, by 10 classifications ranging from the urban core to isolated rural tracts.<sup>8</sup>

The US Congress has been concerned with the impact of reimbursement policies on rural hospitals since the 1980s, when the implementation of the Medicare Prospective Payment System was associated with the closure of hundreds of rural hospitals. Section 1886 of the Social Security Act refers to how Centers for Medicare & Medicaid Services (CMS) designates rural hospitals. "[T]he term "urban area" means an area within a Metropolitan Statistical Area (as defined by the Office of Management and Budget) ... and the term "rural area" means any area outside such an area or similar area." Hospitals outside of Metropolitan counties are considered rural hospitals.

However the CMS definitions grow more complex, since hospitals in Metropolitan counties can also be designated as rural under section 1886(d)(8)(E): if the "hospital is located in a rural Census Tract of a metropolitan statistical area (as

determined under the most recent modification of the Goldsmith Modification, originally published in the Federal Register on February 27, 1992 [57 Fed. Reg. 6725].” The Goldsmith modification, developed by the Federal Office of Rural Health Policy, was an earlier version of the RUCA codes. The current version of the RUCAs as used by the Federal Office of Rural Health Policy, designates all Census Tracts with RUCA codes 4 to 10 in Metropolitan counties as rural, and also includes a small number of Metropolitan large, low density Tracts with RUCA codes 2 or 3 as rural. When the rural Tracts are combined with the population and area of the non-metro counties in the U.S., about 18% of the population and 82% of the U.S. landmass is classified as rural.

Hospitals can also be classified as rural if “any State law or regulation deems it to be a rural hospital or located in a rural area,” or, while it is located in a Metropolitan county, it would meet all the requirements to be classified as a Rural Referral Center (RRC) or a Sole Community Hospital (SCH).<sup>9</sup> While not every hospital in a non-metro county is classified as rural for CMS payments, most hospitals that are classified as rural are either located in a non-metro county or in a rural Census Tract of a Metropolitan county.

Considering which definition makes the most sense in the context of Emergency Medicine, there is an obvious benefit to aligning with the definition used by CMS for classifying hospitals as rural. Therefore, we propose using the definition specified in the Social Security Act, which includes as “rural” all Non-metro counties and the Metropolitan County Census Tracts identified by the Federal Office of Rural Health Policy as rural. Although use of other definitions of “rural” may be appropriate for some purposes, including for the selection of papers for inclusion in a rural journal, this definition seems most valid for ACEP and organized medicine to use in defining an area as rural or not.

In conclusion, defining “rural” is surprisingly complex without a uniformly accepted descriptor, either in journals or governmental agencies. Those seeking to define an area as “rural” from a practical perspective should consider using the “Am I rural? Tool” available at

<http://www.raconline.org/amirural> or the Rural Health Grants Eligibility Analyzer at <http://datawarehouse.hrsa.gov/RuralAdvisor/RuralHealthAdvisor.aspx>

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