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DEPARTMENT OF HEALTH AND HUMAN SERVICES

Health Resources and Services Administration

Methodology for Designation of Frontier and Remote Areas

AGENCY: Health Resources and Services Administration, HHS.

ACTION: Final Response

SUMMARY: The Office of Rural Health Policy (ORHP) in the Health Resources and Services Administration (HRSA) published a 60-day public notice in the Federal Register on November 5, 2012 (Federal Register volume 77, number 214, 66471-66476) describing a methodology for designating U.S. frontier areas. The Frontier and Remote Area (FAR) Codes methodology was developed in a collaborative project between ORHP and the Economic Research Service (ERS) in the U.S. Department of Agriculture (USDA). This notice responds to the comments received during this 60-day public notice.

ADDRESSES: Further information on the Frontier and Remote Area (FAR) Codes is available at http://www.ers.usda.gov/data-products/frontier-and-remote-area-codes.aspx.

FOR FURTHER INFORMATION CONTACT: Questions can be directed to Steven Hirsch via phone at (301) 443-7322; e-mail to shirsch@hrsa.gov; or mailed to Office of Rural Health

Policy, Health Resources and Services Administration, 5600 Fishers Lane, Parklawn Building, 17-W-55 Rockville, Maryland 20857; or fax to (301) 443-2803.

Background

This project was intended to create a definition of frontier based on easily explained concepts of remoteness and population sparseness. The goal was to create a statistical delineation that will be useful in a wide variety of research and policy contexts and adjustable to the circumstances in which it is applied. FAR areas are defined in relation to the time it takes to travel by car to the edges of nearby Urban Areas. Four levels are necessary because rural areas experience degrees of remoteness at higher or lower population levels that affect access to different types of goods and services.

The four FAR Levels are defined as follows (travel times are calculated one-way by the fastest paved road route):

1) Frontier **Level 1** areas are 60 minutes or greater from Census Bureau defined Urban Areas of 50,000 or more population;
2) Frontier **Level 2** areas are 60 minutes or greater from Urban Areas of 50,000 or more people and 45 minutes or greater from Urban Areas of 25,000-49,999;
3) Frontier **Level 3** areas are 60 minutes or greater from Urban Areas of 50,000 or more people; 45 minutes or greater from Urban Areas of 25,000-49,999; and 30 minutes or greater from Urban Areas of 10,000-24,999; and
4) Frontier **Level 4** areas are 60 minutes or greater from Urban Areas of 50,000 or more people; 45 minutes or greater from Urban Areas of 25,000-49,999; 30

minutes or greater from Urban Areas of 10,000-24,999; and 15 minutes or greater from Urban Areas of 2,500-9,999.

Comments on the FAR Codes and HRSA response:

The ORHP received twenty-six responses to the request for comments. Many of the comments received dealt with similar concerns over either the details of the proposed methodology or the potential use of the FAR codes in directing resources.

Several commenters noted that the data used to assign FAR codes were from the 2000 Census rather than the more recent 2010 Census. When ORHP and USDA began the process of developing the methodology in 2008, only Census 2000 data were available. As stated in the initial Federal Register notice, the FAR codes will be updated for all 50 states using Census 2010 data. There were also commenters who believed that decennial updates to FAR codes would be too infrequent to be current. ORHP will examine the possibility of using American Community Survey data to update FAR codes in the future.

In particular, HRSA sought public comments on:

1. The use of a population threshold of 50,000 as the central place from which to measure in defining FAR areas;
2. The use of 60 minutes travel time from the central place;
3. Whether the 50 percent population threshold for assigning frontier status to a ZIP code/census tract is the appropriate level for the four standard provided levels;
4. Other ways of representing urban and rural areas;
5. Alternatives to using grid cells for measuring remoteness;

6. Applicability of the FAR methodology to island populations; and
7. Need for a Census tract and county version of the FAR.

Comment: On the use of a population threshold of 50,000 as the central place from which to measure, there was no consensus of views expressed and many commenters did not address the issue. Comments received correctly pointed out that there are some states (such as Alaska, Wyoming, or New Mexico) which have few urban areas with populations of over 50,000.

One commenter noted that, "Population size is not necessarily a reliable measure of the goods and services that will be available or other important factors." Another commenter also believed that there are great differences between urban areas of only 50,000 people and urban areas with hundreds of thousands or millions of inhabitants. There were also comments received that concurred with the use of the population threshold of 50,000 as appropriate for the purpose.

Response: No comment received suggested a threshold other than 50,000. The population threshold of 50,000 also forms the core for both the Urbanized Areas of the Census Bureau and Metropolitan Areas as defined by the Office of Management and Budget. ORHP believes urban areas of 50,000 or more have a sufficient population base to support necessary services, including advanced medical services, and that there is no need to change the threshold.

Comment: ORHP received comments not only on the use of the 60-minute travel time, but also on what was the correct point from which to measure travel time. Many comments were received from the State of Alaska all of which made the point that being a 60-minute drive from an urban area is considerably different than having to travel 60 or more minutes by air or boat to reach an urban area, both of which are more subject to being limited by weather conditions.

Commenters also noted that travel time might not be directly related to distance. Traveling 60 minutes by air means that the originating location is much further from the central area than a 60-minute trip by automobile. Even the distance traveled by car in 60 minutes can be significantly different depending on roads and speed. One commenter noted, "Physical distance is important too. If I can typically travel 70 miles in one hour vs. 40 miles in one hour, even though the travel time models make this "equivalent," there may be different consequences in terms of availability of local resources, costs in accessing and utilizing services, providing services, etc."

Problems with the increase or diminution of travel time due to weather conditions were also mentioned more than once. One commenter wrote, "While the 60 minute framework is a useful benchmark, there would be areas affected seasonally where the distance alone would not accurately reflect the driving time. Winter snow in passes is one example, and high density seasonal traffic in vacation or tourist areas is another. If it is possible to incorporate these seasonal shifts into the determination, this would more accurately reflect the barriers faced by our citizens."

Response: ORHP recognizes that commenters are correct that the 60-minute travel time represents different distances depending on circumstances, such as available roads or highways, and depending on the mode of transportation used, such as cars, boats, or aircraft. The 60-minute travel time is a minimum by default. The commenters were also correct to note that travel times can be much greater than 60 minutes.

At the same time, for those who live in areas accessible only by water or air, travel time is assumed to be at least 60 minutes even though it may actually be less. This is done in an effort

to recognize the barriers created by lack of ground transport and the frequent limitations on availability of transport by water or air. Therefore, we believe that the current model addresses concerns stated in regards to remote areas with limited road infrastructure or that are reliant on non-road transport.

Comments that weather can affect the distance that can be traveled in 60 minutes, or even prevent travel, were also correct. However, there is no data source we know of that will allow the FAR codes to be adjusted for weather conditions.

While we recognize the various problems with the assumptions inherent in the use of a 60-minute minimum travel time, ORHP believes that the 60-minute travel time represents an appropriate minimum. Programmatic users of the FAR codes could choose to incorporate weather and seasonal variations in access in their criteria if such information is available.

Comment: Several commenters also believed that 60 minutes travel did not represent a great barrier to access to the urban area and that there should be another level of designation for extremely remote Frontier Areas.

Response: ORHP agrees with the comments received that there can be significantly greater travel time than 60 minutes and that communities would then face greater barriers to services than those at 60-minutes travel time from an Urbanized Area. ORHP will examine the possibility of designating another, more remote level that will be 2 or more hours travel time from the nearest Urbanized Area in future versions of the FAR Codes. This will require additional data analysis and testing before another level could be added to the Codes.

Comment: Comments on the use of travel to the nearest edge of the urban area raised concerns about the kinds of services that are available at the edge of urban areas, the possible size of the urban area itself, and whether the centroid of the area would not be a better point from which to measurerom. Over a third of commenters felt that measuring to the center of the urban area had advantages over measuring to the edge.

Response: While in many cases the commenters' observations on services available at the edge of urban areas are accurate, the principal reason for using the edge rather than the center of an urban area is that the edge is the same for all urban areas; it represents the point where population density falls below 500 people per square mile. While the edge is a consistent point to measure from, the center is not. The center may be one mile from an edge or it may be many miles from the edge in the case of large population areas. Neither is it self-evident what the "center" is. Large urban areas may contain several agglomerations of population, none of which may be considered the geographic or population "center."

Measuring travel from a centroid would increase the areas qualifying as frontier and remote, even though those areas could be located close to the edge of the urban area. In addition, many urban areas have resources readily available in suburbs and using the centroid would discount access to those resources. ORHP does not believe that using the centroid would lead to greater accuracy designating Frontier and Remote areas and will continue to use travel time from the edge of the urban area.

Comment: The 50 percent population threshold for the ZIP code or Census Tract versions of the FAR codes received few comments. One comment suggested use of a gradated level to indicate the percentage of the population that is FAR instead of simply designating a ZIP or tract once the

percentage reaches 50 percent. One commenter noted, "Aggregation works well when population is evenly dispersed in a candidate area, but can lead to inaccuracy if the population of an area is concentrated in a single location." Commenters from Alaska pointed out that Census tracts there can be extremely large, which may lead to a problem.

There were commenters who concurred with the use of the 50 percent threshold. "We recognize there are scenarios in which a ZIP code may be designated as urban based on a commuting population being concentrated in a small percentage of the land area of a very large ZIP code (most like to occur in Western states). Those anomalies can be resolved by adjusting the percentage of the population downward, which is possible given the public availability of the data."

Response: No other threshold was suggested by commenters that could replace the 50 percent threshold for designation of Frontier ZIPs or Census Tracts. ORHP believes that the 50 percent threshold is a reasonable criterion for designating ZIP areas or Census Tracts as FAR regions. When the data analysis with Census 2010 is completed, users will have access to variables that show, for each ZIP code, the percentage of the population that is designated frontier, and therefore can set their own thresholds if the need arises to use some level other than 50 percent.

Comment: Other ways of representing urban and rural areas were suggested by a few commenters. One commenter wrote, "States have identified a number of distinct areas and communities, currently categorized as frontier under other designations discussed in Section 2.2, which do not appear in the dataset resulting from the FAR methodology. The designation of these areas and communities as non-frontier is problematic if they are to be given consideration

for federal programs depending on the FAR methodology." Another commenter mentioned several methods used in other countries.

Response: While ORHP recognizes that states can and should set standards for their own programmatic use, for the purpose of setting a national standard, allowing use across the entire United States, it is important to use consistent measures. ORHP believes that the Census Bureau's designation of Urbanized Areas is a uniform national standard and cannot be replaced by standards that would change from state to state. While the information on other countries' use of other methods is informative, the Census Bureau's standards work best for a national standard.

Comment: Several comments were received on use of the one kilometer grid cells that are used to overlay the whole country. One commenter noted, "The use of one by one kilometer grid cells has the potential to be a very powerful tool, especially if local organizations are provided with a means to access and manipulate that data… However, even such fine-grained data cannot capture every variation impacting the remoteness of an area. Local input can complement the use of the FAR methodology to determine remoteness."

A State Department of Health commented "The methodology provides more precision by using… a 1x1 kilometer grid level."

However, other commenters were concerned with use of the grid system. "The first component of the method we take issue with is the assignment of the 1 square kilometer cells… Population assignments across these cells could vary greatly across even thinly settled areas, unless there

was a fixed way to determine the assigned placement of these cells from east to west, and from north to south. It was unclear how grid assignment was determined."

Response: The FAR Codes did use a fixed method to determine the assigned placement of the cells. The initial web data product based on 2000 Census data did not provide detailed, grid-level maps of each state, a situation that will change with future updates. In the revision of the FAR methodology, the use of a 1x1 kilometer grid will be replaced with a 1/2x1/2 kilometer grid, which will increase accuracy, and further functionality will be added to the website allowing users to drill down and examine small areas. ORHP believes that this level of analysis obviates the need to overlay other sources of data, while still allowing users to include other data appropriate to their use of the FAR codes.

Comment: Many comments were received on the applicability of the FAR methodology to island populations, with several stating that without more detailed information on which islands were classified under which codes it was impossible to evaluate their effect.

One commenter from Hawaii noted, "With the information provided, it is fairly easy to determine if our small, populated islands would qualify, but it is more difficult to evaluate the impact of this methodology on remote areas on the islands of Maui and Hawaii."

Response: ORHP believes travel time on any island would be treated the same way as travel time on the mainland and would produce similar results. Islands with small populations would be classified as remote, while islands with large populations could have areas that are classified as FAR depending on their distance from the population center.

Comment: A comment received from a clinic located on an island in the State of Maine pointed out that their ZIP code was not classified as FAR even though they are located on an island.

Response: This may be due to a mismatch between ZIP code areas and the FAR grid analysis. In cases where an error is either discovered or suspected, ORHP will examine the issue and make corrections where data have not been listed correctly.

Comment: Multiple commenters noted, "The proposed FAR methodology references the need for designation of island and coastal locations without road access, but makes only a limited specification of how these situations should be handled – the addition of 60 minutes travel time to these locations. While this will lead to the designation of many island or coastal locations in their own ZCTAs [ZIP Code Tabulation Areas], it is not entirely clear how this will impact island/coastal communities combined into larger ZCTAs. There are multiple island/coastal locations where actual travel time on scheduled ferries is less than 60 minutes. A more robust approach is needed for dealing with the variety of different island/coastal locations in the nation."

While there were several examples involving islands given in the Federal Register notice, there were also concerns on whether bush communities in Alaska, although not technically islands, were just as isolated as though they were surrounded by water. At the same time, islands that are part of a major Metropolitan Area could qualify as FAR Level 4 even though they might have far easier access to services available in large population areas than would a community in the Alaskan frontier.

Response: ORHP believes that those who commented on island populations and residents of isolated areas, such as the Alaskan bush, have legitimate concerns. The update of the FAR codes based on 2010 Census data should clarify the status of island populations.

ORHP notes that the 60-minute travel time is a minimum and is not intended to be exact. Travel times on land, as well as by air or water, could be far greater than 60 minutes. In the case of islands or areas where only air or water transport is available, the default to 60 minutes is not meant to accurately reflect travel under all conditions. Travel time will frequently exceed 60 minutes or may be less, but the use of the default is meant to reflect the difficulty in assuring access to areas where air or water travel is required. As mentioned above, ORHP will examine the possibility of designating another, more remote level that will be 2 or more hours travel time from the nearest Urbanized Area, which would allow a more accurate designation of the Alaskan populations mentioned by commenters. There will be an analysis of 2010 Census data to determine whether it is feasible to designate islands as FAR Level 4, when the actual travel time is less than 60 minutes travel time from a large population center.

Comment: Multiple comments were received from Alaska which pointed out that the Bethel Urban area comprises a large land area and includes multiple communities.

Response: The commenters are understandably concerned about the distances between population centers in Alaska. ORHP will examine the issue when data from Alaska are added to the FAR codes through use of the Census 2010 data, to determine whether the use of the grid layer will allow an accurate representation of the Frontier status of the communities that make up the Bethel Census area.

Comment: The final question ORHP presented involved issuing Census Tract or county versions of the FAR codes. One group wrote, "The Panel recognizes value in having data available in geographic metrics other than ZIP code, particularly for integration across data sources. However, given current ability to measure areas using RUCA codes or Urban Influence Codes, making the data available for designating FARs by those areas is not a priority for completing the process of FAR designation. The value of the new classification system is its ability to be more refined in identifying FARs, which is best accomplished with analysis based on ZIP codes."

Another group supported census tract and county versions of FAR to aid in comparative analysis. Several organizations wrote, "If the methodology is going to begin at the 1x1 kilometer grid level and is intended to be used flexibly by policymakers, then, of course, it should be organized so that aggregation at a variety of geographic and political levels should be possible. We suggest that the grid data should be organized in a data base in which it can be aggregated at a variety of levels, including, each town, county, Indian reservation (or other land designation), school district, county, census block, census tract, etc. But, most importantly, each aggregation should be accompanied by clear definition of how it was developed."

Response: As future refinements or revisions are made to the methodology, details will be made public at the FAR Codes website: www.ers.usda.gov/data-products/frontier-and-remote-area-codes.aspx. ORHP will examine making different levels of aggregation based on geographic units available at the website.

Comment: A large number of commenters were not satisfied with the use of ZIP code areas. Especially in rural areas, ZIP codes can cover large areas of land including a large population center, which may conceal the isolation of areas far from the populated place.

Response: ORHP agrees with commenters that when attempting to compare populations with geographic boundaries that do not match, inaccurate classifications are inevitable. Future web access to FAR data not based on ZIP code areas but using the grid cells will allow greater specificity in analysis, which ORHP believes will deal with the commenters concerns.

Comment: Eight organizations involved in Tribal health care commented that the FAR codes were developed without Tribal input.

Response: While ORHP did sponsor five regional stakeholder meetings across the United States which were all announced in the Federal Register in order to allow public input, ORHP has also sought input through the comment process and welcomes further input in future revisions of the FAR codes from tribal organizations and others.

Comment: Several commenters believed that it was difficult to impossible to assess FAR codes without any indication of how they will be applied to analysis or used programmatically.

Response: As was mentioned in the original Federal Register notice, ORHP has not used FAR codes to determine programmatic eligibility nor has any other agency indicated any intention to use them to direct resources. The codes are available and can be used with additional sources of data, including demographic data, depending on the purpose. However, neither ORHP nor USDA can anticipate how the codes may be used in the future. In the event FAR codes are put

to programmatic use, comments could be directed to the relevant organizations that chose their use.

Comment: Several commenters requested a comparison showing whether areas that are classified as "frontier" using other methodologies are also classified as frontier using FAR codes and whether areas are classified as FAR even though they are not "frontier" under other methodologies.

Response: ORHP understands the concerns expressed by the commenters. While such an analysis is possible, it would not be very instructive since FAR is not simply an attempt to designate the same areas as frontier using a different methodology. ORHP believes that the FAR codes are a new, data-driven methodology and they are offered for use or for analysis. Other methods may be better suited for particular applications and the FAR codes are not intended to supplant or replace other definitions.

Comment: Several comments were received such as this one saying that "The FAR levels are based on distance only and do not include a density consideration."

Response: Population density is a key part of this methodology. Density is captured much more accurately on the 1x1 km level rather than being measured based on entire counties of vastly different areas. Use of counties as a unit is problematic because of the lack of uniformity. Use of counties would allow too much low-density area to be classified as non-Frontier due to the counties overall population density concealing the reality of remote, low-density areas.

Urbanized Areas have population density of over 500 per square mile. Distance from Urbanized Areas determines density to a very significant extent. The larger the population of the Urbanized Area, the greater the distance that must be travelled to get to a low threshold population density. On average, rural densities drop to ten people per square mile at the following travel times: 50 minutes for Urbanized Areas of 2,500 to 10,000 people; 70 minutes for Urbanized Areas of 10,000 to 25,000; 95 minutes for Urbanized Areas of 25,000 to 50,000; and 150 minutes for Urbanized Areas above 50,000.

The FAR codes measurement from the edge of Urbanized Areas, where population density falls below 500 people per square mile, assures that density is a primary consideration.

Comment: Several comments also requested that an appeals process be added to the FAR methodology. As one commenter noted, "Participants at every meeting raised the critical importance of providing a process to allow local entities (state, tribes, etc.) to provide additional information specific to local conditions and to request designation." Another comment received stated, "It is recommended that the issuing agencies establish a mechanism for submission and review of state, tribal and local requests for designation of frontier areas consistent with established language for HPSA and MUA/P language."

Response: While ORHP realizes that no designation, either for rural areas or for Frontier areas, can be perfect, ORHP currently uses a data-driven definition of rurality to determine program eligibility. ORHP also sought a statistically based, nationally consistent definition of frontier territory; one that is adjustable within a reasonable range, and applicable in different research and policy contexts. In both cases, delineations of rural or frontier areas, opening a process to allow individuals or organizations to appeal to change a specific area's designation based on

criteria other than the defined data could cause more problems than it would fix. The advantage of having set criteria would be lost as more individual exceptions were added. Neither OMB, the Census Bureau, nor the USDA have appeals processes regarding their designations. If changes need to be made, the criteria are changed which results in a uniform, national standard that is clearly understandable even though there are always grey areas that can be considered misclassified.

The FAR codes can be used programmatically, but ORHP and USDA believe that it is best to leave individual program decisions on how to use FAR codes and what additional criteria to use, if any, to programmatic staff. Therefore, neither ORHP nor USDA will undertake reviews except in cases where erroneous classifications may have been made.

Conclusion

There are many different definitions of what constitutes both rural and frontier areas. The FAR codes are not offered as a replacement for other definitions but as one alternative that may be useful in research or for programmatic use.

ORHP considers many of the comments received to be useful in future revisions of the FAR codes and appreciates the interest and passion of the commenters who are concerned with the population of the United States who reside in remote and isolated areas. Further comments and suggestions on the FAR codes are welcome.

Dated: April 25, 2014.

Mary K. Wakefield, Ph.D., R.N.,

Administrator.

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