

Access to adequate health care services continues to be a major challenge that rural Californians must face. Over the last four years, nine of California's rural hospitals have been forced to close down. HMO's have decreased or ceased coverage in rural areas and many rural residents must travel long distances to the nearest clinic or hospital.



RUCA in Comparison to the MSSA Standard

In each of the six areas listed above, RUCA was compared to MSSA. Below is a review of RUCA in relation to the standards developed for MSSA. In each case, the RUCA system falls short of meeting the MSSA standard.

- ▶ **Lack of Legislative or Regulatory Basis for RUCAs**
First and second, when compared with the first two advantages of MSSAs, one observes that there is no legislative or regulatory basis for the RUCAs, whereas the MSSAs conform to California law, and simultaneously are consistent with the legislative and regulatory basis for HRSA's HPSAs and MUAs.
- ▶ **Substantial Federal Investment in California's MSSA Framework**
Third, although the Federal Office of Rural Health Policy did support the University of Washington to create the RUCA concept, the total HRSA investment in the California MSSAs is on a much larger and more comprehensive scale.
- ▶ **Lack of Local Review of RUCAs**
Fourth, the RUCA concepts have not had the extensive public review, both in California and in HRSA's central offices, that all aspects of the MSSA process have had; nor is there a mechanism by which each local community would assemble stakeholders to determine RUCA boundaries or validate their appropriateness to their communities.
- ▶ **RUCAs are Incompatible with Other Geographic Units**
Fifth, the RUCA data are comprised by mixing census tract and Zip code information. Zip codes are designed for mail delivery, rather than for data collection, and the United States Post Office uses methods wholly incompatible with census tracts for drawing the boundaries of Zip codes. Thus, the underlying data that are used to determine whether a given geographical area is rural or urban, or for prioritizing among RUCAs, are inadequate to meet the precision required for equitable treatment of like communities.
- ▶ **Commuting Patterns are not an Appropriate Predictor of Access**
Sixth, an underlying theory of RUCAs, that one can determine rurality by observing commuting patterns in and out of urban areas, has proven out of date. All far Western states are experiencing the phenomenon of urban housing no longer being affordable, requiring ever more distant commutes to jobs. Even though persons with urban jobs have to live long distances from where they work, it does make those areas urban.

Request and Recommendation

For the reasons stated above, MSSAs are a more accurate and better measure for defining rural areas in California and CSRHA respectfully requests that the Office of Rural Health Policy approve California's request to use MSSAs instead of RUCA in determining eligibility to apply for federal rural health funds.

California meets a number of important criteria for determining its MSSA system as described below. These criteria are the basis for supporting an alternative to the RUCA system in California.

- ▶ The state has developed a geographic framework for defining rural and urban areas that encompasses the entire state, and has been approved by an appropriate unit of HRSA
- ▶ The state incorporates GIS technology that is based on census tracts and other units of the U.S. Census Bureau that are consistent with those used by HRSA's Shortage Designation Branch.
- ▶ The state has completed a series of public meetings that obtain public input, and, where possible consensus on criteria for determining rurality.
- ▶ The state has completed a series of public meetings of stakeholders in each county to obtain input, and, where possible, consensus on the boundaries of the sub-county units.

Acknowledgements

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California Office of Statewide Health Planning and Development
California Rural Health Policy Council

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California State Rural Health Association
2000 L Street, Suite 100, Sacramento, CA 95814
Telephone: (916) 930-9330 | Fax: (916) 930-9329
E-mail: csrha@csrha.org | Web: <http://www.csrha.org>



California State Rural Health Association

Policy Brief

An Appropriate Definition of Rural for California

Policy Issue and Findings

The Office of Rural Health Policy [ORHP] within the United States Health Resources and Services Administration [HRSA] has adopted geographic units called Rural-Urban Commuting Areas [RUCAs]. These are used as the basic unit for determining whether a specific area is eligible to apply for ORHP funds allocated for "rural" areas. This policy brief examines the implementation of the RUCA methodology for California in comparison to California's Medical Service Study Area [MSSA] methodology to determine if the RUCA methodology is an appropriate model for California.

Findings from this study reveal that when the RUCA methodology is applied in California, some California rural areas are inaccurately identified as urban and will result in over 20 percent of California's current rural health providers being ineligible for financial assistance from ORHP programs.

Further review of California's MSSA and RUCA methodology systems demonstrates that while the RUCA methodology is a better predictor of whether an area is rural than former county-based schemes, the California's Medical Service Study Area [MSSA] system is a more effective agent of public policy and this alternative system should be adopted by the Federal Office of Rural Health Policy for use in California.

Introduction

It is difficult to quantify rural health problems and to make informed policy decisions without a clear definition of what and where "rural" areas are. Populations in different parts of the United States have very different notions about what defines "rural," yet federal policies have often relied on dichotomous rural/urban designations based on counties as the basic geographic unit.

In an attempt to develop a standard rural typology that would capture the elements of rural diversity, the Office of Rural Health Policy within the United States Department of Health and Human Services' Health Resources and Services Administration [HRSA] has adopted geographic units called Rural-Urban Commuting Areas [RUCAs]. These units are used as the basis for determining eligibility of rural health funds allocated for "rural areas." The RUCA system adopted by the ORHP uses urbanization, population density, and daily commuting data from the 1990 decennial census to classify census tracts, on a scale of 1 to 10, as initially either metropolitan, large town, small town, or rural commuting areas, based on the size and direction of the tract's largest commuting flows. Further subdivision and delineation of the initial classification is based on secondary commuting flows.

While the RUCA system has sought to address the problems in former county-based schemes, the California's Medical Service Study Areas [MSSA] system is still more effective as an agent of public policy for California in terms of addressing its medical access and healthcare issues.

Access to adequate health care services continues to be a major challenge that rural Californians must face. Over the last four years, nine of California's rural hospitals have been forced to close down. HMO's have decreased or ceased coverage in rural areas and many rural residents must travel long distances to the nearest clinic or hospital. Currently 15 percent of children in rural areas are uninsured, making them more likely to experience problems with access to medical care, delays in necessary treatment and inadequate immunizations. In addition, California's rural areas have a higher proportion of elderly residents, more than half of whom have family incomes below 200 percent of the poverty line who have been found to have greater long-term health problems. Yet many of California's rural hospitals and clinics continue to struggle to stay open, while primary care physicians, physician's assistants, and nurse practitioners are in short supply.

It is the position of California State Rural Health Association (CSRHA) that if the Office of Rural Health Policy would adopt California's MSSA system as an alternative to RUCAs for implementing its federal programs in this state, then California can begin to meet some of the health challenges that are threatening the livelihood of many rural communities today.

It is difficult to quantify rural health problems and to make informed policy decisions without a clear definition of what and where "rural" areas are.

MSSA History

In an effort to address the mal-distribution of healthcare services in this State, California in 1973 and 1976 enacted legislation requiring the California Health Manpower Policy Commission (now the California Healthcare Workforce Policy Commission [CHWPC]) to determine the geographic areas within California where there exists an unmet priority need for medical services. When, in 1976 California decided to have certain state funds available only to defined underserved rural areas, it rejected the idea of using any mechanism based on whole counties (such as the Office of Management and Budget's Standard Metropolitan and Statistical Areas [SMSAs]). Instead CHWPC developed a geographical framework of sub-county units so as to identify which areas were rural and which were underserved. This framework addressed the uniqueness of California's whole counties, which are geographically large and encompass both large populations in concentrated urban centers and smaller populations in vast rural areas. These sub-county units were named "Medical Service Study Areas [MSSAs]. Through this process, the State has been divided into roughly 541 MSSAs for health care analysis purposes.

Health Resources and Services Administration [HRSA] Currently Recognizes California MSSAs and continues to invest in MSSA Development

California was one of the last states to develop a Cooperative Agreement with HRSA, but, when the Cooperative Agreement was established in 1992, one of HRSA's first initiatives was to recognize the MSSAs as "rational service areas", a key criterion for HRSA determining Health Professions Shortage Areas [HPSAs] and Medical Underserved Areas [MUAs]. It created California's Office of Statewide Health Planning and Development's [OSHPD] "Cooperative Agreement" unit to develop the State of California's responses to applications for federal recognition of HPSAs and MUAs .

Through this Cooperative Agreement, HRSA has invested over \$2.5 million in the MSSA process over the past 11 years. As a condition of continued funding, OSHPD agreed to conduct a series of community meetings and provided staff salaries and travel funds to reconfigure the MSSAs, based on newly available 1990 and 2000 census data respectively.

The Cooperative Agreement staff continues to be funded up until the present day, and in 2002, California was awarded supplemental funds to utilize Geographic Information System [GIS] software, including incorporation of the "Redistricting Tool" that legislators had used to develop California's congressional and legislative districts. This innovation created the ability for presentation of population and socioeconomic data to healthcare delivery community stakeholders, and to engage them in interactive sessions where need in their community could be displayed most precisely and effectively. It also provided counties with density and population data to enable them to obtain a much more precise demarcation of rural and urban areas than any system previously employed.

Comparing RUCA to MSSA as a Rural Designation

The RUCA classification scheme in comparison to MSSA falls short of meeting California's diverse rural healthcare access needs. For example, Shasta County's Mayers Memorial Hospital in Fall River Mills, California is not classified rural by RUCA. It is a Critical Access Hospital [CAH] located 75 miles away from Redding. During summer, the drive to Redding takes a minimum of 1.5 hours via mountain roads with a drop in elevation of about 3,000 feet. During winter, snow and ice can easily double the driving time.

Similarly, San Diego County's Mountain Health and Community Services, a federally qualified community health center and rural health clinic is left off the RUCA eligible list. This is one of three rural healthcare facilities in Eastern rural areas of San Diego that are ineligible. These rural facilities are equally more than 50 miles via windy roads and mountains or 1 hour to the nearest urban center.

In comparing the RUCA classification scheme to MSSA, of the 69 rural hospitals in California, ten are not classified as rural by RUCA including two Critical Access Hospitals [CAHs]. In addition, 55 of 242 licensed rural health clinics are not classified rural by RUCA. (Table 1). By adding rural health clinics which have been designated as community health centers by the federal government, the number ineligible under RUCA would increase significantly.

Table 1: MSSA Clinics Exluded Under RUCA			
County	Clinic	Zip	RUCA Code
San Bernardino	MCH Medical Clinic	92352	1
Monterey	Mee Memorial Hospital Medical Clinic	93930	2
Butte	Chuk Ndulue Medical Office	95948	2
Butte	Family Care Center	95948	2
Shasta	Fall River Valley Health Center	96028	2
San Diego	Mountain Empire Family Medicine	91906	2
San Diego	High Desert Family Medicine	91934	2
Riverside	Santa Rosa Del Valle Medical Group	92236	1,1
Ventura	Oak View Family Practice	93022	2
Ventura	SPMH Rural Health Center	93060	2
Tulare	San Joaquin Prime Care Medical Corporation	93223	2
Kern	Shafter Rural Healthcare Clinic	93263	2
Kern	Jae J. Kim Care Clinic	93263	2
Santa Barbara	Marian Community Clinic - Guadalupe	93434	2
Kern	Beverly Medical Center II	93560	2
Fresno	Fowler Medical Center, Inc.	93625	2
Fresno	Valley Family Health Center/Maternal & Child Care	93630	2
Fresno	Mendota Family Health Center	93640	2
Fresno	San Joaquin Prime Care Medical Corporation	93675	2
Monterey	Gonzales Medical Group, Inc.	93926	2
Monterey	George L. Mee Memorial Hospital Medical Clinic	93927	2
Monterey	Soledad Medical Clinic	93960	2
Napa	Napa Valley Family Medical Group	94559	1
Calaveras	Valley Springs Family Medical Clinic	95252	2
Merced	Bloss Memorial District Hos. Primary Care Clinic	95301	2
Merced	Delhi Medical Clinic	95315	3
San Joaquin	Brij Gupta, M.D., Inc.	95320	2
Stanislaus	Hughson Medical Office	95326	2
Merced	Mater Misericordiae Hospital Family Clinic	95340	1
Stanislaus	Riverbank Community Health Center	95367	2
Stanislaus	Riverbank Primary Health Clinic	95367	2
Stanislaus	CFP Family Practice Center	95386	1
Stanislaus	Brij Gupta, M.D., Inc.	95386	1
Sonoma	Copper Towers Family Medical Center	95425	2
Sacramento	Galt Medical Services	95632	2
Yuba	Sutter North Wheatland Family Practice Cener	95692	2
Butte	Dr. Ndulue Medical Practice	95901	1
Yuba	Harmony Health Medical Clinic	95901	1
Sutter	Live Oak Family Care Center	95953	2
Yuba	First Care Medical Clinic	95962	3
Butte	Community Comprehensive Care Walk-in Clinic	95965	2
Butte	Community Comprehensive Care OBGYN	95965	2
Butte	Premier Health Center	95965	2
Butte	Community Comprehensive Care	95966	2
Butte	Community Comprehensive Care - Pediatrics	95966	2
Butte	Family Practice Associates	95966	2
Butte	Oroville Family Practice	95966	2
Butte	Oroville Pediatric Associates	95966	2
Butte	Oroville Pediatric Practice	95966	2
Shasta	Anderson Medical Associates	96007	2
Shasta	AndersonWalk-in Medical Clinic	96007	2
Shasta	Cascade Health Center	96013	2
Shasta	Burney Health Center	96013	2
Shasta	Lassen Medical Group - Cottonwood	96022	2
Shasta	Cotton Medical Group	96022	2
Trinity	Hayfork Health Center	96099	2

MSSA Rural Hospitals Exluded Under RUCA			
County	Hospital	Zipcode	RUCA Code
San Bernardino	Hi-Desert Medical Center	92252	1
San Bernardino	Mountains Community Hospital	92352	1
San Diego	Fallbrook Hospital District	92028	1
Ventura	Ojai Valley Community Hospital	93023	2
Santa Barbara	Lompoc District Hospital	93496	1
Kern	Tehachapi Hospital	93581	2
Monterey	George L. Mee Memorial Hospital	93930	2
San Mateo	Seton Medical Center	94038	1
Sonoma	Palm Drive Hospital	95472	2
Shasta	Mayers Memorial Hospital	96028	2

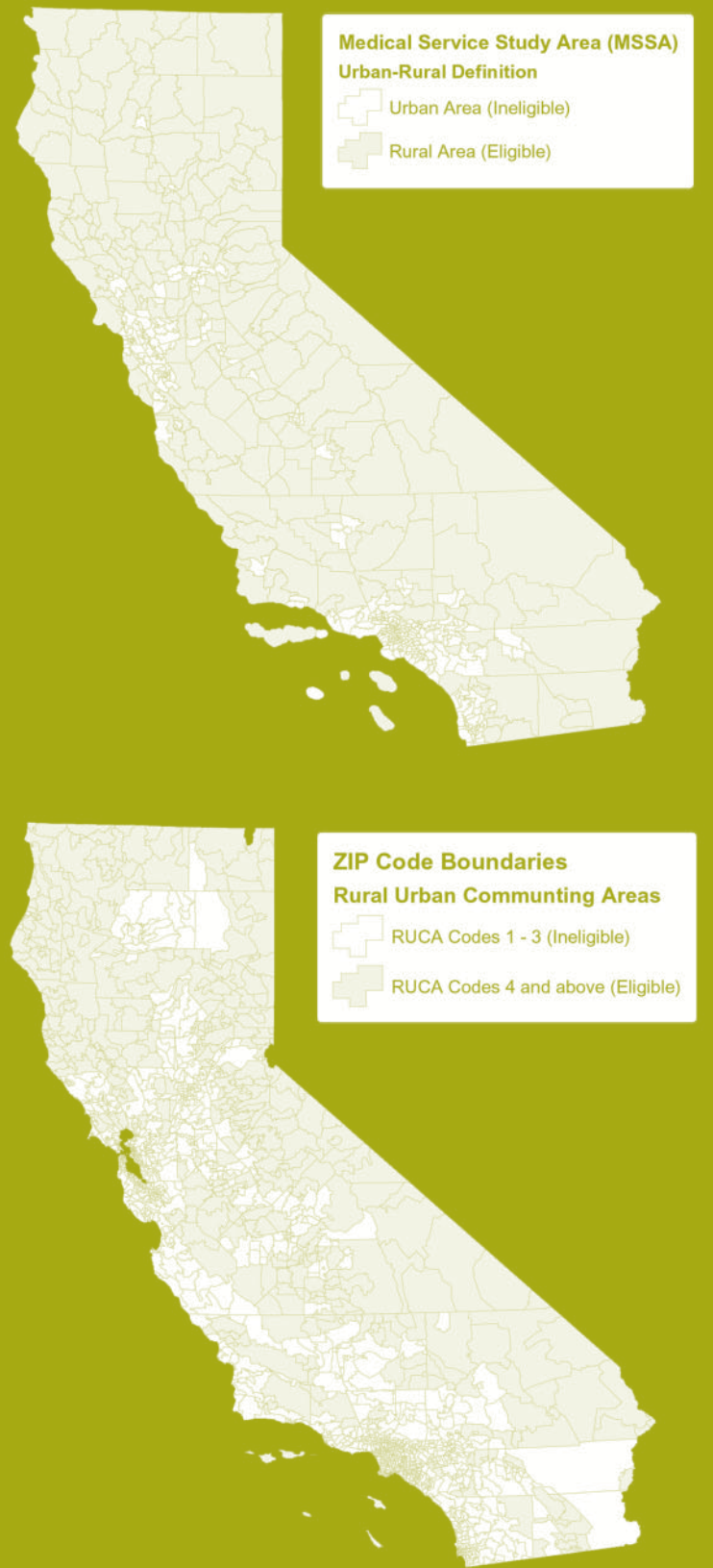
A comparison using side by side California maps provides a visual of MSSA and RUCA boundaries, and clearly demonstrates that many rural areas are not considered rural under RUCA. (Table 2). Rural areas excluded under RUCA are highly concentrated in the counties of Butte, Fresno, Kern, Merced, Monterey, San Bernardino, San Diego, Shasta, Sonoma and Stanislaus.

The Specific Advantages of California's MSSA System

The California MSSA system was designed to address the States unique needs. In determining rural areas, the MSSA system is recognized by stakeholders and offers the following advantages:

- 1) The MSSA system is based on statutory authority enacted by the State of California and follows sets of criteria established in public meetings, following months of review by task forces of stakeholders and potential users of the MSSAs and reviewed by California's Office of Statewide Health Planning and Development [OSHPD], which staffs the CHWPC.
- 2) The MSSAs have been adopted by the federal HRSA as constituting "rational service areas" in accordance with established federal law and regulations governing the declaration of HPSAs and MUAs.
- 3) MSSA development and maintenance are the result of a substantial investment by HRSA (exceeding \$2.5 million dollars over the past 11 years) through Cooperative Agreement grants to OSHPD. The Cooperative Agreement staff continues to be funded up until the present day, and in 2002 California was awarded supplemental funds to develop Geographic Information Systems [GIS] technology, including incorporation of GIS-based districting tools frequently used to develop California's state and local political districts. This innovation created the ability for presentation of population and socioeconomic data to healthcare delivery community stakeholders, and to engage them in interactive sessions where need in their community could be identified most precisely and effectively. It also provided them with land area and population density data, enabling stakeholders to achieve a much more precise demarcation of each county's rural and urban areas than any system previously employed.
- 4) Public meetings (working parties) of stakeholders were held to redraw the MSSA lines after both the 1990 and 2000 census, to assure that population shifts were properly reflected in current MSSA boundaries. Staff time and travel were in part funded by HRSA for both decades.
- 5) The MSSAs are based on census tracts, the principle unit for organizing census data, and are thereby compatible with all GIS technology and other electronic databases that are census-tract based, assuring the integrity and maximum usefulness of data collected by MSSAs. A total of 75 public meetings were held (at least one in each of California's 58 counties) for the Census 2000 reconfiguration alone. The GIS Redistricting Tool allowed all stakeholders present to test different configurations of the county in a real-time, interactive process, until consensus was achieved.
- 6) Although the processes of developing MSSAs achieve the goal of identifying the boundaries between rural and urban areas, and yield a result that compliments HRSA's MUA and HPSA designations, the RUCAs are an entirely separate mechanism for determining rural and urban areas. RUCAs were developed for HRSA's Federal Office of Health Policy.

Table 2: Rural Urban Commuting Areas & Medical Service Study Areas



Map compiled by: California Office of Statewide Health Planning and Development Healthcare Workforce and Community Development Division & Rural Health Policy Council, November 2003
 Data source: WWAMI, Rural Health Research Center, Rural Urban Commuting Area Codes, Version 1.11, June 2002
 U.S. Census Bureau, Census 2000
 GDT Dynamap/2000



A REVIEW OF RURAL URBAN COMMUTING AREAS (RUCA) VERSUS CALIFORNIA'S MEDICAL SERVICE STUDY AREAS (MSSA) METHODOLOGIES

ISSUE:

The Office of Rural Health Policy [ORHP] within the United States Health Resources & Services Administration [HRSA] has adopted geographic units called Rural-Urban Commuting Areas [RUCAs]. These are used as the basic unit for determining whether a specific area is eligible to apply for ORHP funds allocated for "rural" areas. RUCAs were generated by a series of criteria developed by researchers associated with the University of Washington. Should this methodology be applied to California, rather than its Medical Service Study Area (MSSA) method, identification of some California rural areas as urban would be inaccurate, thereby making many rural health providers ineligible for ORHP assistance.

BACKGROUND:

The RUCA system adopted by the ORHP uses urbanization, population density, and daily commuting data from the 1990 decennial census to classify tracts, on a scale of 1 to 10, as initially either metropolitan, large town, small town, or Rural Commuting areas, based on the size and direction of the tract's largest commuting flows. Further subdivision and delineation of the initial classification is based on secondary commuting flows. Other agencies within HRSA use geographic units other than RUCAs to determine a community's eligibility for HRSA funds. Two categories of such units – medically underserved areas [MUAs] and health professional shortage areas [HPSAs] – are the basis for most of the HRSA programs (and, by far, the greater part of HRSA expenditures) that require designation of a geographic area as a condition of funding eligibility.

The State of California in 1973 and 1976 enacted legislation requiring the California Health Manpower Policy Commission (now the California Healthcare Workforce Policy Commission [CHWPC]) to determine which parts of California were "medically underserved" and which parts were rural. Although attempts had been made to use data collected by county to characterize areas of the state as medically underserved or rural, previous efforts had been unsatisfactory.

California's 58 counties vary markedly in size and population. Several counties were each comprised of urban, suburban, rural and frontier areas; and

most cities encompass neighborhoods of high poverty and affluent neighborhoods. Additionally, the size and geographic diversity of California's counties are typical of the expansive county units of the Far West, whereas counties in Eastern, Midwestern, and Southern states are typically much smaller.

In fact, if California's 58 counties, with a total population of 33,871,648, are aggregated with Arizona's 15 counties, (total population of 5,130,632), and Nevada's 17 counties, (total population of 1,998,257), these three large Far West states, with a total population of 41,000,537, have only 90 counties in total. Both Kentucky, (population – 4,041,769), and Pennsylvania, (population – 12,281,054), have over 100 counties each, with a significantly lower total population of 16,322,823. Thus, the likelihood of a Kentucky or Pennsylvania county having a relatively homogenous population is much higher than that of counties in the Far West.

It is also much more likely that one can characterize, without controversy, a specific county in one of these two Eastern states as either rural or urban. But no such characterization can be made of Clark County (Nevada) or San Bernardino, Riverside or San Diego counties (California). Each of these counties contains large cities, but each also encompasses sub-areas larger than most Eastern counties that could be characterized as rural or even "frontier."

For the Census 2000, the federal Office of Management and Budget [OMB] sought to standardize definitions of rural and urban by stating that any county that had a "census defined place" that exceeded 50,000 would be deemed as urban (a "Standardized Metropolitan Statistical Area [SMSA]") and all others as rural. But this definition proved unsatisfactory. As an example of the inappropriateness of the SMSA, California's Butte County contains the city of Chico, but the greater part of the county is agricultural or is of remote mountainous terrain. If one used SMSAs to determine eligibility for applying for rural health funds, communities over 90 minutes drive from Chico within Butte County's borders would be ineligible, whereas other communities only a few miles away but across the county line would be eligible for such funds.

When in 1976 California decided to have certain state funds available only to defined underserved rural areas, it rejected the idea of using SMSAs or any other mechanism based on whole counties. Instead, the CHWPC developed a geographical framework of sub-county units so as to identify which areas were rural and which were underserved and sub-city units for determining the distribution of health care resources within urban areas. These sub-county units were named "medical service study areas [MSSAs]."

The concept of a state developing a formal process for dividing the state into sub-county units for data collection was of considerable interest to federal officials from the establishment of the process in 1976. In fact, three OSHPD staff members submitted an article on the MSSAs that was accepted for publication in 1981 in *Public Health Reports*, the official journal of the United States Public Health Service.

California was one of the last states to develop a Cooperative Agreement with HRSA, but, when the Cooperative Agreement was established in 1992, one of HRSA's first initiatives was to recognize the MSSAs as "rational service areas," a key criterion for HRSA determining HPSAs and MUAs. It created OSHPD's "Cooperative Agreement" unit to develop the State of California's responses to applications for federal recognition of HPSAs and MUAs and has invested over \$2.5 million in the MSSA process over the past 11 years. As a condition of continued funding, OSHPD agreed to conduct a series of community meetings and provided staff salaries and travel funds to reconfigure the MSSAs, based on newly available 1990 and 2000 census data respectively.

Not only has the Cooperative Agreement staff continued to be funded up until the present day, but in 2002 California was awarded supplemental funds to utilize Geographic Information System [GIS] software, including incorporation of the "Redistricting Tool" that legislators had used to develop California's Congressional and legislative districts. This innovation created the ability for presentation of population and socioeconomic data to healthcare delivery community stakeholders, and to engage them in interactive sessions where need in their community could be displayed most precisely and effectively. It also provided counties with density and population data to enable them

to obtain a much more precise demarcation of rural and urban areas than any system previously employed.

The motivation for establishing the RUCAs was the same as a principal motivation for establishing the MSSAs – to develop geographic units that better demarcated rural and urban areas than county-based schemes, especially OMB's SMSAs. Undoubtedly, any scheme that is based on developing criteria thought to indicate "rurality" might prove to be a better predictor of whether an area is rural than the SMSA system. However, the MSSA system is a more effective agent of public policy for California.

COMPARISON OF CALIFORNIA MSSA AND RUCA METHODOLOGIES:

► **MSSAs:** The system is based on statutory authority enacted by the State of California and follows sets of criteria established in public meetings, following months of review by task forces of stakeholders and potential users of the MSSAs and review by California's Office of Statewide Health Planning and Development [OSHPD], which staffs the CHWPC.

RUCA: When compared with the first advantage of MSSAs, one observes that there is no legislative or regulatory basis for the RUCAs, whereas the MSSAs conform to California law, and simultaneously are consistent with the legislative and regulatory basis for HRSA's HPSAs and MUAs.

► **MSSAs:** The MSSAs have been adopted by the federal HRSA as constituting "rational service areas" in accordance with established federal law and regulations governing the declaration of HPSAs and MUAs.

RUCA: There is no legislative or regulatory basis for the RUCAs.

► **MSSAs:** Their development and maintenance are the result of a substantial investment by HRSA (exceeding \$2.5 million dollars over the past 11 years) through Cooperative Agreement grants to OSHPD. Not only did the Cooperative Agreement staff continue to be funded up until the present day, but also in 2002 California was awarded supplemental funds to develop [GIS] technology, including incorporation of GIS-based redistricting tools frequently used to develop California's state and local political districts. This innovation

created the ability for presentation of population and socioeconomic data to healthcare delivery community stakeholders, and to engage them in interactive sessions where need in their community could be identified most precisely and effectively. It also provided them with land area and population density data, enabling stakeholders to achieve a much more precise demarcation of rural and urban areas than any system previously employed.

RUCA: Although the Federal Office of Rural Health Policy did support the University of Washington to create the RUCA concept, the total HRSA investment in the California MSSAs is on a much larger and more comprehensive scale.

► **MSSAs:** Public meetings (working parties) of stakeholders were held to redraw the MSSA lines after both Census 1990 and Census 2000, to assure that population shifts were properly reflected in current MSSA boundaries; staff time and travel were in part funded by HRSA.

RUCA: The RUCA concepts have not had the extensive public review, both in California and in HRSA's central offices, that all aspects of the MSSA process have had; nor is there a mechanism by which each local community would assemble stakeholders to determine RUCA boundaries or validate their appropriateness to their communities.

► **MSSAs:** The MSSAs are based on census tracts, the principal unit for organizing census data, and are thereby compatible with all GIS technology and other electronic databases that are census-tract based, assuring the integrity and maximum usefulness of data collected by MSSAs. A total of 75 public meetings were held (at least one in each of California's 58 counties) for the Census 2000 reconfiguration alone. The GIS Redistricting Tool allowed all stakeholders present to test different configurations of the county in a real-time, interactive process, until consensus was achieved.

RUCA: The RUCA data are comprised of a mixture of census tract and zip code information. Zip codes are designed for mail delivery, rather than for data collection, and the United States Post Office uses methods wholly incompatible with census tracts for drawing the boundaries of zip codes. Zip codes themselves are subject to change, and therefore unreliable as a constant regional identifier. Thus, the underlying data that are

used to determine whether a given geographical area is rural or urban, or for prioritizing among RUCAs, are inadequate to meet the precision required for equitable treatment of like communities. Furthermore, an underlying theory of RUCAs, that one can determine rurality by observing commuting patterns in and out of urban areas, fails to recognize the current phenomenon of unaffordable urban housing, requiring ever more distant commutes to jobs from more affordable, outlying communities. Even though persons with urban jobs have to live in distant communities, it does not make those communities any less rural.

► **MSSAs:** Although the processes of developing MSSAs achieve the goal of identifying the boundaries between rural and urban areas and yield a result that complements HRSA's HPSA and MUA designations; the RUCAs are an entirely separate mechanism for determining rural and urban areas. RUCAs were developed for HRSA's Federal Office of Rural Health Policy.

RUCA: The incompatibility of RUCAs with census-tract based GIS technology, diminishes their value for statewide planning and local needs assessment activities in California or any other state that uses GIS to organize data from the Census and other large data bases relevant to planning and make it available to the public. Conversely, California's MSSAs are part of its larger GIS system, whose data are freely available to the public.

RECOMMENDATION:

The HWCDD recommends the following:

- ORHP should approve any alternative to RUCAs for states that meet the following criteria:
- A. The state has developed a geographic framework for defining rural and urban areas that encompasses the entire state, and has been approved by an appropriate unit of HRSA;
 - B. The state incorporates GIS technology that is based on census tracts and other units of the U. S. Census Bureau that are consistent with those used by HRSA's Shortage Designation Branch; and
 - C. The state has completed a series of public meetings that obtain public input, and, where possible, consensus on criteria for determining rurality; and
 - D. The state has completed a series of public meetings of stakeholders in each county to obtain input, and, where possible, consensus on the boundaries of the sub-county units.