



SAVI
Information for Communities

SAVI Primary Care Service Area (PCSA) Data User Guide

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Overview

This Primary Care Service Area (PCSA) User Guide was created to help SAVI users better understand and utilize this valuable but complex data set. The User Guide gives an introduction to PCSA data, provides examples of how PCSA data can be used, includes a glossary of terms and abbreviations, and lists PCSA categories and indicators found in SAVI. PCSA data cover the availability of medical providers and utilization of health care by Medicare recipients. A thorough understanding of the data is required for constructive analysis.

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About PCSAs

Dartmouth Medical School developed the Primary Care Service Area (PCSA) Project. The project offers a national database containing up-to-date information for the public about health care resources, population statistics, and Medicare utilizations ^[1]. The national data are reported by 6,542 areas (32 within Central Indiana), defined by groups of ZIP Codes, which illustrate Medicare patient travel to primary care providers^[1]. It also identifies local health care markets by providing an accurate picture of the locations and characteristics of physicians and patients across the nation ^[1]. The SAVI Community Information System now contains PCSA data for Central Indiana.

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Why PCSAs are Valuable

PCSAs are unique in that they provide extensive health care information to a wide range of users. Whether you are a beginner or a master user, you can easily access detailed information on local health care markets and patient population.

PCSAs

- are based on actual patterns of local primary health care use
- include information such as patient risk, availability of jobs for physicians, insurance and poverty rates of patients, and numbers of hospitals and health clinics
- can quickly and easily highlight areas in which health care needs exceed available resources

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How PCSAs Work

PCSAs were determined from 1999 Medicare claims data, 2000 Census data, and Census Zip Code service areas ^[2]. Each PCSA consists of a ZIP Code area with one or more primary care providers as well as any adjacent ZIP Code areas with Medicare populations that utilize those same primary care providers.

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Uses of PCSAs

PCSAs are used by state and local agencies, universities and researchers, and a variety of other public and private institutions ([full PCSA contact list](#))^[3].

Examples of potential uses:

- Highlight service areas within Central Indiana to show the travel of Medicare patients to primary care professionals.
- See where health care professionals target their job searches.
- [Mapping Health Care Delivery for America's Children](#): develop data about children and pediatric care providers.
 - [More national uses](#)
- Determine the demographic description of children and adults within each health workforce in the state.
 - [More state uses](#)
- Examine how access to outpatient services within a county can vary based on rural versus urban areas or elderly/poor versus other populations.
 - [More local uses](#)

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Potential National Uses of PCSAs ^[3]

Type of Analysis	PCSAs as Primary Geographic Unit	Enhancements to PCSA Analyses	Alternatives to PCSAs	Comments on the Alternative
Evaluating primary care physician resources for allocation, e.g. location of new or expanded rural health or community health centers	Extremely useful because information can be gathered and compared nationally with a high degree of reliability		State level and county level calculations of per capita utilization and resource or density measurements	Calculations using large geographical areas tend to mask communities with low or high supply
Tracking changes in primary care health providers, facilities or utilization over time	Very useful-primary care service areas are generally large enough to track and validate significant changes	Incorporate community, economic and sociologic information to develop more in-depth understanding of changes and reasons for changes	State level, county level, rational service areas.	State level and county level data tends to show average changes and mask significant migration of resources both into and out of smaller areas
Determining the availability of primary care health resources for special populations	Very useful - to the extent that special populations can be identified and geographically located, the PCSA database can be utilized to provide detailed demographic and resource information	Analysis of primary care utilization patterns to determine if PCSAs need to be combined or boundaries changed to improve congruence with actual utilization	State level and county level, rational service areas	State level and county level data tends to show average changes and mask significant migration of resources both into and out of smaller areas
Determining the availability of primary care health resources for special populations	Very useful-to the extent that special populations can be identified and geographically located, the PCSA database can be utilized to provide detailed demographic and resource information	Analysis of primary care utilization patterns to determine if PCSAs need to be combined or boundaries changed to improve congruence with actual utilization	Surveys of special populations regarding primary care service utilization, needs, insurance; surveys of local providers to determine if special populations served and services provided.	Useful to determine degree of congruence with PCSA
Determining the effect of policy changes on population utilization and access to services	Very useful for establishing baselines and understanding utilization patterns prior to changes	Develop ZIP Code level data on utilization changes and utilization patterns	State or county data on changes; focus groups of populations affected by the changes	State or county level data would provide an indication of type and degree of change but would need to be supplemented with local data to determine smaller areas

Potential State Uses of PCSAs ^[3]

Type of Analysis	PCSAs as Primary Geographic Unit	Enhancements to PCSA Analyses	Alternatives to PCSAs	Comments on the Alternative
Evaluating unmet primary care health care needs (e.g. 5 year requirement to develop a needs assessment for Maternal and Child Health Care Block Grants)	Provides data on demographics, physician resources and hospitals, community or rural health centers; provides greater detail on ambulatory services for aged population; standardized areas permits comparisons across the state and potential for ranking problems and areas	Identification of problem areas based on input from health professionals in state and zeroing in on data associated with the problems	County level morbidity and mortality data or Health Service Areas or Hospital Referral Regions (HSAs and HRAs are defined in the Dartmouth Atlas of Health Care Series)	On a macro level, useful to determine potential counties or regions that are significantly different from state averages; additional detail needed to determine specific areas within the counties that are significantly different from county averages
Allocating grants and monies for underserved areas	Provides a basis for comparing areas based on a number of variables	Update with more recent mortality and morbidity data if available by ZIP Code; can be apportioned from county level to the PCSA level using a standard measure	County level statistics on mortality and morbidity, Health Service Areas or Hospital Referral Regions	Depending on the nature of the grant, this may be the most appropriate level. For example, some grants are based on total county population so analysis of smaller areas is not necessary
Responding to federal data requirements	Provides standard data for reporting on demographics		Specific responses by county or state	Depends on the data and reporting requirements of the federal agency; if specified by county, city/town or community level, then PCSA level data would not be useful
Developing bio-terrorism and Emergency Preparedness Plans	PCSA data can be used to identify areas with vulnerable populations (children, children with special health needs, aged populations); this information is useful for agencies developing plans and establishing priority Responses	Add information on emergency response resources and priority area	County, city or community information on location of vulnerable populations and needs	If data requirements include information not provided through the PCSA databases, then state may need to develop its data based on federally- define or rational service areas Data is more recent so that changes invulnerable populations and community resources could be tracked and plans would be more accurate

Potential Local Uses of PCSAs ^[3]

Type of Analysis	PCSAs as Primary Geographic Unit	Enhancements to PCSA Analyses	Alternatives to PCSAs	Comments on the Alternative
Developing community health needs assessment and identifying priority projects	May not provide the level of detail necessary to determine community specific needs		Analysis of census tract level data; surveys and focus groups to define specific health care needs, perceived shortages and priority areas	Analyses are tailored to needs of the community and focus on areas' specific information; could use census tract level data from the PCSA database to help describe demographics and providers but would also need to make adjustments based on more recent or community resource information
National studies of primary care workforce availability	Very high utility because the standardized definition of primary care service areas helps to verify and validate findings and extensive information is available	Depending on availability of state level or national data and other studies and surveys, additional information could be added to the analyses	State level data gathered for licensing or other purposes aggregated to develop a national picture	Accuracy and ability to gather such information depends on state's requirements for data collection and definitions of data collected; tends to be very time consuming and expensive. Often an incomplete picture emerges due to differences in data collected, time lags in data collection and variances in type and quality of data
Outcomes studies and comparisons of primary care practices or services	Very high utility because of the standardized definition of primary care service areas, even if studies focus on several regions or states, comparisons are based on areas that are consistently defined		Data collected by state and then aggregated for regions, if appropriate	See above

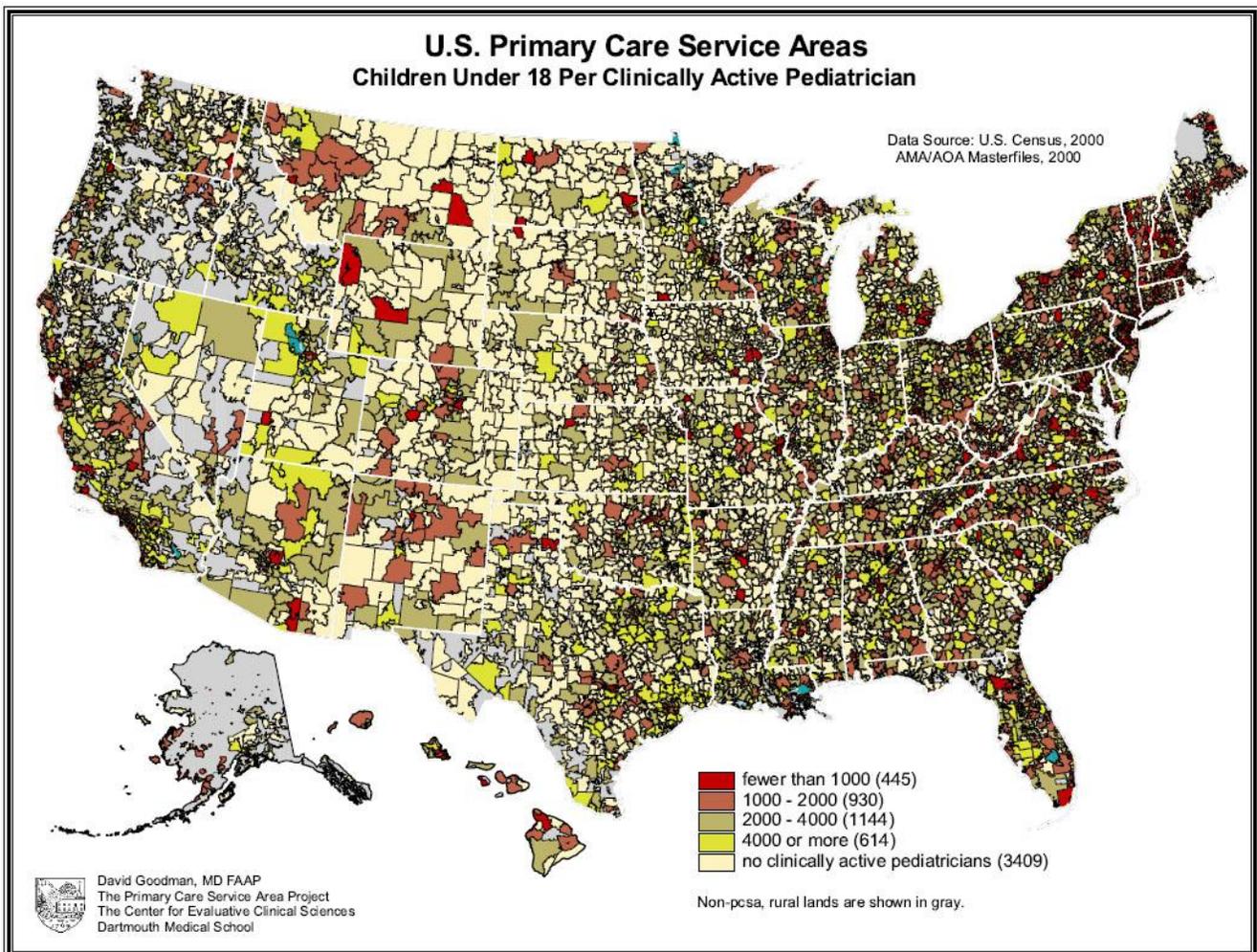
Sample Maps

PCSA Maps

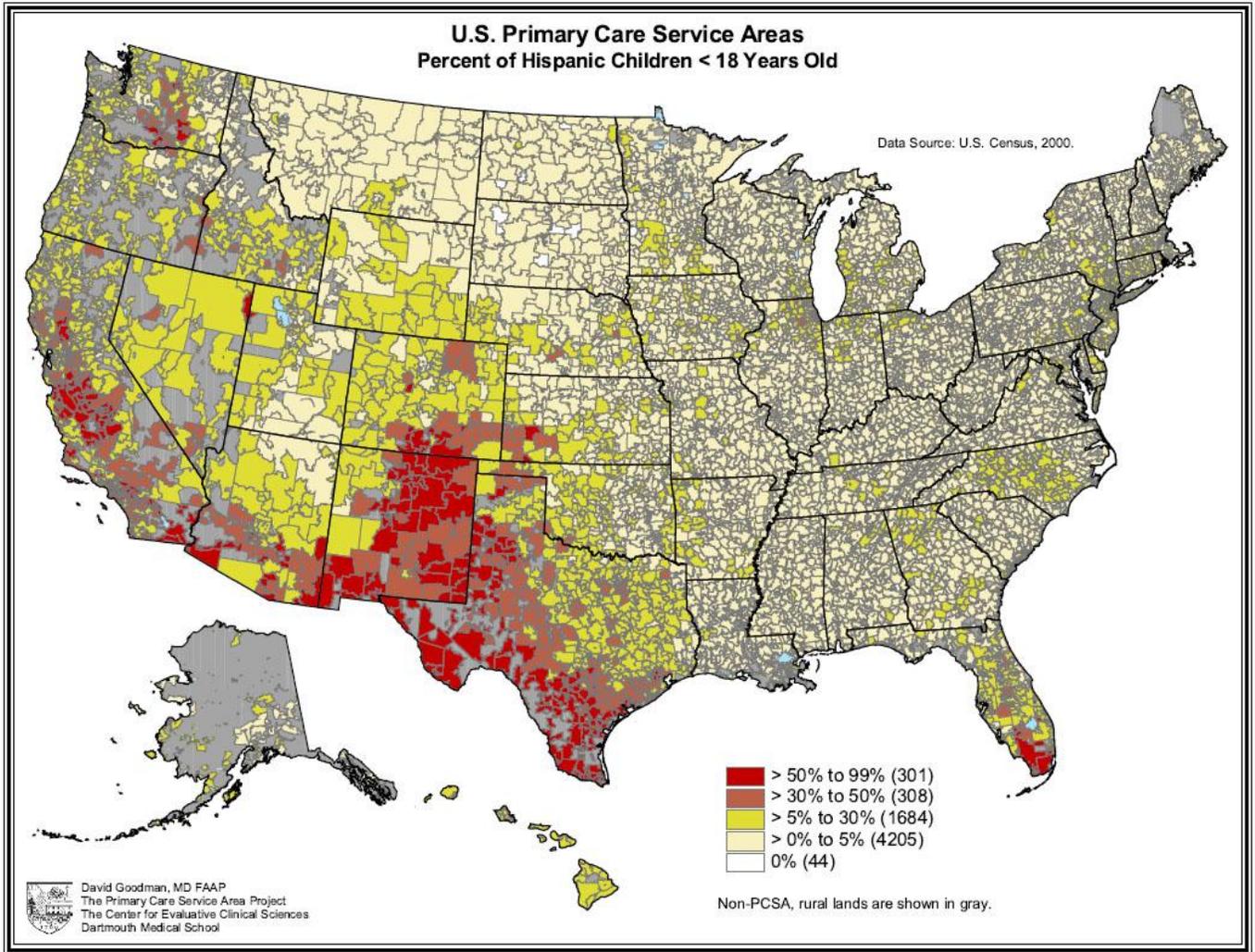
The Dartmouth Medical School has developed a number of sample maps to illustrate the results of PCSA analyses at the national, state, and local levels.

National Maps

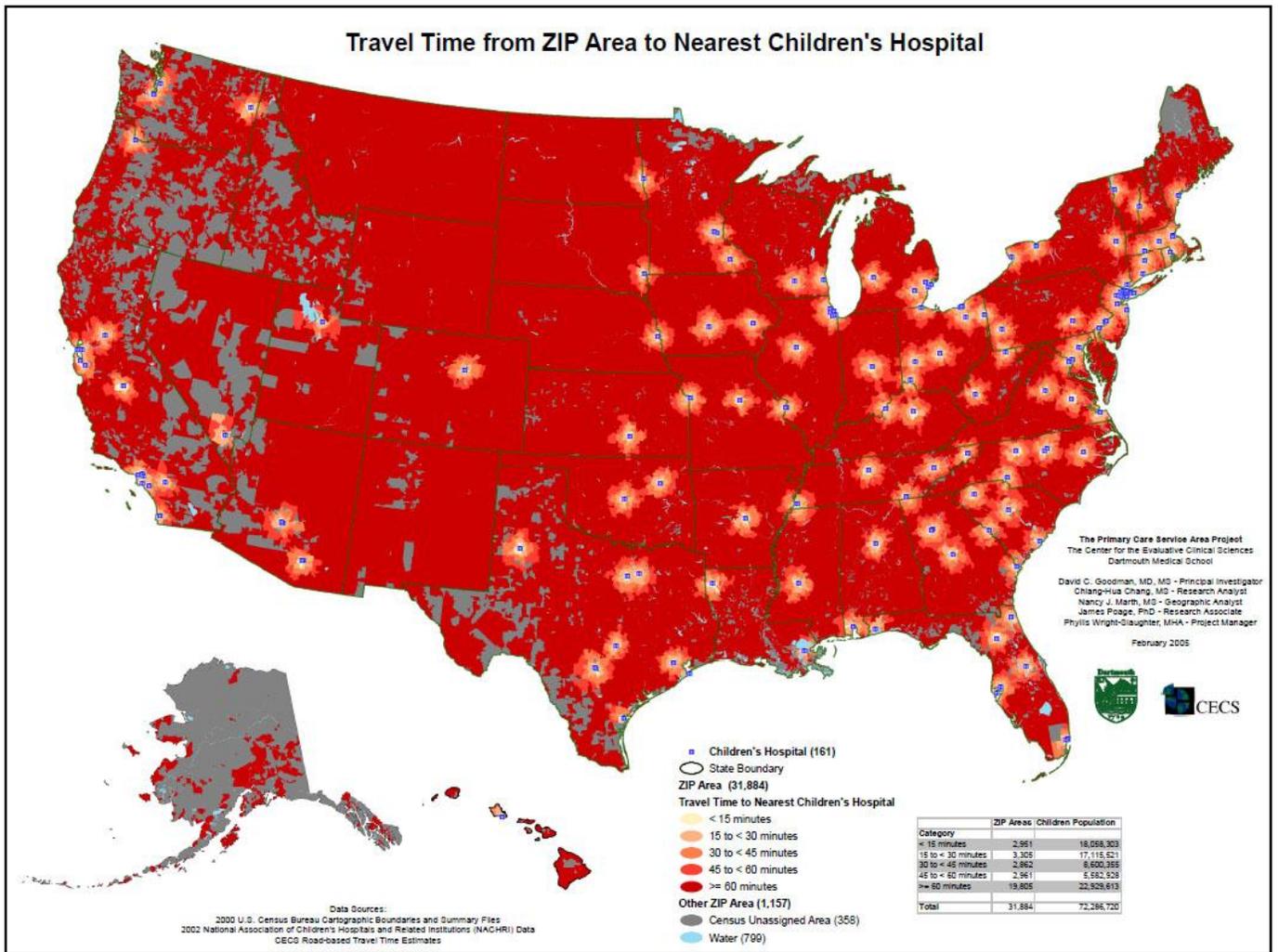
Children Under Age 18 per Clinically Active Pediatrician



Percent of Hispanic Children Under Age 18



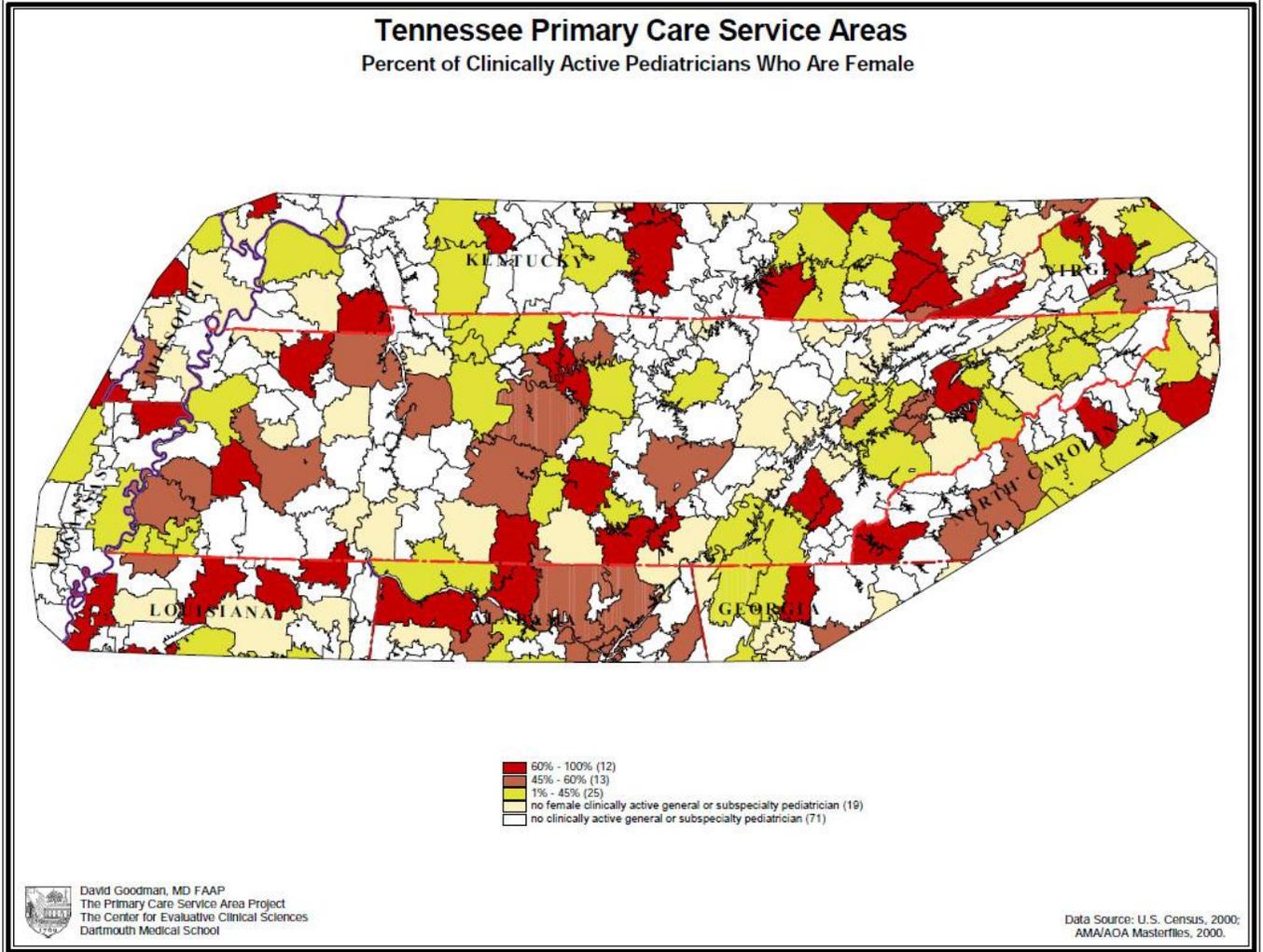
Travel Time from ZIP Code Areas to Nearest Children's Hospital



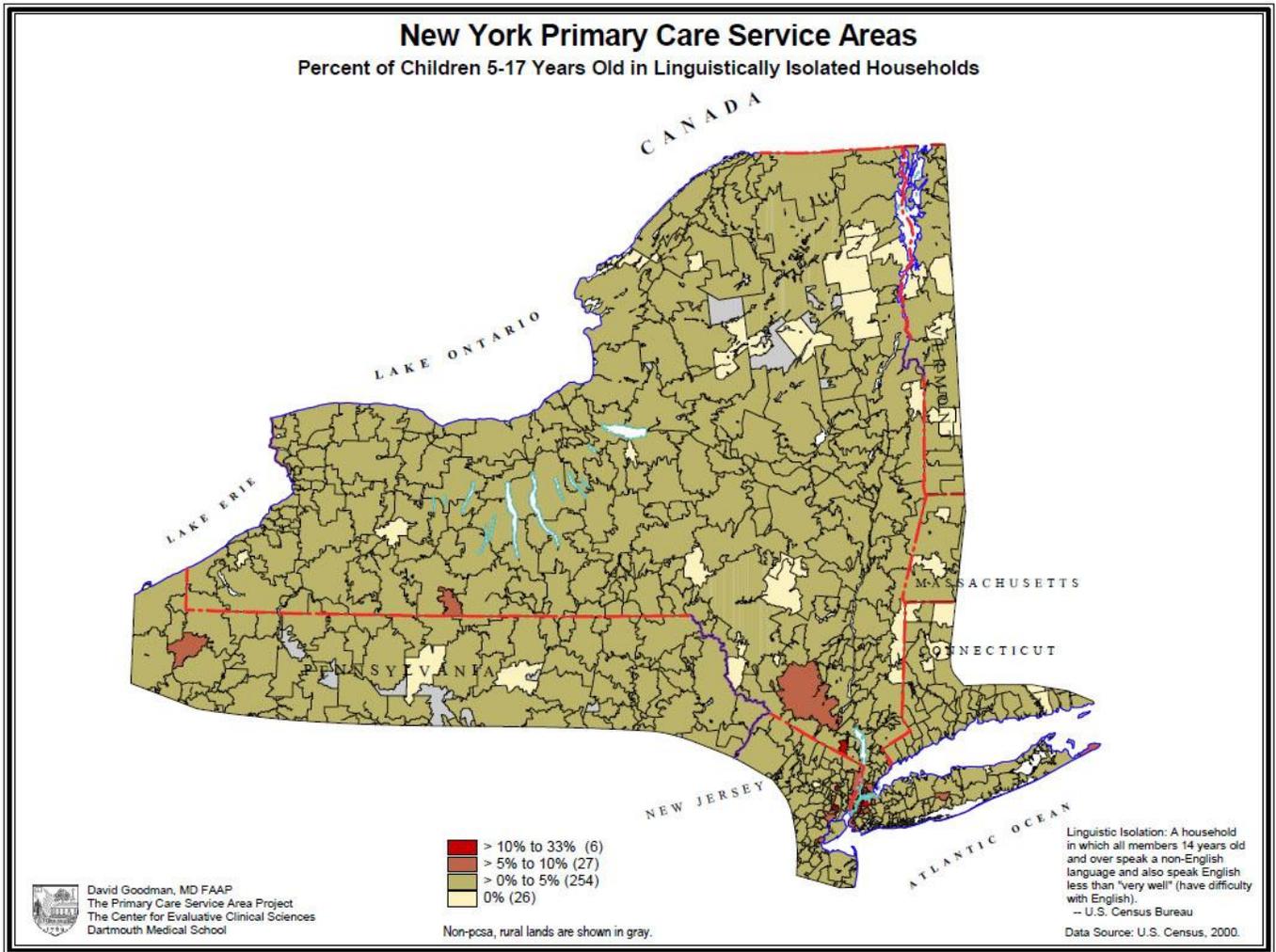
For more sample national maps, click [here](#).

State Maps

[Percent of Clinically Active Pediatricians Who Are Female \(Tennessee\)](#)



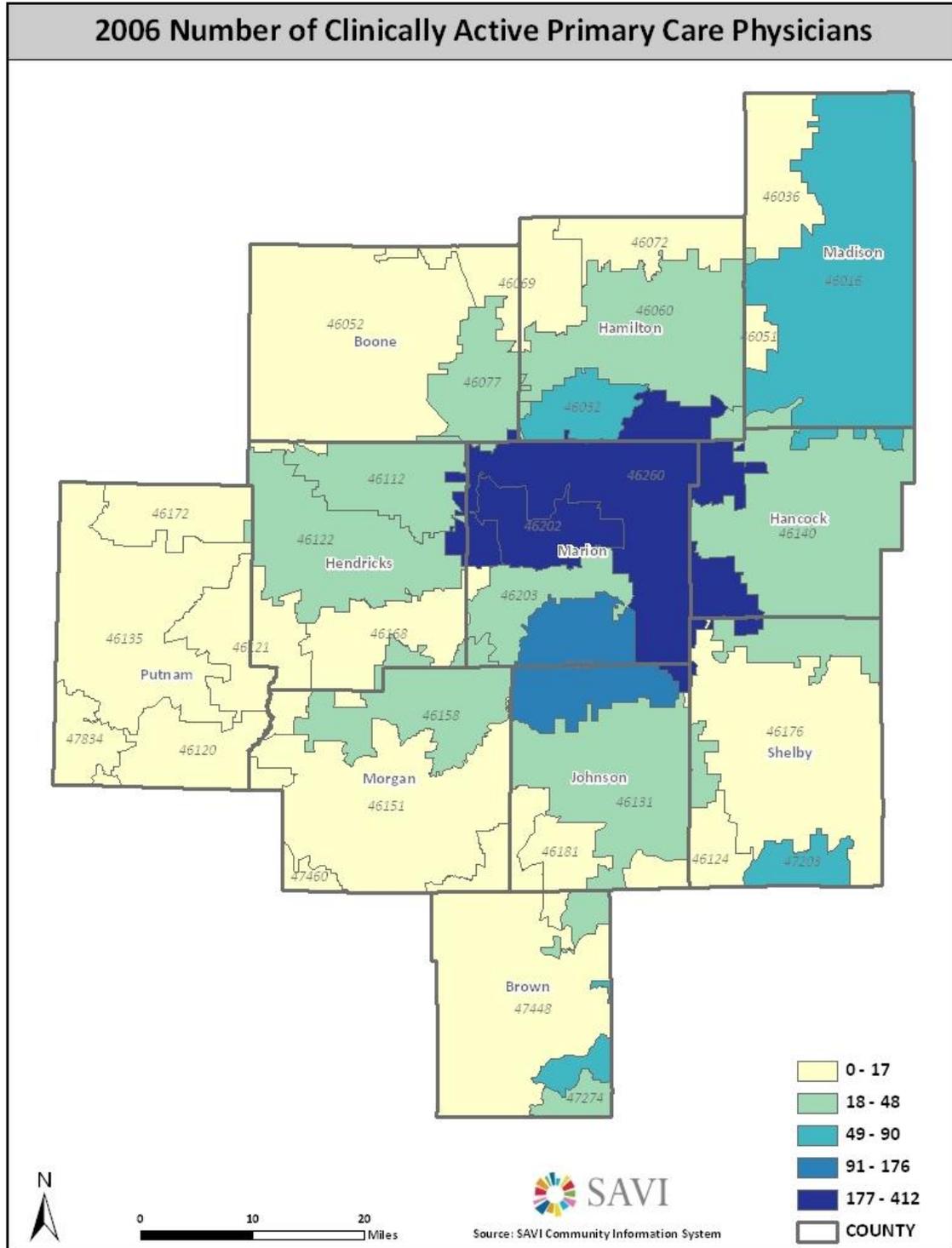
[Percent of Children \(5-17 years old\) in Linguistically Isolated Households \(New York\)](#)



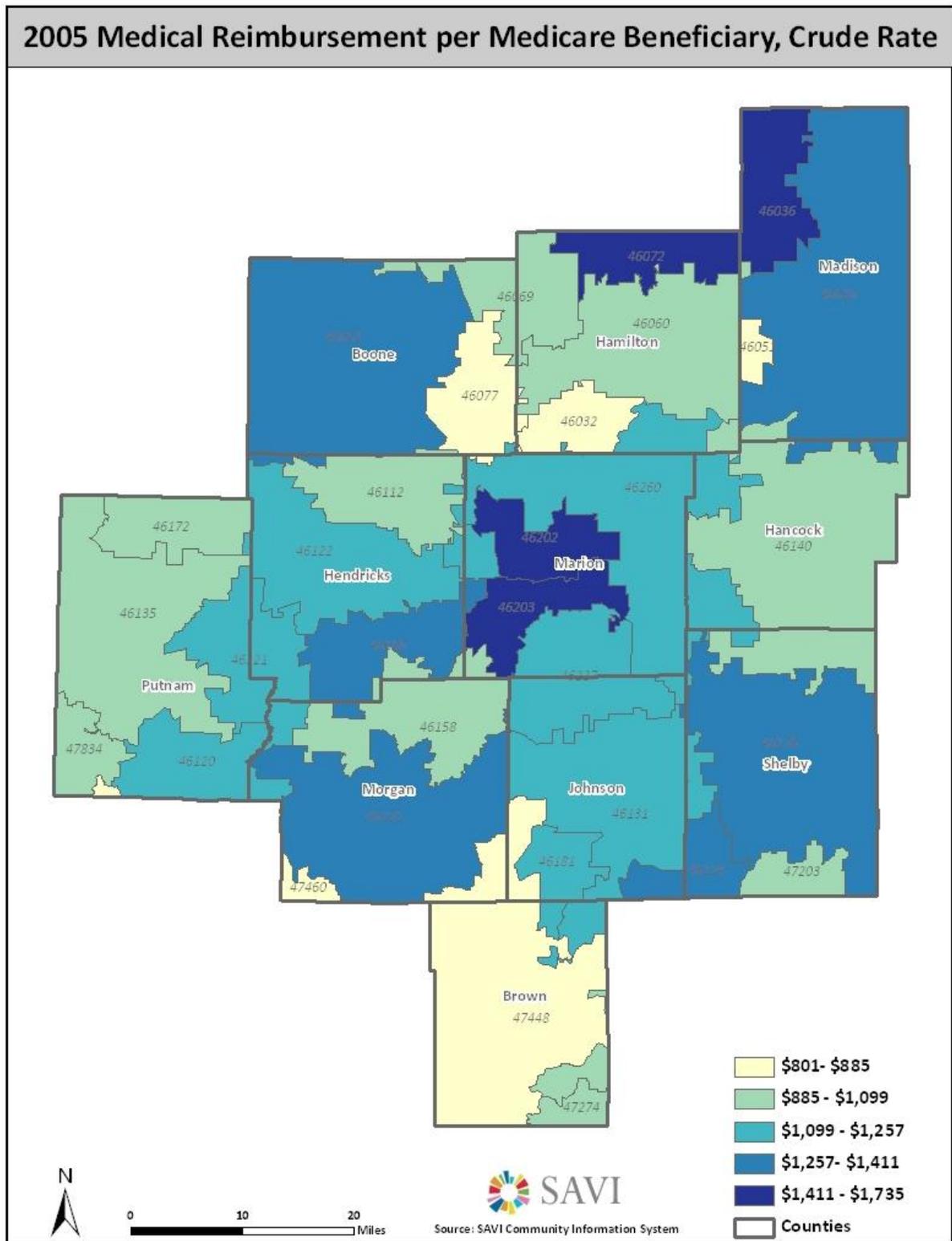
For more sample state maps, click [here](#).

Local Maps

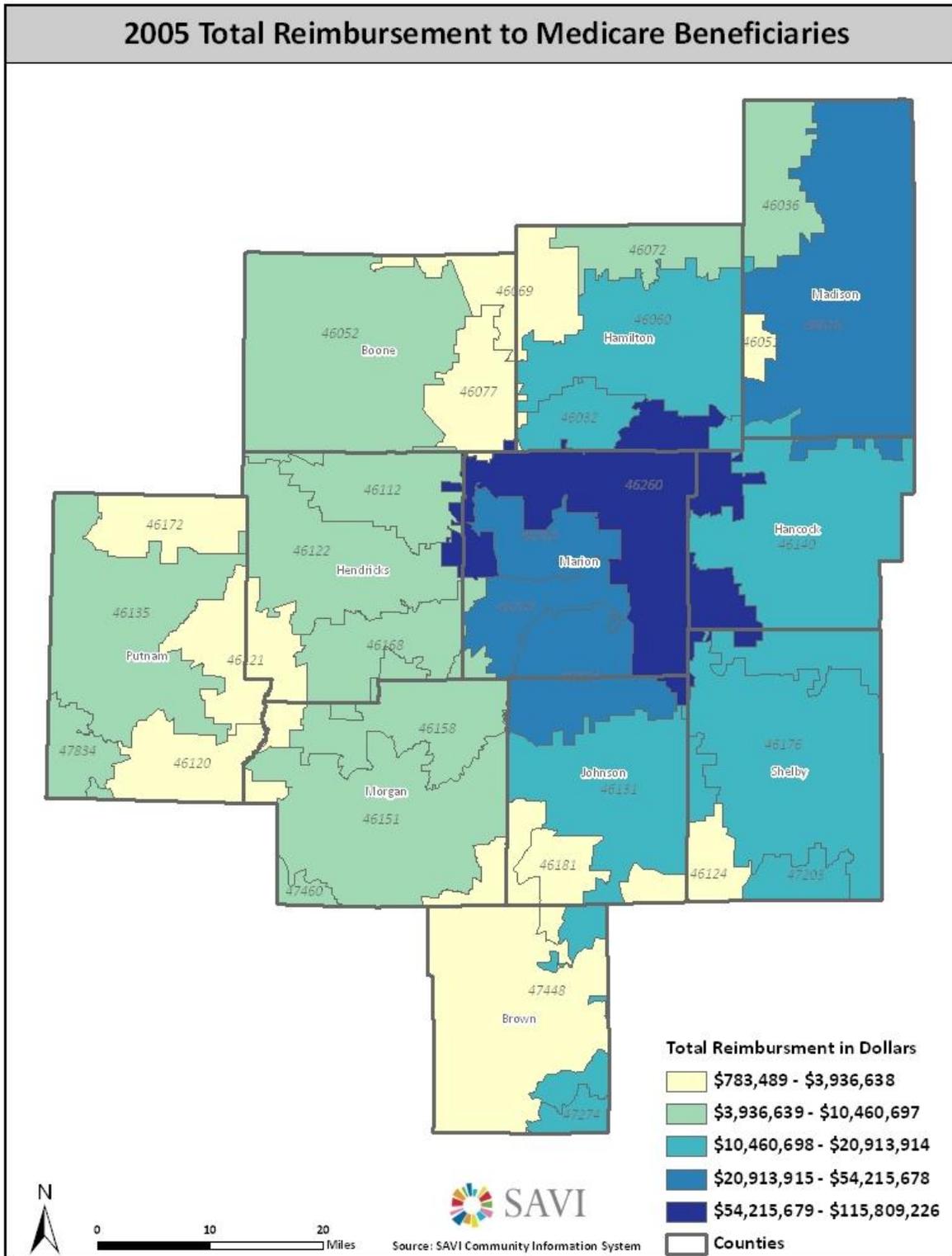
Number of Clinically Active Primary Care Physicians in the 11 County SAVI Area in 2006



Medical Reimbursement per Medicare Beneficiary in the SAVI Area in 2005



Total Reimbursement to Medicare Beneficiaries in the SAVI Area in 2005





For more sample local maps, click [here](#).

HRSA Geospatial Data Warehouse Maps

The Health Resources and Services Administration (HRSA) seek to improve access to health care to those who are uninsured, isolated, or medically vulnerable. The HRSA Geospatial Data Warehouse (HGDW) ^[4] ^[5] is a central collection of data relating to HRSA programs, e.g. HIV/AIDS programs, Primary Health Care Programs, and Maternal and Child Health Programs.

The HGDW integrates data from external resources with information regarding HRSA grants, loans programs, and service demonstration programs. The HGDW uses PCSAs to identify clusters of pertinent information within a specific ZIP Code, e.g. Dental Care Health Professional Shortage Areas (HPSAs).

To view sample HGDW maps or to create your own, click [here](#)

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PCSA Abbreviation Guide

ABBREVIATION	MEANING
AAPA	American Academy of Physician Assistants
AMA	American Medical Association
AOA	American Osteopathic Association
BENE	Beneficiary
CECS	Center for the Evaluative Clinical Sciences
CMG	Canadian Medical Graduate
ED	Emergency Department
FAMP	Family Practice
FQHC	Federally Qualified Health Center
HMO	Health Maintenance Organization
IMG	International Medical Graduate
INTM	Internal Medicine
NCES	National Center for Health Statistics
NHSC	National Health Service Corps
NIMG	Non-International Medical Graduate
OB/GYN	Obstetrics and Gynecology
PCSA	Primary Care Service Area
PEDI	Pediatricians
RHC	Rural Health Clinic
ZCTA	Zip Code Tabulation Areas

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AAPA: The American Academy of Physician Assistants (AAPA) is the only national professional society to represent all physician assistants in every area of medicine. Founded in 1968, the Academy has a federated structure of chartered chapters representing PAs in all 50 states, the District of Columbia, Guam, the federal services, and specialty organizations.

AMA: The American Medical Association (AMA) plays a key health information management role by collecting, maintaining, and disseminating primary source physician data. The AMA Physician Masterfile is the nation's largest repository of primary source physician data. Data on individual physicians, spanning the continuum from undergraduate medical education through physician practice, are continuously updated through extensive data collection and data exchange activities.

AOA: American Osteopathic Association- the AOA is a member association representing more than 61,000 osteopathic physicians (D.O.s). The AOA serves as the primary certifying body for D.O.s, and is the accrediting agency for all osteopathic medical colleges and health care facilities.

BENE: Beneficiary-The name for a person who has health care insurance through the Medicare or Medicaid program.

CECS: The Dartmouth Institute for Health Policy and Clinical Practice (formerly CECS - the Center for the Evaluative Clinical Sciences.) Home to the Dartmouth Atlas Project, the Center has expanded its work on geographic variation to document the underuse of effective care, misuse of preference-sensitive care, and overuse of supply-sensitive care in the U.S. health care system.

FQHC: Federally Qualified Health Center - Health centers that have been approved by the government for a program to give low cost health care. Medicare pays for some health services in FQHCs that are not usually covered, like preventive care. FQHCs include community health centers, tribal health clinics, migrant health services, and health centers for the homeless.

HMO: Health Maintenance Organization- A type of Medicare managed care plan where a group of doctors, hospitals, and other health care providers agree to give health care to Medicare beneficiaries for a set amount of money from Medicare every month. You usually must get your care from the providers in the plan.

NCES: National Center for Health Statistics- A federal organization within the CDC that collects, analyzes, and distributes health care statistics. The NCHS maintains the ICD-n-CM codes.

NHSC: National Health Service Corps- A unique group of dedicated and caring clinicians providing primary health care to adults and children in the communities of greatest need across the Nation. More than 27,000 health professionals have served with NHSC since 1972. Current field strength totals more than 4,000 clinicians/health care professionals whose careers are influencing the outcomes of underserved populations and communities.

PCSA: Primary Care Service Areas include a ZIP area with one or more primary care providers and any contiguous ZIP areas whose Medicare populations seek the plurality of their primary care from those providers. Unique features of PCSAs include: service areas that encompass actual patterns of local primary care use; links between each PCSA and primary care resources, population characteristics and Medicare primary care utilization; and capacity for each PCSA to be cast into a larger framework of political, sociological and economic characteristics.



Rural Health Clinic: An outpatient facility that is primarily engaged in furnishing physicians' and other medical and health services and that meets other requirements designated to ensure the health and safety of individuals served by the clinic. The clinic must be located in a medically under-served area that is not urbanized as defined by the U.S. Bureau of Census.

ZCTA: ZIP Code Tabulation Areas (ZCTAs) are a new statistical entity developed by the U.S. Census Bureau for tabulating summary statistics from Census 2000. This new entity was developed to overcome the difficulties in precisely defining the land area covered by each ZIP Code. Defining the extent of an area is necessary in order to accurately tabulate census data for that area. ZCTAs are generalized area representations of United States Postal Service (USPS) ZIP code service areas, but are not the same as ZIP codes. Because individual USPS ZIP codes can cross state, place, county, census tract, census block group and census block boundaries, there is no correlation between ZIP codes and Census Bureau geography. Moreover, the USPS frequently realigns, merges, or splits ZIP codes to meet changing needs. These changes are usually not reflected in the annual TIGER releases. Each ZCTA is constructed by aggregating the Census 2000 blocks whose addresses use a given ZIP code. In assembling census statistical units to create ZCTAs, the Census Bureau took the ZIP code used by the majority of addresses in each census unit at the time the data was compiled. As a result, some addresses end up with a ZCTA code that is different from their ZIP code. Several ZCTAs represent ZIPs that no longer exist due to realignment by the USPS.

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PCSA Indicators Available in SAVI

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Medicare

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[Visits](#)

[Physician Assistants](#)

Physicians

[Family Practice](#)

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[International Physicians](#)

[OB-GYNs](#)

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FACILITIES

Number of Federally Qualified Health Centers
Number of Rural Health Centers

MEDICARE – BENEFICIARIES

Medicare Beneficiaries

MEDICARE – DEATHS

Deaths of All Medicare Beneficiaries
Deaths of HMO Medicare Beneficiaries
Deaths of Non-HMO Medicare Beneficiaries
Deaths per 1,000 Medicare Beneficiaries in Non-risk Bearing HMO, Adjusted Rate
Deaths per 1,000 Medicare Beneficiaries in Non-risk Bearing HMO, Crude Rate
Deaths per 1,000 Medicare Beneficiaries in Risk Bearing HMO, Adjusted Rate
Deaths per 1,000 Medicare Beneficiaries in Risk Bearing HMO, Crude Rate
Deaths per 1,000 Medicare Beneficiaries, Adjusted Rate
Deaths per 1,000 Medicare Beneficiaries, Crude Rate

MEDICARE – HOSPITALIZATIONS

Hospitalizations of Medicare Beneficiaries
Hospitalizations per 1,000 Medicare Beneficiaries, Adjusted Rate
Hospitalizations per 1,000 Medicare Beneficiaries, Crude Rate
Medical Hospitalizations of Medicare Beneficiaries
Medical Hospitalizations per 1,000 Medicare Beneficiaries, Adjusted Rate
Medical Hospitalizations per 1,000 Medicare Beneficiaries, Crude Rate
Surgical Hospitalizations of Medicare Beneficiaries
Surgical Hospitalizations per 1,000 Medicare Beneficiaries, Adjusted Rate
Surgical Hospitalizations per 1,000 Medicare Beneficiaries, Crude Rate

MEDICARE – PATIENT DAYS

Medical Patient Days by Medicare Beneficiaries
Medical Patient Days per 1,000 Medicare Beneficiaries, Adjusted Rate
Medical Patient Days per 1,000 Medicare Beneficiaries, Crude Rate
Surgical Patient Days by Medicare Beneficiaries
Surgical Patient Days per 1,000 Medicare Beneficiaries, Adjusted Rate
Surgical Patient Days per 1,000 Medicare Beneficiaries, Crude Rate

MEDICARE – REIMBURSEMENTS

Medical Reimbursement per Medicare Beneficiary, Adjusted Rate
Medical Reimbursement per Medicare Beneficiary, Crude Rate
Medical Reimbursement to Medicare Beneficiaries
Reimbursement per Medicare Beneficiary, Adjusted Rate
Reimbursement per Medicare Beneficiary, Crude Rate
Surgical Reimbursement per Medicare Beneficiary, Adjusted Rate
Surgical Reimbursement per Medicare Beneficiary, Crude Rate
Surgical Reimbursement to Medicare Beneficiaries
Total Reimbursement to Medicare Beneficiaries

MEDICARE – VISITS

Medicare Outpatient Primary Care Visits at a Federally Qualified Health Center
Medicare Outpatient Primary Care Visits per 1,000 Beneficiaries at a FQHC, Adjusted Rate
Medicare Outpatient Primary Care Visits per 1,000 Beneficiaries at a FQHC, Crude Rate
Medicare Outpatient Rural Health Center Primary Care Visits
Medicare Outpatient Rural Health Center Primary Care Visits per 1,000 Beneficiaries, Adjusted Rate
Medicare Outpatient Rural Health Center Primary Care Visits per 1,000 Beneficiaries, Crude Rate
Medicare Part B & Outpatient Ambulatory Visits per Beneficiary, Adjusted Rate
Medicare Part B & Outpatient Ambulatory Visits per Beneficiary, Crude Rate
Medicare Part B & Outpatient Primary Care Visits per Beneficiaries, Adjusted Rate
Medicare Part B & Outpatient Primary Care Visits per Beneficiaries, Crude Rate
Medicare Part B Ambulatory Visits by Part B & Outpatient File Beneficiaries
Medicare Part B Emergency Room Visits
Medicare Part B Emergency Room Visits per Medicare Part B Beneficiary, Adjusted Rate
Medicare Part B Emergency Room Visits per Medicare Part B Beneficiary, Crude Rate
Medicare Part B OB-GYN Visits by Women Medicare Part B Beneficiaries
Medicare Part B OB-GYN Visits per Female Part B Beneficiary, Adjusted Rate
Medicare Part B OB-GYN Visits per Female Part B Beneficiary, Crude Rate
Medicare Part B Primary Care Visits by Beneficiaries
Percent of Beneficiaries who had at Least One Medicare Part B & Outpatient File Ambulatory Visits
Percent of Beneficiaries who had at Least One Medicare Part B & Outpatient File Primary Care Visits
Percent of Beneficiaries who had at Least One Medicare Part B Emergency Department Visits
Percent of Beneficiary Primary Care Visits to Providers within same PCSA
Percent of Female Beneficiaries who had at Least One Medicare Part B OB-GYN Visits
Percent of Resident Beneficiaries Preferring Primary Care Providers within Same PCSA

PHYSICIAN ASSISTANTS

- Female Physician Assistants
- Male Physician Assistants
- OB/GYN Physician Assistants
- Other Specialist Physician Assistants
- Physician Assistants
- Physician Assistants Affiliated with National Health Service Corps
- Physician Assistants not Affiliated with National Health Service Corps
- Physician Assistants Unknown Gender
- Primary Care Physician Assistants
- Specialist Physician Assistants

PHYSICIANS – FAMILY PRACTICE

- Clinically Active Allocated Family Practice Physicians
- Clinically Active Allocated Family Practice Physicians per 100,000 population, Adjusted Rate
- Clinically Active Allocated Family Practice Physicians per 100,000 population, Crude Rate
- Clinically Active Family Practice Physicians
- Clinically Active Family Practice Physicians per 100,000 Population, Crude Rate

PHYSICIANS – INTERNAL MEDICINE

- Clinically Active Allocated Internal Medicine Physicians
- Clinically Active Allocated Internal Medicine Physicians per 100,000 population, Adjusted Rate
- Clinically Active Allocated Internal Medicine Physicians per 100,000 population, Crude Rate
- Clinically Active Internal Medicine Physicians
- Clinically Active Internal Medicine Physicians per 100,000 Population, Crude Rate

PHYSICIANS – INTERNATIONAL PHYSICIANS

- Clinically Active Canadian Medical Graduate OB-GYNs
- Clinically Active Canadian Medical Graduate Primary Care Physicians
- Clinically Active Canadian Medical Graduate Specialists
- Clinically Active International Medical Graduate OB-GYNs
- Clinically Active International Medical Graduate Primary Care Physicians
- Clinically Active International Medical Graduate Specialists
- Clinically Active Non-international Medical Graduate OB-GYN
- Clinically Active Non-international Medical Graduate Primary Care Physicians
- Clinically Active Non-international Medical Graduate Specialist

PHYSICIANS – OB-GYNs

- Clinically Active Federal OB-GYNs
- Clinically Active Female OB-GYNs
- Clinically Active Male OB-GYNs
- Clinically Active Non-federal OB-GYNs
- Clinically Active OB-GYNs

Clinically Active OB-GYNs over Age 50
Clinically Active OB-GYNs under Age 50
Residents/Fellows OB-GYN

PHYSICIANS – PEDIATRICIANS

Clinically Active Pediatricians

PHYSICIANS – PRIMARY CARE PHYSICIANS

Clinically Active Allocated Primary Care Physicians
Clinically Active Allocated Primary Care Physicians per 100,000 population, Adjusted Rate
Clinically Active Allocated Primary Care Physicians per 100,000 population, Crude Rate
Clinically Active Federal Primary Care Physicians
Clinically Active Female Primary Care Physicians
Clinically Active Male Primary Care Physicians
Clinically Active Non-federal Primary Care Physicians
Clinically Active Primary Care Physicians
Clinically Active Primary Care Physicians over Age 50
Clinically Active Primary Care Physicians per 100,000 Population, Crude Rate
Clinically Active Primary Care Physicians under Age 50
Population per Clinically Active Primary Care Physician
Primary Care Physician Resident Doctors/Fellows
Residents/Fellows Primary Care Physicians

PHYSICIANS – SPECIALISTS

Clinically Active Federal Specialists
Clinically Active Female Specialists
Clinically Active Male Specialists
Clinically Active Non-federal Specialists
Clinically Active Specialists
Clinically Active Specialists over Age 50
Clinically Active Specialists under Age 50
Residents/Fellows Specialists

STUDENTS

Migrant Students Enrolled in Previous Year
Reported Total Students all Grades
Students Eligible for Free Lunch
Students Eligible for Reduced-Price Lunch

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PCSA Publications ¹³¹

Primary Care Service Areas: A New Tool for the Evaluation of Primary Care Services (*Health Services Research*. 2003;38:287-309)

Primary Care Service Areas are a new tool for the measurement of primary care resources, utilization and associated outcomes. This is a preliminary version of an article published in *Health Services Research* as well as the complete citation information for the final version of the article as published in the print edition.

[Full Article](#) [Abstract](#)

The Pediatric Workforce: Current Status and Future Prospects (*Pediatrics*. 2005; 116:156-173)

A technical report on characteristics and trends in the pediatric workforce. The report provides “a conceptual model of improvement in children's health and well-being.”

[Full Article](#) [Abstract](#)

How Adults' Access to Outpatient Physician Services Relates to the Local Supply of Primary Care Physicians in the Rural Southeast (*Health Services Research*. 41(1):79-102, 2006 Feb.)

This article examines how access to outpatient medical cares varies with local primary care physician densities across PCSAs in the rural Southeast. A telephone survey was conducted in 298 PCSAs within 150 rural counties in eight Southeastern states (4,311 adults).

[Full Article](#) [Abstract](#)

Where do Graduating Pediatric Residents Seek Practice Positions? (*Ambulatory Pediatrics*. 2005;5:4:228-234)

A national survey of graduating pediatric physicians was conducted to analyze their job searches. The communities targeted for jobs were linked to local area characteristics using PCSAs.

[Full Article](#) [Abstract](#)

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PCSA Publication

Primary Care Service Areas: A New Tool for the Evaluation of Primary Care Services

Abstract:

Objective: To develop and characterize utilization-based service areas for the United States which reflect the travel of Medicare beneficiaries to primary care clinicians. **DATA Source/Study Setting:** The 1996-1997 Part B and 1996 Outpatient File primary care claims for fee-for-service Medicare beneficiaries aged 65 and older. The 1995 Medicaid claims from six states (1995) and commercial claims from Blue Cross Blue Shield of Michigan (1996).

Study Design: A patient origin study was conducted to assign 1999 U.S. zip codes to Primary Care Service Areas on the basis of the plurality of beneficiaries' preference for primary care clinicians. Adjustments were made to establish geographic contiguity and minimum population and service localization. Generality of areas to younger populations was tested with Medicaid and commercial claims.

Data Collection/Extraction Methods: Part B primary care claims were selected on the basis of provider specialty, place of service, and CPT code. Selection of Outpatient File claims used provider number, type of facility/service, and revenue center codes.

Principal Findings: The study delineated 6,102 Primary Care Service Areas with a median population of 17,276 (range 1,005-1,253,240). Overall, 63 percent of the Medicare beneficiaries sought the plurality of their primary care from within area clinicians. Service localization compared to Medicaid (six states) and commercial primary care utilization (Michigan) was comparable but not identical.

Conclusions: Primary Care Service Areas are a new tool for the measurement of primary care resources, utilization, and associated outcomes. Policymakers at all jurisdictional levels as well as researchers will have a standardized system of geographical units through which to assess access to, supply, use, organization, and financing of primary care services.

PCSA Publication

The Pediatric Workforce: Current Status and Future Prospects

Abstract:

The effective and efficient delivery of children's health care depends on the pediatrician workforce. The number, composition, and distribution of pediatricians necessary to deliver this care have been the subject of long-standing policy and professional debate. This technical report reviews current characteristics and recent trends in the pediatric workforce and couples the workforce to a conceptual model of improvement in children's health and well-being. Important recent changes in the workforce include (1) the growth in the number of pediatricians in relation to the child population, (2) increased numbers of female pediatricians and their attainment of majority gender status in the specialty, (3) the persistence of a large number of international medical graduates entering training programs, (4) a lack of ethnic and racial diversity in pediatricians compared with children, and (5) the persistence of marked regional variation in pediatrician supply. Supply models projecting the pediatric workforce are reviewed and generally indicate that the number of pediatricians per child will increase by 50% over the next 20 years. The differing methods of assessing workforce requirements are presented and critiqued. The report finds that the pediatric workforce is undergoing fundamental changes that will have important effects on the professional lives of pediatricians and children's health care delivery.

PCSA Publication

How Adults' Access to Outpatient Physician Services Relates to the Local Supply of Primary Care Physicians in the Rural Southeast

Abstract:

Objective: To examine how access to outpatient medical care varies with local primary care physician densities across primary care service areas (PCSAs) in the rural Southeast, for adults as a whole and separately for the elderly and poor.

Data Sources: Access data from a 2002 to 2003 telephone survey of 4,311 adults living in 298 PCSAs within 150 rural counties in eight Southeastern states were linked geographically with physician practice location data from the American Medical and American Osteopathic Associations and population data from the U.S. Census.

Study Design: In a cross-sectional study design, we used a series of logistic regression models to assess how 26 measures of various aspects of access to outpatient physician services varied for subjects arranged into five groups based on the population-per-physician ratios of the PCSAs where they lived.

Principal Findings: Among adults as a whole, more individuals reported traveling over 30 minutes for outpatient care in PCSAs with more than 3,500 people per physician than in PCSAs with fewer than 1,500 people per physician (39.1 versus 18.5 percent, $p < .001$) and more reported travel difficulties. Otherwise, PCSA density of primary care physicians was unrelated to reported barriers to care, unrelated to people's satisfaction with care, and unrelated to indicators of people's use of services. Use rates of six recommended preventive health services varied in no consistent direction with physician densities. Among the elderly, only the proportion traveling over 30 minutes for care was greater in areas with lowest physician densities. Among subjects covered under Medicaid or uninsured, lower local physician densities were associated with longer travel time, difficulties with travel and reaching one's physician by phone, and two areas of dissatisfaction with care.

Conclusions: For adults as a whole in the rural South and for the elderly there, low local primary care physician densities are associated with travel inconvenience but not convincingly with other aspects of access to outpatient care. Access for those insured under Medicaid and the uninsured, however, is in more ways sensitive to local physician densities.

PCSA Publication

Where do Graduating Pediatric Residents Seek Practice Positions?

Abstract:

Objective: To profile the characteristics of areas that graduating pediatric residents target in their job searches and to explore whether residents applying to primary care markets with higher pediatrician supplies experience job-search difficulty.

Study Design: A national random sample of 500 graduating categorical pediatric residents was surveyed. The communities that the pediatric residents targeted for jobs were linked to local-area characteristics by using Dartmouth Primary Care Service Areas (PCSAs), which are discrete markets that represent patient travel patterns for primary care services. PCSA population and providers were characterized by using data from the 2000 US Census and American Medical Association/American Osteopathic Association Physician Masterfiles.

Results: A total of 308 graduating residents (62%) completed the survey. Of the respondents, 136 (44%) applied for general-practice positions. The characteristics of the PCSAs that residents applied to differed from the PCSAs without an application. Residents' first-choice areas had higher ratios of general pediatricians, had higher median household incomes, and were more likely to be urban areas. Residents applying to higher-supply areas were significantly more likely to report moderate or considerable difficulty in their job searches than were residents applying to lower-supply areas. Residents applying to medium- and higher-supply areas sent out more total applications for positions and received lower starting salaries than did residents applying to lower-supply areas.

Conclusions: Residents continue to prefer high-supply areas in their job searches, despite experiencing greater search difficulty in these areas. Current targeted incentives and market forces are unlikely to redress geographic variation in pediatrician supply.

Sources

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