

# Physical Therapy Services for the Older Persons Barriers to Access in Rural America

*Jacqueline Lovejoy Osborne, PT, DPT, GCS*

As Baby Boomers in America retire, the size of the elderly population is projected to increase in all states, with the majority relocating to the rural areas of California, Texas, and Florida. An increase in the number of aged Americans living in rural areas guarantees an increase in the need for physical therapy services in these areas. This article explores the intrinsic and extrinsic factors that influence and, in many instances, prevent an elderly individual's access to physical therapy services. Defining barriers to access in this manner may aid administrators, healthcare providers, and researchers in determining how to further define rural healthcare policy and, ultimately, how to allocate funds and human resources to improve access to physical therapy services to these aging American citizens. While the intrinsic factors presented help characterize life as a rural American elder, the extrinsic factors may be more readily changeable by federal and state policymakers based on data obtained in future research. **Key words:** *barriers, healthcare access, physical therapy, rural America*

WHERE is rural America exactly? The Pacific Northwest? The Upper Great Lakes? The Lower Mississippi Valley? The eastern half of Texas? Florida? The percentage of the 296.4 million Americans living in the United States who live in rural America is unknown.<sup>1</sup> It is also unknown how many of these Americans are older people. Institutions, such as the Department of Commerce's Census Bureau, the US Department of Agriculture's Economic Research Service, the Environmental Protection Agency, and the US Office of Management and Budget, attempt to clarify these data. However, all reports

present different information and provide varying definitions of "rural America." The heterogeneous nature of this baseline data illustrates a barrier to defining rural healthcare policy; let alone ensuring access to it in rural areas.

In addition to this rudimentary challenge, the aging baby boomer population will increase the number of individuals living in the United States who are older than 65 to 54.6 million by the year 2020, a 21% increase since the year 2000.<sup>2</sup> What is clear from the government's data is that, as the baby boomer generation retires, the size of the older population is projected to increase in all states, with the majority relocating to the rural areas of California, Texas, and Florida.<sup>1</sup> An increase in the number of aged Americans living in rural areas guarantees an increase in the need for physical therapy services in these areas, given that approximately 80% of older population live with at least 1 chronic health condition, and 50% have at least 2 chronic health conditions, including arthritis, hypertension, cardiac disease, stroke, diabetes mellitus, cancer, osteoporosis, Alzheimer's disease, and

---

*From School of Physical Therapy and Rehabilitation Sciences, the University of South Florida, Tampa.*

*The author thanks Maureen Dunleavy, PT, DPT, Center Manager for Select Physical Therapy, 214 W Alexander St, Plant City, FL 33563, for the efforts and contributions.*

*Corresponding author: Jacqueline Lovejoy Osborne, PT, DPT, GCS, School of Physical Therapy and Rehabilitation Sciences, University of South Florida, 12901 Bruce B Downs Blvd, MDC 77, Tampa, FL 33612 (e-mail: jlovejoy@health.usf.edu).*

depression.<sup>2</sup> According to the US Census Bureau, the current generation of older Americans is healthier and less disabled than their predecessors. However, no data exist that verify this trend in rural America.

To ensure access to physical therapy services for the growing aging population in these areas, *extrinsic* barriers to physical therapy access must be distinguished from *intrinsic* barriers to physical therapy access. For clarity, an *extrinsic barrier* is defined here as any barrier external to the control of and, therefore, not modifiable by rural American older people. An intrinsic barrier is one that is inherent to life in rural America, and therefore not externally imposed upon rural American older people. Defining barriers to access in this manner may aid administrators and healthcare service providers in determining how to further define rural healthcare policy and, ultimately, how to allocate funds and human resources to improve access to physical therapy services to these aging American citizens.

### EXTRINSIC BARRIERS TO ACCESS

A primary extrinsic barrier to accessing physical therapy services in rural America is the decreased number of community hospitals in these areas. Data on the number or location of physical therapy practices in rural America do not exist. Therefore, it is assumed that physical therapy services are predominately delivered in hospital-based settings in these areas. Community hospitals are defined by the American Hospital Association as nonfederal general hospitals offering services, such as obstetrics and gynecology; eye, ear, nose, and throat specialties; rehabilitation services, emergency services, and orthopedics. As of October 2006, there were 2001 community hospitals in rural America compared with 2926 urban community hospitals.<sup>3</sup> The rural hospitals, however, are much smaller on average than their urban counterparts, diminishing the likelihood that physical therapy is a readily available service, given the size of

the facility and the number of clinicians employed there. The average number of beds in a rural community hospital is 82 compared with 245 in an urban community hospital.<sup>4</sup> Furthermore, as of January 2005, 46.7 million Americans, most of whom live in rural America, have no access to a level I or II trauma center within an hour of their rural location.<sup>5</sup> A level I or II trauma center is one equipped to provide comprehensive care for the most critically injured patients and has immediate availability of trauma surgeons, anesthesiologists, and certain other physician specialists. Given such limited access to these basic services, it is reasonable to assume that physical therapy services are not among those available in intensive care units or acute rehabilitation departments of these centers.

Another extrinsic barrier to accessing physical therapy services in rural areas is the lack of awareness among primary care physicians of the role and availability of physical therapists as an adjunct to providing quality healthcare services. For example, older women with osteoporosis in Southwest Virginia, despite pain, fracture, and decreased function, do not exercise to manage their disease because they received little to no information regarding this option from their physicians.<sup>6</sup> These older women perceived this lack of attention from their physicians as an indicator that they “did not need to be overly concerned” regarding this silent disease.<sup>6</sup> However, according to a community collaboration effort conducted by the Center for Rural Health at the University of North Dakota School of Medicine and Health Sciences, physicians, rural hospital and long-term care administrators, nurse practitioners, and physician’s assistants cited the lack of ability to network and communicate with other professionals in the surrounding area as a factor contributing to their lack of awareness of additional services.<sup>7</sup> In other words, providers in rural North Dakota do not make referrals to other health service professionals despite the need because they are unaware if or where other healthcare service professionals exist.

The decreased number of healthcare service specialists in rural areas is also an extrinsic barrier to accessing physical therapy services in these areas. Large urban counties have nearly 4 times as many primary care physicians per 100,000 residents as rural counties. Similar data do not exist for physical therapists who practice as generalists. Given the geographic location of these rural counties, however, it is reasonable to assume that the number of physical therapists who are generalized clinicians is extremely low. Furthermore, only one sixth as many medical specialists, such as neurologists, obstetricians, and cardiologists, per 100,000 residents are available in rural areas as in urban areas.<sup>8</sup> In addition to limited numbers of general practitioners and specialized physicians, a limited number of specialized physical therapists also exist in these areas. According to the American Board of Physical Therapy Specialties, there are 63 board certified physical therapists in the discipline of geriatrics in California, 44 in Florida, and 35 in Texas.<sup>9</sup> As previously noted, the rural areas of these states are likely to be home to an increasing number of aging Americans by the year 2020. As of June 2007, 845 physical therapists were board certified in geriatrics in the United States.<sup>9</sup> No data exist denoting how many of these individuals practice in rural America. However, by the year 2020, there will potentially be approximately 36,521 residents older than 65 living in the United States per geriatric physical therapist if the number of geriatric physical therapists continues to grow at a rate of 50 new geriatric clinical specialists per year until 2020.

An additional barrier to accessing physical therapy services in rural America is the decreased number of incentives for physical therapists to practice in these areas. According to the 2007 American Hospital Association survey of hospital leaders, 58% of all community hospitals in the United States report difficulty in recruiting physical therapists, occupational therapists, and speech therapists. Similar data do not exist for rural hospitals alone. A survey of graduates from 12 different health service professional programs in New

Mexico, including physical therapy programs, revealed several factors associated with attracting physical therapists to practice in rural America. These included a rural background, the desire to serve small communities, and the completion of clinical affiliations in rural settings.<sup>10</sup> No data exist regarding how many physical therapy students have rural backgrounds, however. In addition, arranging clinical affiliations in rural settings may be difficult, given that most physical therapy programs are located in urban settings. Time constraints and travel costs, as well as lack of housing, would likely become additional barriers to exposing physical therapy students to practice in rural settings.

Financial incentives can also contribute to attracting current and future healthcare professionals to rural areas. Currently, New Mexico is one of only a few states to offer students in certain allied health service professional programs up to \$12,000 per year if the student intends to practice in state-defined healthcare professional shortage areas after graduation.<sup>10</sup> Daniels et al<sup>10</sup> contended that to retain recruited individuals over time, efforts must focus on financial incentives, such as earning potential and promotion opportunities, professional development, and community appeal.

Federal loan repayment programs also exist as a means to attract healthcare service professionals to rural areas. The National Health Service Corps works with communities to recruit healthcare service professionals committed to serving the needs of underserved populations. Awards are offered to those who agree to serve full-time at approved sites in designated rural areas as determined by the federal government. Participants receive up to \$50,000 to repay qualifying educational loans that are still owed for at least 2 years of service.<sup>11</sup> Unfortunately, physical therapists are currently not among those eligible to apply for this program. Eligible providers include allopathic (MD) or osteopathic (DO) physicians, primary care nurse practitioners, certified nurse-midwives, primary care physician assistants, general practice dentists,

registered clinical dental hygienists, psychiatrists, health service psychologists, clinical social workers, psychiatric nurse specialists, marriage and family therapists, and licensed professional counselors. However, the American Physical Therapy Association (APTA) has taken the initiative to support legislation in the form of the Physical Therapist Student Loan Repayment Eligibility Act (HR 1134) that would authorize physical therapists to participate in the National Health Service Corps loan repayment program. As of June 16, 2007, 68 House of Representative cosponsors also supported HR 1134. APTA continues to emphasize that the inclusion of physical therapists in the loan repayment program will help ensure that physical therapy services are among those available to underserved communities in rural America.<sup>12</sup>

Limited curriculum requirements for rural affiliations in physical therapy educational programs represent another extrinsic barrier to accessing physical therapy services in rural areas. As noted above, recruitment efforts to staff rural areas with healthcare service professionals are likely to be successful if programs include rural affiliation opportunities. If students are never exposed to rural communities in the context of rural clinical affiliations as mandated by educational curricula, then impressions regarding rural practice will be based on assumptions and judgments formulated from secondary sources. One hundred percent of students ( $n = 12$ ) enrolled in a physical therapy program in Nevada reported positive impressions of rural practice after participating in a rural clinical affiliation. Among them, 9 students were interested in seeking employment in a rural area upon graduation, and 2 accepted rural positions after graduation.<sup>13</sup> Although a small number of professionals matriculated into the rural workforce as a result of this program's curriculum, it is efforts such as this that will ultimately improve access to interdisciplinary healthcare in rural America.

Finally, the most perplexing extrinsic barrier to accessing physical therapy services in rural America is the rural healthcare policy it-

self. In each year between 1994 and 2001, the federal government spent 2 to 5 times more money per capita on urban than rural community development.<sup>14</sup> Investors may consider supporting rural community development if the federal government supports healthcare policy that stimulates economic prosperity. For example, many rural health clinics cannot afford to offer needed services because of inadequate Medicare reimbursement rates. In New Mexico, the Medicare payment rate cap for rural health clinics is \$63 per patient, regardless of the service rendered. The Craig Thomas Rural Hospital and Provider Equity Act of 2007 is a rural healthcare bill introduced in mid-June to improve Medicare and Medicaid payments to physicians who treat older population in rural, underserved areas. This bill proposes to increase the reimbursement rate from \$63 to \$92 per patient to cover more appropriately the cost of services provided by physicians.<sup>15</sup> No legislature currently exists that addresses the need for similar equity for the reimbursement of physical therapy services in rural areas. However, if the government supports changes in reimbursement rates, hospitals and healthcare clinics can continue to operate in their community, thus increasing the likelihood that physical therapy services become available and are retained in these areas.

An additional rural healthcare policy challenge exists in Medicare's definitions of in-network versus out-of-network constraints on rurally located Medicare beneficiaries. Beneficiaries enrolled in a Medicare plan known as a regional preferred provider organization or RPPO have the right to obtain services from certain nonnetwork providers at in-network rates if the plan's provider network is inadequate in the beneficiary's area.<sup>16</sup> In other words, if an area is deemed underserved, an out-of-network provider may actually provide a covered service, and it may be geographically remote from other in-network providers. Currently, the Centers for Medicare & Medicaid Services do not monitor if beneficiaries are correctly using this type of plan or not. Therefore, services may

actually be underutilized. In some instances, beneficiaries may unknowingly bypass the facility providing the covered service, or worse, they may forgo seeking care altogether because of the confusing nature of the plan's requirements.

### INTRINSIC BARRIERS TO ACCESS

A primary intrinsic barrier to accessing physical therapy services in rural areas includes the cultural perceptions rural elders hold about their communities. One study in Arkansas revealed a phenomenon defined as "rural/urban distrust."<sup>17</sup> Although 86% of rural elders saw or heard campaign advertisements run by the Arkansas Arthritis Health Program for managing arthritis pain, only 11% recalled the specifics of the those advertisements. The study found that one factor responsible for this poor outcome is the widespread belief that individuals from urban areas "only come to rural Arkansas when they need something and do not provide anything in return."<sup>17(p273)</sup> Healthcare practitioners may be able to eliminate this negative concept by serving the dual role of healthcare provider and educator. For example, education regarding musculoskeletal and neuromuscular age-related changes in conjunction with specific disease processes such as arthritis can be relayed to the patient in the form of a multidisciplinary office visit. During this visit, the patient will meet several members of the healthcare service team, regardless of the presence or absence of a physical complaint. Specifically, a physical therapist may perform a balance and falls screening during this time. This may aid in the identification of functional limitations and disabilities before they negatively affect an older person. Access to services is improved given that the patient is already present at the healthcare facility. This early intervention may help individuals in rural areas perceive quality in the healthcare they receive, thus helping eliminate rural/urban distrust.

Another intrinsic barrier to accessing physical therapy services in rural areas includes

perceptions rural elders hold about their own health. Women in rural areas seem to accept health-related changes in their lives by changing their lifestyles rather than by applying passive behaviors, such as seeking pain management services from various healthcare providers.<sup>6</sup> Understanding this routinely displayed behavior upheld by rural American elders may help healthcare service providers structure the educational component of an office visit to better reflect the values and beliefs of that individual. Ultimately, long-term patient-healthcare provider relationships will be established.

As noted previously, the decreased number of community hospitals in rural areas is an extrinsic barrier to accessing physical therapy services in these areas. An intrinsic barrier contributing to the diminishing number of rural community hospitals, and therefore to physical therapy services in rural areas, is the so-called "bypass phenomenon."<sup>18</sup> In short, rural residents bypass a local hospital to travel to a larger urban facility.<sup>18</sup> As a result, local hospitals struggle remains open due to low patient volumes. Between 1994 and 1998 in the United States, 11.8% of rural community hospitals closed because of low occupancy rates.<sup>4</sup> Liu et al<sup>18</sup> reported that the characteristics of bypassing behavior are complex, including the hospital not providing the needed service, family members choosing a different facility, patients refusing to give the reason why they did not use the local hospital, patients being transported to the nonlocal hospital by ambulance, and patients being required by insurers to go to another hospital.

Geographic isolation represents another intrinsic barrier to accessing physical therapy services in rural areas. According to a study conducted by the US Department of Transportation that used data from the 2001 National Household Travel Survey, 41.3% of rural residents spent more than 30 minutes in travel for medical care against 25.3% of urban residents.<sup>19</sup> The number of rural residents who avoided travel for medical care owing to anticipated burdens, such as long travel distances, road and weather conditions, and

rising gasoline prices, is not available. Mode of transportation is also limited to individuals living in geographically isolated areas. For example, public transportation was used in rural areas for so few trips that a valid estimate of its use among the older people for access to healthcare could not be determined by the US Department of Transportation's study. Instead, older people in these areas rely on family, friends, and neighbors for transportation or forego a medically related trip altogether.<sup>19</sup>

Another barrier to accessing physical therapy services in rural areas is technology differences in these areas. Telemedicine, an electronic means of conducting immediate consultation between healthcare service providers in differing locations, is becoming a valid and reliable means for delivering quality healthcare to rural areas. However, if rural hospitals are not equipped with the proper raw materials to connect with an urban area, access will continue to be limited. For example, only 48.9% of rural health departments have high-speed continuous Internet access; and only 44.9% have broadcast communications capacity, such as equipment for downlink, teleconferencing, and Web-based training.<sup>20</sup> Not only is it important to ensure that rural hospitals and healthcare centers are equipped with the appropriate technology, but care must also be taken to ensure that rural elders are willing to utilize such technology when it is available. One study evaluated the willingness of rural elders with diabetes mellitus to participate in a randomized trial of

telemedicine case management in the rural areas of upstate New York. The most frequent reason for participation in the trial was the belief that technology could help them manage the disease. Reasons given for refusing to participate in the trial include being too busy and discomfort with the technology.<sup>21</sup>

Lack of health insurance and low income represent 2 additional barriers to accessible physical therapy services in rural America. According to the US Census Bureau, as of 2005, more than 20% of Texas' residents and between 15% and 19% of California and Florida's residents were uninsured. These areas will face greater challenges as the population in these rural areas continues to grow. The number of uninsured older people is difficult to estimate, given that many of them are self-employed or low-wage earners well beyond the retirement age who are not offered insurance by their employers.<sup>22</sup> Unfortunately, many rural Americans do not have access to care despite availability due to the high costs of consuming healthcare services.

## CONCLUSION

To differentiate extrinsic from intrinsic barriers to accessing physical therapy services in rural America, we must take a large step toward improving access to high-quality, interdisciplinary healthcare in rural America. Increased awareness of the need to further define these barriers as summarized in Table 1

**Table 1.** Factors preventing access to healthcare in rural America

| Extrinsic barriers  | Intrinsic barriers  |
|---|---|
| 1. Decreased number of community hospitals in rural areas   | 1. Cultural perceptions rural elders hold about their communities |
| 2. Lack of awareness among primary care physicians of the role and availability of physical therapists in rural areas | 2. Cultural perceptions rural elders hold about their own health  |
| 3. Decreased number of healthcare service specialists in rural areas  | 3. By-pass phenomenon   |
| 4. Decreased incentives for physical therapists to practice in rural areas  | 4. Geographic isolation   |
| 5. Limited curriculum requirements for rural affiliations in physical therapy educational programs                    | 5. Technology differences in rural areas                          |
| 6. Rural healthcare policy  | 6. Lack of health insurance                                       |
|   | 7. Low income   |

is paramount to providing equal opportunity to all aging American citizens, rural and urban alike. Defining these barriers merely demonstrates the need for future researchers to investigate how to build healthcare policy for a population so different from those populations found in urban settings. Researchers need to explore that the traditional venues for the delivery of physical therapy services, such as community-based hospitals, private practices, and home health agencies, need to be redefined to account for the socioeconomic characteristics of rural Americans. A home health agency may no longer provide physical therapy services in an individual's home, but rather in community centers. Research is needed to determine the feasibility of creating such multidisciplinary centers with satellite facilities that become accessible through advances in technology. Policymakers must also take a more active role in facilitating communication among healthcare providers to ensure that improving access includes not only primary care physicians but also allied healthcare professionals. Research is needed to determine the most effective means of facilitating communication across professions. Professional associations such as APTA may consider incentive programs that reward physical therapists who work in ru-

ral areas for specified periods after obtaining a board certification. Research is necessary to determine whether a sufficient interest in such incentive programs exists among practicing specialists. In addition, information regarding the cost-effectiveness of such a program in improving access to rural areas will need to be explored. Physical therapy educational programs must also take an active role in expanding the presence of the profession in rural areas by increasing students' exposure to rural settings. In addition, policymakers must explore the variances in reimbursements rates for physical therapy services in rural versus urban settings. Utilization of current insurance products in rural areas such as Medicare's RPP0 must be determined before recommendations for improvements can be made.

While the intrinsic factors discussed in this study help characterize life as a rural American elder, the extrinsic factors may be more readily changeable by federal and state policymakers based on data obtained in the future research. Ultimately, the intrinsic characteristics of rural American elders and the extrinsic characteristics of the healthcare system in America must be considered in concert when attempting to enhance access to physical therapy services in rural America.

## REFERENCES

1. Campbell P. *Current Population Reports: Populations Projection: States, 1995-2025*. The US Census Bureau; 1997:1-6.
2. He W, Sengupta M, DeBarros K. *65+ in the United States: 2005*. US Census Bureau; 2005:23-209.
3. American Hospital Association. Fast Facts on US Hospitals. American Hospital Association Web site. 2007. Available at: <http://www.aha.org/aha/resource-center/Statistics-and-Studies/fast-facts.html>. Accessed December 7, 2007.
4. Ricketts T, Heaphy P. Culture and medicine: hospitals in rural America. *West J Med*. 2000;173:418-422.
5. Branas C, MacKenzie E, Williams J, et al. Access to trauma centers in the United States. *JAMA*. 2005;293(21):2626-2633.
6. Roberto K. Care practices and quality of life of rural older women with osteoporosis. *JAMWA*. 2004;59(4):295-301.
7. Moulton P, Miller M, Offutt S, et al. Identifying rural health care needs using community conversations. *J Rural Health*. 2007;23(1):92-96.
8. Johnson K. Demographic trends in rural and small town America: reports on rural America. *Carsey Inst*. 2006;1(1):1-40. Available at: [http://www.carseyinstitute.unh.edu/documents/Report\\_Demographics.pdf](http://www.carseyinstitute.unh.edu/documents/Report_Demographics.pdf). Accessed December 7, 2007.
9. American Board of Physical Therapy Specialties. The American Physical Therapy Association Web site. 2007. Available at: [www.apta.org/specialist\\_certification](http://www.apta.org/specialist_certification). Accessed December 7, 2007.
10. Daniels Z, VanLeit B, Skipper B, Sanders M, Rhyne R. Factors in recruiting and retaining health professionals for rural practice. *J Rural Health*. 2007;23(1):62-71.
11. Fiscal Year 2006 Loan Repayment Program Applicant Information Bulletin. National Health Service

- Corp Web site. 2003. Available at <http://nhsc.bhpr.hrsa.gov/applications/lrp/default.htm>. Accessed December 7, 2007.
12. The Physical Therapist Student Loan Repayment Eligibility Act (HR 1134). The American Physical Therapy Association Web site. 2007. Available at: [www.apta.org/AM/Template.cfm?Section = Grassroots1&Template = /MembersOnly.cfm&ContentID = 40165](http://www.apta.org/AM/Template.cfm?Section = Grassroots1&Template = /MembersOnly.cfm&ContentID = 40165). Accessed December 9, 2007.
  13. LaPorta L, McWhorter J, Nass E. Assessment of a curricular component designed to introduce physical therapy students to rural practice issues. *J Rural Health*. 2002;18(3):384-877.
  14. Rathge R, Johnson K. Does rural great plains depopulation reflect failed public policy? *Policy Brief*. State Data Center, North Dakota State University. 2005. Available at: [http://extension.usu.edu/files/publications/publication/pub\\_1242829.pdf](http://extension.usu.edu/files/publications/publication/pub_1242829.pdf). Accessed December 9, 2007.
  15. Helms K. Bills would boost rural health care. *The Gallup Independent Newspaper* (Web edition). 2007. Available at: [www.gallupindependent.com/2007/june/061507kh\\_ruralhealthcare.html](http://www.gallupindependent.com/2007/june/061507kh_ruralhealthcare.html). Accessed December 9, 2007.
  16. Medicare Advantage for Rural America Policy Brief. National Rural Health Association (NRHA) Web site. 2007. Available at: <http://www.nrharural.org/advocacy/sub/policybriefs/0407MA.pdf>. Accessed December 9, 2007.
  17. Balamurugan A, Rivera M, Sutphin K, Campbell D. Health communications in rural America: lessons learned from an arthritis campaign in rural Arkansas. *J Rural Health*. 2007;23(3):270-275.
  18. Liu J, Bellamy G, McCormick M. Patient bypass behavior and critical access hospitals: implications for patient retention. *J Rural Health*. 2007;23(1):16-24.
  19. Probst J, Laditka S, Wang J, Johnson A. Effects of residence and race on burden of travel for care: cross sectional analysis of the 2001 US National Household Travel Survey. *BMC Health Services Research*. 2007;7:40. Available at: <http://www.biomedcentral.com/1472-6963/7/40>. Accessed December 9, 2007.
  20. One Department Serving Rural America. HHS Rural Task Force Report to the Secretary. Health resources and Services Administration Web site. 2002. Available at: <http://ruralhealth.hrsa.gov/PublicReport.htm#barriers>. Accessed December 9, 2007.
  21. Palmas W, Teresi J, Morin P, et al. Recruitment and enrollment of rural and urban medically underserved elderly into a randomized trial of telemedicine case management for diabetes care. *J Telemed e-health*. 2006;12(5):601-607.
  22. *Income, Poverty and Health Insurance Coverage in the United States: 2005*. US Census Bureau; 2006. Available at: <http://www.census.gov/prod/2006pubs/p60-231.pdf>. Accessed December 9, 2007.