

Looking Ahead:**Rural-Urban Differences in Anticipated Need for Aging-Related Assistance**

- Approximately one of ten pre-retirement age adults reported having a close family member who receives help for limitations in activities of daily living. This value was similar among rural and urban adults (rural 12.5%, urban 10.8%).
- More rural than urban pre-retirement age adults anticipated that they themselves will need assistance with activities of daily living at some point in life (rural 39.0%, urban 35.3%). This difference may stem from the greater prevalence of factors such as current functional limitations and fair or poor health among rural adults; residence was not significant after adjusting for personal characteristics.
- Both rural and urban respondents anticipated that they would receive assistance from family members, should they need it (69.9% and 70.7%, respectively; no significant difference).
- While family help is anticipated, it may be either unavailable or insufficient for all assistance needs. Given higher levels of anticipated limitation among rural residents, it will be important to ensure that resources for aging-related assistance are available in rural communities.
- Future research is needed to examine the degree to which assistance needs are met and to explore the effect of caregiving burden on the health of caregivers, with and without paid support services.

With the general aging of the U.S. population, activity restrictions and subsequent need for help may become more prevalent. Prior research conducted by the South Carolina Rural Health Research Center (SCRHRC) found that while rural older adults with a disability can anticipate a longer lifespan than urban adults, this is associated with a longer period of time for which support is needed.¹ Recent SCRHRC research has also found that rural areas tend to be served by fewer providers of home health services, services that can keep disabled persons in their homes rather than in institutional care.²

The Affordable Care Act included a provision for a self-funded, government option for long-term care insurance, Community Living Assistance Services and Supports Act (CLASS).³ While this provision was repealed when it was deemed financially infeasible, planning for the provision of cost-effective supports to older adults remains relevant. The degree to which individuals anticipate needing assistance is associated with the decision to purchase long term care insurance, while beliefs that family will care for the individual are associated with the opposite decision.⁴ Ascertaining the degree to which persons currently of working age are anticipating and providing for an eventual need for assistance can assist public health planners, state insurance commissions and similar policy-makers with the development of educational messages.

This brief uses information collected through the National Health Interview Survey (NHIS) in 2011-2012 to describe the degree to which rural and urban pre-retirement age adults, persons ages 40 – 64, anticipate that they may need assistance later in life, and where they anticipate obtaining such help. Details about the methods for this analysis are provided in the Technical Notes.

The health belief model suggests that observation of a problem can both communicate its potential severity and serve as a cue to action.⁵ In the case of age-related assistance, we began by examining the degree to which pre-retirement adults have been exposed to the need for assistance within their own families.

Overall, approximately one of every ten pre-retirement age adults reported having a close family member who receives help for limitations in activities of daily living (rural 12.5%, urban 10.8%, not significantly different; Table 1, below). In urban counties, white respondents were more likely to report a family member needing help than were respondents of other race/ethnicity groups; differences within rural residents were not significant.

NHIS question: Do you have a parent, spouse, sibling, or adult child who has needed help for at least a year with everyday needs like bathing, dressing or eating due to a long term condition?

Table 1. Proportion of adults age 40–64 with a family member who had needed help with everyday needs for 1 or more years, by race/ethnicity and residence, 2011–2012 NHIS

Race/ethnicity	Urban (n=22,586)		Rural (n=4,998)		Total (n=27,584)	
	%	SE	%	SE	%	SE
Total	10.8	0.3	12.5	0.7	11.0	0.3
NH White	11.4	0.4	12.8	0.8	11.6	0.3
NH Black	10.4	0.6	10.3	1.2	10.4	0.5
Hispanic	9.1	0.5	10.0	2.5	9.1	0.5
NH Other	8.8	0.9	12.5	2.3	9.2	0.9

NH: Non-Hispanic. Urban-rural comparisons not significant. Race/ethnicity comparisons within urban respondents significant at $p = 0.0015$. Comparisons within rural respondents not significant ($p = .2478$)

Personal and family characteristics were associated with reporting a family member needing assistance. Among both rural and urban respondents, persons aged 50-64 more likely than those 40 – 49 to report that a family member needed such help (12.6% versus 8.7%, $p = 0.001$). Adults who reported receiving government health insurance (Medicaid, Medicare, or military) were more likely than those with private or no health insurance to report a family member who needed assistance (See Table 2, next page). Within each insurance type, rural respondents were more likely to report family need.

The probability that someone in the family needed help increased as self-reported health declined. Thus, 9.9% of persons reporting excellent or very good health nationally had a family member in need, versus 14.5% of those in fair or poor health. Persons who themselves reported some form of functional limitation were more likely to have a family member with limitations (13.7% versus 9.3%). Relatedly, pre-retirement age adults who reported not being in the workforce were more likely to anticipate needing assistance than those who were employed (13.2% versus 10.3%). Jointly, these findings suggest that need is concentrated in particular at-risk families, who may least be able to provide assistance. Further research is needed to ascertain the degree to which assistance needs are met; such information was not present in the data source used for this study.

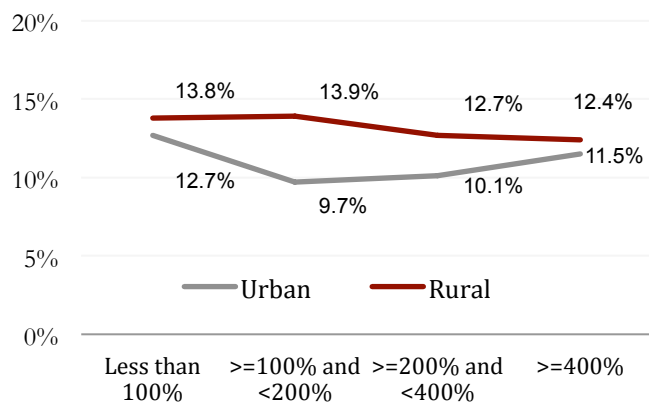
Table 2. Proportion of adults age 40–64 with a family member who had needed help with everyday needs for 1 or more years, by personal characteristics and residence, 2011–2012 NHIS

Insurance	Urban		Rural		Total		P value for urban/rural comparison†
	Percent	SE	Percent	SE	Percent	SE	
Health Insurance							0.0058
Private	10.6	0.3	11.8	0.9	10.7	0.3	
Government	13.2	0.7	16.5	1.7	13.8	0.6	
Uninsured	9.7	0.6	10.7	1.2	9.8	0.5	
Personal health							0.0000
Excellent, very good	9.8	0.3	10.8	0.9	9.9	0.3	
Good	10.8	0.5	14.1	1.1	11.3	0.5	
Fair or poor	14.7	0.8	13.9	1.1	14.5	0.7	
Personally limited*							0.0012
Limited*	13.4	0.5	14.5	1.0	13.7	0.4	
Not limited	9.2	0.3	10.6	0.9	9.3	0.3	

* Limited: any limitation in ability to walk ¼ mile, stand 2 hours, climb 10 steps, sit 2 hours, stoop, bend or kneel, reach, grasp, carry 10 pounds, push large objects, go to events, participate in social activities, or relax without special equipment.
†Differences within urban and rural populations are all significant at p <0.01 or better.

Family income, defined in relation to the Federal Poverty Level (FPL), was associated with the likelihood of a family member needing daily help, but in differing ways among rural and urban respondents. Within rural respondents, the proportion of persons reporting a family member with assistance needs did not vary significantly by FPL ($p = 0.1207$). Among urban respondents, there were significant differences across groups ($p = 0.0001$), but the relationship was not linear. The proportion of urban respondents with a family member in need was highest among those living below the FPL, but lowest among the next group, those between 100% and 200% of the FPL.

Figure 1. Proportion of adults age 40-64 with family member needing assistance, by income and residence, 2011-2012 NHIS



Adjusted analysis (data not shown) controlling for all of the factors listed in Appendix A, Table A-1, confirmed that rural and urban respondents were similar in the likelihood that a family member needed assistance. Factors noted above, including respondent sex, age, and personal vulnerability, were associated with a greater likelihood of a family member with a need for assistance.

Personal Vulnerability: Anticipation of Personal Limitations

Overall, slightly more than a third of pre-retirement age adults (35.8%) anticipated that they would need assistance at some future point in their lives. Rural adults (39.0%) were more likely than their urban peers (35.3%; $p < 0.001$) to anticipate needing assistance. Within race/ethnicity groups, non-Hispanic “other” adults (46.0%), white adults (39.2%) and non-Hispanic Black adults were more likely to anticipate needing assistance than their urban counterparts; the pattern was reversed for Hispanic respondents. Differences across persons of different race/ethnicity categories within rural residents were not significant.

NHIS Question:
How likely is it that you may someday need help with daily activities like bathing, dressing, eating, or using the toilet due to a long term condition?

Table 3. Anticipated need for ADL help among adults age 40–64, by residence and race/ethnicity, 2011–2012 NHIS

Responding “yes” to anticipated need	Urban (n=22,586)		Rural (n=4,998)		Total (n=27,584)	
	%	SE	%	SE	%	SE
Total	35.3	0.4	39.0	1.2	35.8	0.4
Race/ethnicity						
NH White	35.9	0.6	39.2	1.2	36.5	0.5
NH Black	35.5	1.0	37.1	3.2	35.7	1.0
Hispanic	34.6	1.0	31.2	4.8	34.4	1.0
NH Other	30.5	1.2	46.0	5.1	32.1	1.3

NH: Non-Hispanic. Race/ethnicity comparisons within urban respondents significant at $p = 0.0022$. Comparisons within rural respondents not significant ($p = .0988$)

Patterns associated with sex and age did not differ statistically based on residence. Women were more likely to anticipate needing help than were men (37.4% versus 34.2%, $p < 0.001$); respondents 50 and older were more likely than younger respondents to anticipate needing assistance (38.6% versus 31.7%; $p < 0.001$).

Persons currently covered by government health insurance, those in fair or poor health and those experiencing functional limitations were all markedly more likely to anticipate needing help than those in the comparison conditions (Table 4, next page). Among these vulnerable adults, rural residents were also more likely to anticipate needing assistance. Across all levels of family income, rural adults were more likely than their urban peers to believe that they would need assistance in the future. Differences were particularly marked among the poorest respondents, those in households at less than 100% of the Federal poverty level.

Figure 2. Proportion of adults who anticipate needing ADL help, by income and residence

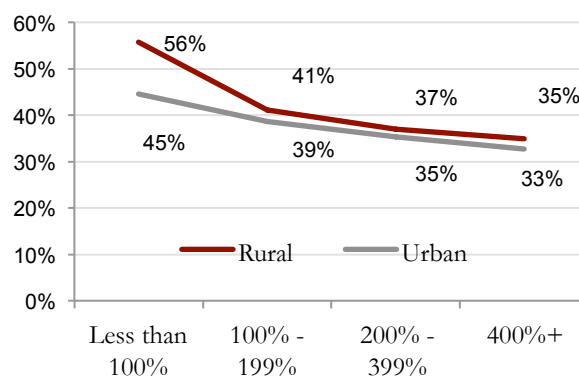


Table 4. Anticipated need for ADL help among adults age 40–64, by residence and selected characteristics, 2011–2012 NHIS

Characteristics	Urban (n=22,586)		Rural (n=4,998)		Total (n=27,584)		P value for urban/rural comparison
	Percent	SE	Percent	SE	Percent	SE	
Health Insurance							0.0000
Private	32.8	0.5	33.8	1.4	32.9	0.5	
Government	49.1	1.1	58.3	2.1	50.9	1.0	
Uninsured	35.0	1.0	37.1	2.0	35.3	0.9	
Personal health							0.0000
Excellent, very good	29.0	0.5	28.4	1.4	29.0	0.5	
Good	36.4	0.8	39.1	2.0	36.8	0.8	
Fair or poor	58.7	1.0	61.3	1.8	59.2	0.9	
Personally limited*							0.0000
Not limited	28.2	0.5	28.2	1.5	28.2	0.5	
Limited*	47.2	0.7	50.4	1.5	47.8	0.6	

* Limited: any limitation in ability to walk ¼ mile, stand 2 hours, climb 10 steps, sit 2 hours, stoop, bend or kneel, reach, grasp, carry 10 pounds, push large objects, go to events, participate in social activities, or relax without special equipment. Comparisons within urban and rural populations are all significant at p < 0.001.

In analysis adjusted (data not shown) for the characteristics listed in the Appendix, Table A-1, rural and urban respondents did not differ in the likelihood that they would anticipate future needs for assistance. Indicators of personal vulnerability, including poor health, current limitations, and a family member with activity limitations, together with currently being insured through government sources, were positively associated with anticipated need. All of these characteristics were more common among rural adults (Table A-1), accounting for the greater unadjusted rate of anticipated need documented in Table 3, above.

Proposed Plans: Family Support

Most pre-retirement adults (70.6%) anticipated that their family, possibly with help from others, would provide help with activities of daily living, should they need it. Rural and urban adults did not differ statistically in this response. Within the population nationally and within rural and urban respondents separately, Hispanics were most likely to report family as a future source of assistance (81.3%, while white respondents were least likely to anticipate help from family (67.9%; Table 5, next page).

Beliefs about receiving help from family were not associated with health status in either urban or rural populations, but were influenced principally by demographic factors. Persons currently married or in a similar relationship were more likely to anticipate family support than those in other statuses (married, 75.7%, formerly married, 61.0%, never married, 52.2%,

NHIS question:
If you needed such help [with daily activities], who would provide this help?
Categories:
- My family
- Someone I hire
- Home health care organization
- Nursing home/assisted living
- Other/Don't know

Table 5. Proportion of adults age 40–64 anticipating ADL help from family, either alone or with other sources of assistance, by residence and race/ethnicity, 2011–2012 NHIS

	Urban (n=22,586)		Rural (n=4,998)		Total (n=27,584)	
	%	SE	%	SE	%	SE
Total	70.7	0.4	69.9	1.1	70.6	0.4
NH White	67.7	0.5	68.8	1.2	67.9	0.5
NH Black	74.0	0.9	74.0	2.4	74.0	0.9
Hispanic	81.3	0.7	80.8	2.9	81.3	0.7
NH Other	73.5	1.2	72.5	3.3	73.4	1.1

NH: Non-Hispanic. Race/ethnicity comparisons within urban respondents $p = 0.0000$; within rural respondents $p = 0.0179$

$p < 0.0000$). Persons with less than high school education were most likely to perceive family as a source of care (79.0%), while those with a college degree or more were least likely to anticipate family help (65.5%).

Experience may reduce the degree to which persons anticipate family support. Respondents aged 50 years or more were less likely to believe that family would provide help than younger respondents (67.4% versus 75.1%), in both rural and urban areas. In urban areas, respondents who themselves experience functional limitations were less likely than those without to anticipate family help (not limited, 72.1%; limited, 68.3%; $p = 0.0000$); differences were not significant within rural adults. Similarly, persons who have experience with familial assistance may be more realistic about whether family help is sufficient. Respondents with a family member who has needed assistance for a year or more were less likely to anticipate that family would provide help for them (with family member, 63.5%; without, 71.4%; urban and rural virtually identical).

Given that a large majority of respondents anticipated family care, we modeled the less common condition, that family would not provide help. Adjusted analysis confirmed that rural and urban respondents were similar in their expectations regarding family help. Demographic factors, such as the respondent's age, family structure, income and education, and experience with functional limitations either personally or among family members, were most closely associated with not reporting family as a source of ADL assistance.

The 2011 NHIS explored the willingness of pre-retirement age individuals to pay for hypothetical government-sponsored insurance for assistance with activities of daily living. Due to small sample sizes and the fact that the proposed long term care insurance program under the Affordable Care Act was dropped, this issue was not analyzed in detail. Overall, only 33.2% of rural respondents, versus 41.8% of urban adults, were willing to pay \$25 per month or more for long term care insurance ($p < 0.001$).

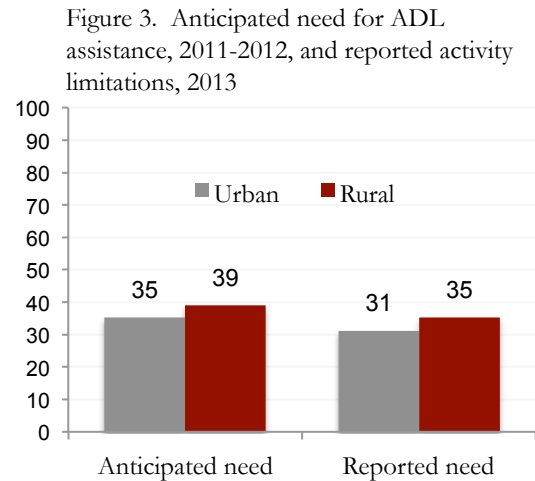
Summary and Implications

In the aggregate, both rural and urban populations may be generally accurate about the likelihood that they will need assistance with activities of daily living. As shown in Figure 3, the proportion of pre-retirement age adults anticipating a future need for assistance, as found in the present study, is close to national estimates of the proportion of persons age 65 and older who report actually needing such assistance.⁶ Rural persons both anticipate and experience greater need for assistance. The policy question becomes whether and from whom they will be able to obtain such assistance.

Rural and urban respondents were virtually identical in the degree to which they anticipate that family will help them with daily needs (70% anticipate such help). Such help is important, because persons who do not obtain needed assistance can have difficulty with medications, as well as other self-care activities,⁷ and absence of needed help has been linked to increased mortality.⁸ Even among individuals receiving home health services, most (80%) also receive assistance from friends or family.⁹ While rural communities are known to have fewer formal health care providers than urban locales, a detailed review of existing research on rural informal caregiving found little conclusive information about rural caregiving.¹⁰

Nationally, an estimated 25% of all adults, including 22% of those age 65 or older, provide informal help to someone.¹¹ In general, caregivers are more likely to be female, and most informal care is provided for family members.¹² Some research suggests that informal caregiving networks, defined as the availability of secondary caregiver(s) who can provide backup and respite for a primary caregiver, may be smaller in rural than in urban areas.¹³ A 2014 survey fielded by the American Association of Retired Persons and the National Alliance for Caregiving found that while 16% of caregivers lived in rural communities, 28% of care recipients were rural residents.¹⁴ This suggests that some caregivers are traveling to support a family member in need of assistance that it not locally available.

Caregivers generally report poorer physical health than non-caregivers,¹¹ but it is difficult to state whether this is a result of caregiving, or because poor health is clustered within family and friendship groups. Our finding that persons in fair to poor health, or who themselves experience limitations, were more likely to have a family member with a need for assistance provides support for the notion that need is clustered within families. Some forms of caregiving are particularly stressful. Findings from the National Survey of Caregivers suggest that persons who provide assistance with healthcare activities, versus those who give other kinds of assistance, provide more hours of care per week across all three domains studied (disability related activities such as transportation; health logistics activities such as appointments and insurance; and health management activities such as skin care and diet), suggesting the global nature of need when the recipient is in poor health.¹⁵ Providing health care support was associated with a higher likelihood of



the caregiver missing work or participation in desired activities, along with more emotional and physical difficulty.¹⁵

Rural pre-retirement age adults were more likely to anticipate needing assistance than urban adults, but were equally likely to anticipate turning to family for help. Given higher rates of limitation among rural populations, however, the ability of family to help may be reduced. For persons who cannot receive adequate care from family members, home and community based support becomes essential.

In theory, long-term care insurance could help individuals meet care needs when family support is insufficient. However, private long-term care insurance is expensive, with estimates suggesting that individuals receive less in benefits than they spend.¹⁶ Overall, long term care insurance is not widely purchased. The American Association for Long-Term Care Insurance estimated that 8.1 million individuals, or about 3% of the estimated 247 million adults in the U.S., had a private long term care insurance policy in 2013.¹⁷ An internet-based survey of adults aged 50 and older estimated that about 22% of respondents reported owning long term care insurance.⁴ Even the upper estimate falls short of the proportion of the population anticipated to need assistance.

In the absence of private sources for funding of services, and given that rural adults were more likely to fall in the lower income brackets than their urban counterparts, the role of Medicare and Medicaid for post-acute and other forms of care becomes more prominent. In particular, monitoring the availability of home health services over time will be necessary to ensure that rural older adults retain access to adequate assistance. In a December 2014 report, the Medicare Payment Advisory Commission (MedPAC) analyzed the effects of payment changes across the period 2001 – 2012 on use of home health services, concluding that service growth continued even when payment declined (MedPAC 2014).¹⁸ MedPAC noted that profit margins for rural-serving home health agencies, while less than those for urban-serving agencies, were still considered high. In March, 2015, MedPAC reiterated concerns that 3% rural add-on payments should be used only in specific low-service areas, noting that the concentration of expenditures in high-utilization counties were “suggestive of fraud and abuse.”¹⁹ The Centers for Medicare & Medicare Services (CMS) currently intends to reduce its standard 60-day home health care payment by 0.97 percent annually in calendar years 2016, 2017 and 2018. It will be important to track the effect of these changes on the availability and quality of home health services in rural communities.

Further research is also needed, in two areas. First, it is essential to examine whether adults who need aging-related assistance actually receive it, both to determine whether rural disparities are present and to ascertain the health effects of service gaps. Tracking the receipt of services, as in the MedPAC reports cited above, is not sufficient. Utilization measures alone do not document unmet need, and thus, cannot reveal whether services are equally available to urban and rural populations. Second, studying the effects on caregivers of helping activities is important for assessing collateral health effects. Caregiver burden is positively linked to their physical strain;²¹ injuries and related medical costs associated with caring for a family member should also be considered when assessing the total impact of unpaid assistance.

Appendix

Technical Notes

Data Source

The analysis is based on the 2011 and 2012 National Health Interview Surveys. These years of the survey asked pre-retirement age adults (ages 40 – 64) a set of questions pertaining to anticipated need for aging-related assistance. The core question was “how likely is it that you may someday need help with daily activities like bathing, dressing, eating or using the toilet due to a long term condition,” with responses on a 4-point scale from very likely to very unlikely. A follow up question asked: “if you needed such help, who would provide this help,” with any indicated responses checked off. Additional questions explored whether the respondent had family members who had needed assistance and whether the individual would be willing to pay for “a voluntary, government-run insurance program” for long term care. While the latter question was only asked in 2011, as this potential element of the Affordable Care Act was repealed, we examined responses.

Definition of rural

Rural versus urban residence was defined at the county level, using 2003 Urban Influence Codes: metropolitan or urban (UIC 1-2), rural micropolitan counties (those containing a town with a population between 25,000 and 49,999; UIC 3, 5, 8), and other rural counties (UIC 4,6,7 and 9-12).

Population studied

Analysis was limited to adults aged 40 – 64 for whom residence data were available (n = 27,584). A summary of key characteristics of the respondents is shown in the table on the next page. Rural adults differed most widely from their urban peers in:

- Race/ethnicity (rural 83.7% white, versus 67.7% in urban counties),
- Household income (30.1% of rural households at 400% of the Federal Poverty Level or above, versus 44.9% among urban households)
- Education (32.1% of rural adults with a college degree versus 45.6% of urban adults)
- Workforce participation (31.8% of rural adults, versus 23.2% of their urban peers, report that they are not in the workforce)
- Health insurance status (18.5% of rural adults uninsured across the 2011 – 2012 period, versus 15.7% of urban adults)

Analytic strategy

All analyses reflect the complex sampling design of the National Health Interview Survey. To access geographic data, all analyses were carried out at the Research Data Center of the National Center for Health Statistics, located in Hyattsville, MD.

Table A-1. Characteristics of Adults Aged 40 - 64, by residence, 2011-2012 NHIS

	Urban		All Rural		Total		p-value, urban/rural comparison
	N=22,586		N = 4,998		N = 27,584		
	%	SE	%	SE	%	SE	
Total	85.1	0.8	14.9	0.8	100	--	
Demographics							
Sex							0.2052
Male	49.0	0.4	47.8	0.9	48.8	0.4	
Female	51.0	0.4	52.2	0.9	51.2	0.4	
Age							0.0011
40–49	41.9	0.4	38.4	0.9	41.3	0.3	
50–64	58.2	0.4	61.6	0.9	58.7	0.3	
Race/ethnicity							0.0000
NH White	67.7	0.5	83.7	1.2	69.7	0.4	
NH Black	11.8	0.3	7.2	0.7	11.4	0.3	
Hispanic	13.7	0.3	4.6	0.7	12.4	0.3	
NH Other	6.8	0.2	4.5	0.7	6.5	0.2	
Region							0.0000
Northeast	20.5	0.6	10.2	2.3	19.1	0.4	
Midwest	20.5	0.5	36.7	2.6	22.9	0.4	
South	35.4	0.7	39.3	2.7	35.9	0.5	
West	23.6	0.6	13.7	2.1	22.1	0.4	
Living situation and resources							
Marital status							0.0000
Married, w/ partner	70.5	0.4	72.3	0.9	70.4	0.4	
Divorced/widowed/sep.	19.6	0.3	20.9	0.7	19.9	0.3	
Never married	10.0	0.2	6.9	0.4	9.7	0.2	
Income (FPL)							0.0000
Less than 100%	9.6	0.3	13.4	0.7	10.2	0.2	
≥ 100% and < 200%	11.9	0.3	16.9	0.7	12.7	0.3	
≥ 200% and < 400%	24.2	0.4	28.9	0.9	24.8	0.3	
≥ 400%	44.9	0.6	30.1	1.0	42.1	0.5	
Unknown	9.4	0.3	10.8	0.6	10.2	0.2	
Education							0.0000
Less than HS	11.9	0.3	13.9	0.9	12.2	0.3	
HS / GED	24.6	0.4	36.2	1.3	26.5	0.4	
Post HS education	17.9	0.3	17.8	0.9	17.8	0.3	
College degree	45.6	0.5	32.1	1.0	43.4	0.5	

	Urban		All Rural		Total		p-value, urban/rural comparison
	N=22,586		N = 4,998		N = 27,584		
	%	SE	%	SE	%	SE	
Health insurance status+							0.0000
Government	13.2	0.3	18.5	0.9	14.1	0.3	
Private	71.0	0.5	63.1	1.0	69.5	0.4	
Uninsured	15.7	0.4	18.5	0.8	16.4	0.3	
Work status*							0.0000
In work force (employed or looking for work)	76.8	0.4	68.2	1.2	75.4	0.4	
Not in work force (not working/looking)	23.2	0.4	31.8	1.2	24.6	0.4	
Health							
Functional limitation							0.0000
Not limited in any way	62.8	0.4	51.6	1.3	61.1	0.4	
Limited in any way	37.2	0.4	48.4	1.3	38.9	0.4	
Health status							0.0000
Excellent or very good health	58.4	0.5	47.2	1.0	56.5	0.4	
Good health	27.1	0.4	30.8	0.8	27.7	0.3	
Fair or poor health	14.4	0.3	22.0	1.0	15.8	0.3	
+ Government health insurance included Medicare, Medicare, military, state-sponsored or other government health plan. Indian Health Service reported as sole coverage was considered uninsured.							
* In work force includes employed, looking, working without pay							

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