

# Barriers to health care increase disease, death risk for rural elderly

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A new study of adults ages 85 or older has found that rural residents have significantly higher levels of chronic disease, take more medications, and die several years earlier than their urban counterparts.

The findings were just published in *The Journal of Rural Health* by researchers from Oregon State University and the Oregon Health & Science University.

The research confirms some of the special challenges facing older populations in rural or remote areas, who often have less access to physicians, long distances to travel for care, sometimes a lower socioeconomic and educational level, and other issues. It also reflects health problems that might have been reduced if they were treated earlier or more aggressively, researchers say.

Data from several different study groups found that rural residents measured significantly higher on the Modified Cumulative Illness Rating Scale, with about an 18 percent higher disease burden.

"It's been known for some time that health care is harder to access in rural areas, and this helps us better understand the extent of the problem," said Leah Goeres, a postdoctoral scholar who led the research at the Oregon State University/Oregon Health & Science University College of Pharmacy.

"Many physicians do the best they can in rural areas given the challenges they face," Goeres said. "But there are fewer physicians, fewer specialists, a higher caseload. Doctors have less support staff and patients have less public transportation. A patient sometimes might need to wait months to see a doctor, and have to drive significant distances. Adverse effects can increase from taking multiple medications.

"These are real barriers to choice and access, and they affect the quality of care that's available."

Also worth noting, Goeres said, is that especially in very old populations, illness can lead to more illness and quickly spiral out of control. A patient in an urban setting might receive prompt treatment for a mild ulcer, whereas the same person in a rural setting might have to wait while the condition worsens and may even lead to cancer.

"It's of particular concern that rural [older adults](#) start with more disease burden, which significantly increased over the next five years, but the average number of medications they used decreased over the same time period," said David Lee, an assistant professor in the OSU College of Pharmacy who oversaw the research.

"This may be due to difficulty accessing health care, leading to more disease burden over time, yet less use of medications," Lee said. "The opposite trends are seen in urban older adults."

This research was done in Oregon with three cohorts of older adults, one rural and two urban, and 296 people altogether. It was supported by the Oregon Alzheimer's Disease Tax Checkoff Fund and the National Institutes of Health.

The findings of the new study include:

- The rural population of Oregon contains a greater proportion of older adults than the urban population.
- The use of many medications can be especially risky for people in their 80s and 90s, leading to a concern called "polypharmacy" when a person takes five or more medications.
- Rural participants were found to use an average of 5.5 medications, compared to 3.7 for urban participants.
- At baseline measurements, valuable medications to aid bone mineralization were often used less in rural populations, but pain-killing opioids were used more often.

- Medication use for high blood pressure went up significantly over time for rural populations, but not urban ones, in which their use had already been higher.
- The rate of disease accumulation was significant in the rural cohort, and negligible in their urban counterparts.
- The median survival time of the rural cohort was 3.5 years, compared to 7.1 years for the urban older adults.
- Risk factors of [chronic diseases](#) were low education, poor socioeconomic status, a history of chronic disease, being female, and older age. These factors are associated with a typical rural population.
- Living with someone, and/or having a large social network are protective factors against chronic disease, and may be more common in an urban or suburban population.
- Both urban and rural residents used a large number of over-the-counter agents, including vitamins, minerals and herbal supplements.

Increased access to health care, health education, increased supervision from clinicians, and better management of both prescription and over-the-counter medications could all be of value in helping rural residents to live longer and healthier lives, the researchers said in their conclusion.

Provided by Oregon State University

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