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Rural-Urban Differences in the Primary Care Nurse Practitioner Workforce: Implications for Recruitment and Retention

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Objective: Increasing the supply of rural advanced practice registered nurses, specifically nurse practitioners (NPs), is a frequently cited solution to rural primary care access problems in the U.S. This study informs rural NP recruitment and retention strategies by comparing the demographic, education and practice characteristics of rural and urban NPs.

Methods: Using data from the U.S. Health Resources and Services Administration's 2012 National Sample Survey of NPs (22,000 randomly selected licensed U.S. NPs that had a 60% response rate, with data weighted to allow unbiased national estimates), NPs providing primary care were assigned as rural or urban using the Rural-Urban Commuting Area of their practice location. Descriptive analyses included regression and chi square tests.

Findings: Rural and urban primary care NPs were similar in age (48.4 vs. 49.2 years, ns) but rural NPs were less racially/ethnically diverse (4.6% non-White and 1.0% Hispanic among rural vs. 14.4% and 4.6% among urban, $p<.0001$ for both). Rural primary care NPs were slightly older than urban NPs at the time they completed their initial NP education (37.1 years for rural vs. 36.0 years for urban, $p<.0001$), and the vast majority of both rural (79.3%) and urban (80.9%) primary care NPs entered the profession via a Master's degree program. Men comprised similar percentages of rural and urban primary care NPs (6.4% of rural vs. 5.5% of urban, ns). About three quarters of rural and urban primary care NPs were married (78.1% of rural vs. 75.3% of urban, ns). Higher percentages of rural primary care NPs worked full time (73.6% of rural NPs vs. 68.4% of urban, $p<.001$) and worked greater average hours per week (40.2 hours rural vs. 38.3 urban, $p<.01$). Higher percentages of rural NPs billed using their own NPI numbers (76.7% of rural vs. 65.4% of urban, $p<.001$), but mean annual salaries were comparable ($89,432 for rural vs. $89,901 for urban, ns). Rural primary care NPs were less likely to have a physician on site the majority of the time (56.0% among rural vs. 61.5% among urban, $p<.01$) but similar percentages of rural and urban NPs took weekend or evening call (34.0% among rural NPs vs. 35.4% among urban, ns). Rural NPs were more likely to have their own DEA (controlled substance) prescribing number (81.2% of rural NPs vs. 74.2% of urban, $p<.001$). Rural and urban primary care NPs reported similar levels of satisfaction with their principal positions (more than 90% very satisfied or satisfied).

Conclusions/Policy Implications: While rural and urban NPs practicing in primary care were similar in many ways, the rural NPs worked more hours and showed characteristics that indicated greater practice independence (more billing using their own NPI number, working less often with a physician on site and having a DEA prescribing number). More NPs might consider rural practice if the positive characteristics of rural practice such as greater independence and comparable salaries (that in fact might be effectively higher salaries in rural areas if adjusted for cost of living) were used as recruiting tools.