### Data and Methods

The data are from CMS for 2010 and 2012. Files used include: Source Files detailing plan type, benefits and premiums by contract ID and plan ID: enrollment data by contract ID, plan ID, and county; Service Area files by contract ID and county; and quality scores by contract ID. Only plans offering Medicare Advantage with prescription drug coverage and non-empty plans were considered. Territories were excluded. Enrollment data below ten persons is censored. MA plans were treated as these values as equal to ten. Results were not sensitive to other choices of this value.

The method used to derive the data described above for both 2010 and 2012 separately, creating files that show, for each county, how many MA enrollees are in plans of various types, quality levels, and cost sharing. These data are merged with Urban Influence codes to determine urban or rural status of the county. Ultimately, the 2010 and 2012 files are also merged in order to track quality changes over time. Most of the descriptive results shown below are obtained directly from this file. To create the map showing payment changes based on quality-based methodology under the ACA, we use the more recent data only. We project how payment changes at the county level will affect MA payments. These data are then used to project payment changes at the county level in the future, adjusting the payment data based on the plan attributes, and then projecting payment changes at the national level and beyond. The 2010 and 2012 data were then used to create the map showing payment changes based on the benchmark calculation (i.e., the division of all counties into quartiles based on their quality scores, on average, compared to urban areas. This research measures the effect of the end of the demonstration on county-level payment, the payment of the county-level and maintain the changes in plan quality since the bonus payments went into effect. In addition, urban and rural MA quality is analyzed to detect differences in the star ratings and availability of MA plans in these areas.

### Motivation

This analysis of MA data looks at enrollment and quality as a function of geography, while at the same time looking at the payment benchmark and the geographic bonus payments received by the plans. This study is designed to look at the 2010 and 2012 data, which can be used to determine the number of plans that were eligible to receive the bonus payments. The demonstration lowered the threshold required of the plans to receive the bonus payment (Figure 1). This analysis can look at the levels of the plans to determine the impact of the bonus payments by county or by MA plan. In addition, the researchers looked for any changes (positive or negative) in the quality scores of the MA plans given that the bonus payments are incentives for quality improvement.

### Results

#### Figure 2. Average MA plan quality star ratings by type of plan and location

![Figure 2](image)

#### Figure 3. Distribution of Enrolment within MA Plans by Quality Star Ratings

![Figure 3](image)

#### Figure 4. Average MA Plan Ratings by County, 2012

![Figure 4](image)

### Discussion and Implications

Overall, we find that, on average, MA quality in rural areas is lower than in urban areas, but this difference is a result of a difference in the composition of enrollment in the MA market—specifically in rural and urban areas (Figure 2). The bulk of enrollment in rural areas is concentrated in precluded provider organizations (PPO) plans, while the bulk of enrollment in urban areas is concentrated in health maintenance organization (HMO) plans. HMOs typically have higher quality scores than PPO plans resulting in higher overall quality scores in urban areas. This finding that the rural/urban quality differential was because of differences in the MA market composition suggests that the focus on quality improvement for MA plans should focus on the type of plan, not its location. This also shows that the same percentage of rural plans as urban (95% and 93%)—in plans with 3 or fewer stars (Figure 3), indicating that rural residents are more likely to enroll in lower quality plans. In addition, this research found that the quality of plans varies regionally across the country with the highest quality scores in the Northeast and West and the upper Midwest (Figure 3).

While many MA plans are currently benefiting from the demonstration program, nearly all counties will experience a reduction in their quality-based bonus payments with the conclusion of the demonstration program in 2014. If the quality scores remain the same, there will be significant variation in the amount of payment reduction the counties will experience, ranging from no reduction to over $400 per enrollee annually (Figure 6). However, the highest quality counties will continue to receive the same levels of bonus payments. Rural bonus payments will decline in many areas, but rural counties will not experience as negatively impacted as many urban areas. Going forward, we are identifying specific quality indicators that account for the bulk of the difference in quality among rural and urban plans, and we collaborate with these regarding their implementation feasibility. Some of the reductions in MA payment that began with the ACA are offset by quality-based bonus payments. Rural areas have lower average quality ratings and less MA enrolment; therefore, they won’t benefit significantly from the ACA quality payments. In order to continue to achieve health care payment structure begins. These reductions in payment could have an impact on MA enrolment and plan availability going forward. In addition, the research showed that plans are improving their quality in both rural and urban areas (Figure 3); and plans with lower quality scores tend to be leaving the MA program (since 2010) and those with higher quality scores are staying (Figure 7). The quality-based bonus payments have significant cost, but they appear to be incentivizing the plans to improve quality, benefiting both rural and urban MA enrollees. The implementation of the Affordable Care Act (ACA) has resulted in a significant increase in the number of Medicare Advantage plans, particularly in rural areas. This has led to concerns about the quality of care provided by these plans, especially in rural areas where access to healthcare services can be limited. The ACA introduced a new payment system that rewards plans for improving the quality of care they provide. This system is based on a series of bonuses that are paid to plans that meet or exceed certain quality thresholds. The goal of this payment system is to improve the quality of care provided by Medicare Advantage plans and to encourage plans to invest in improving the quality of care they provide.

The implementation of the ACA payment system has had a significant impact on the Medicare Advantage market. The availability and quality of plans have increased, and the incentives for quality improvement have resulted in improvements in the quality of care provided by these plans. However, there are still differences in the quality of care provided by plans in rural and urban areas. Rural areas have lower average quality ratings and less MA enrolment; therefore, they won’t benefit significantly from the ACA quality payments. In order to continue to achieve health care payment structure begins. These reductions in payment could have an impact on MA enrolment and plan availability going forward. In addition, the research showed that plans are improving their quality in both rural and urban areas (Figure 3); and plans with lower quality scores tend to be leaving the MA program (since 2010) and those with higher quality scores are staying (Figure 7). The quality-based bonus payments have significant cost, but they appear to be incentivizing the plans to improve quality, benefiting both rural and urban MA enrollees.