**BACKGROUND AND OBJECTIVES**

- The Recovery Act, signed into law in February 2009 (P.L. 111-5), implemented a major health reform bill to address national health care costs and improve access to health care.
- The 2008 Medicare Payment Advisory Commission (MedPAC) recommended a cap on Medicare spending growth.
- The 2010 Medicare Access and CHIP Reauthorization Act (MACRA) required that Medicare beneficiaries receive greater access to health care services.
- The 2010 health care reform legislation included provisions to improve quality and efficiency in Medicare.
- The Affordable Care Act (ACA) established the Center for Medicare and Medicaid Innovation (CMMI) to test payment and delivery system reforms.
- The ACA also established the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) to increase access to quality care.

**METHODS**

**Study Setting**
- 4,173 Medicare-certified free-standing dialysis facilities in the U.S. that were observed in all three years (2010 to 2012).

**Data Sources**
- The annual Dialysis Facility Reports (DFR) are a comprehensive source of data on the characteristics of dialysis facilities in the U.S.
- The Medicare Payment Advisory Commission (MedPAC) provides a wide range of data on Medicare payments and beneficiaries.
- The Centers for Medicare & Medicaid Services (CMS) collect data on Medicare payments to dialysis facilities.
- The Agency for Healthcare Research and Quality (AHRQ) publishes reports on the quality of care delivered by dialysis facilities.

**RESULTS**

**Dialysis Facility Characteristics**
- The 2010 DFR database included 4,173 free-standing dialysis facilities, of which 880 were excluded due to missing or invalid codes. Of the 4,125 remaining facilities, 1,473 had data from all three years (2010 to 2012).
- The facilities in the market in 2010 were dominated by the two largest chains, which owned 77.7% of all dialysis facilities by 2012. Local market concentration was also high (low competition), as measured by a mean Herfindahl-Index (H=0.09) in 2012. Of all dialysis facilities, 10.3% were owned by profit, and 75.7% were located in urban areas. Nearly half of all facilities were located in the South region (Table 1).

**Productivity Changes after the 2010 Medicare Payment Reform**
- The overall Medicare productivity index score declined by 2% from 2010 to 2011 (H=0.93, P<0.05), and was basically unchanged from 2011 to 2012 (mean productivity index score 0.96, 95% CI 0.95-0.97). While the average facility saw some relative technical efficiency gains, the technology/innovation portion of the index declined each year 2011 to 2012, and more than offsetting the gains in the productivity portion.

**Some productivity gains were seen in 2011 in independent facilities and in facilities that were members of medium-sized or non-profit chains, and in the Northeast and South region (Table 2). For 2012, only the Western region observed a statistically significant marginal productivity improvement (mean index score 0.95, 95% CI 0.94-0.96).

**DISCUSSION**

- The CMS dialysis industry’s response to the 2011 Medicare payment reforms was mixed. While there was a substantial “catching up” effect in some industry segments that had significantly lagged behind, such as the Northeast and South region, 2011-2012, as observed by the decline in the technology component of the overall Market Index, some segments may have achieved productivity gains.
- Some facilities may have anticipated IPPS reforms by implementing efficiency measures prior to 2011, and while relatively high number of facilities at the efficiency frontier in 2010, and general broad dispersion of efficiency scores below the frontier, suggest that 2010 may have been a period of transition in the implementation of the payment reforms vis-a-vis the industry.
- The willingness of the payment reforms, once implemented, may have proven less draconian than feared, which could have resulted in some continued growth in innovation and efficiency in the future as it will be limited if the push for efficiency is still ongoing and the CMS may have already implemented some measures prior to 2011.
- Future work in this field should incorporate quality of care dimensions and case-mix-adjustments to measure the change in efficiency and productivity over a longer timeframe.

**CONCLUSIONS**

- The CMS dialysis industry did not appear to respond to any significant changes in productivity from the new payment reforms.