Medicare Part D enrollment & medication use & costs in US dialysis patients in 2007

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Introduction
- Medications are used to treat anemia, cardiovascular disease, diabetes, disorders of bone and mineral metabolism, and infection in patients undergoing dialysis.
- Surveys have found that dialysis patients take 11-12 medications at any point in time (Fisk et al, ND), (Chiu et al, CJASN).
- Access to prescription medication is a critical component of adequate disease management.
- Medicare Part D is a relatively new prescription drug coverage option.
- With the basic benefits, patients pay monthly premiums and copayments (ranging from 0 to 100% of cost) depending on accumulated drug costs during the calendar year.
- Patients may receive a low-income subsidy to defray these costs.
- We investigated Part D enrollment and low-income subsidy status in US dialysis patients in 2007.
- We also assessed overall utilization of the benefit, as measured by the number of medications used and both gross and out-of-pocket costs.

Methods
- From USRDS data, we identified prevalent dialysis patients, alive on January 1, 2007.
- We required patients to undergo dialysis during all of 2007.
- We also required patients to have Medicare as the primary payer during all of 2007.
- We assessed whether patients were dually eligible for both Medicare and Medicaid during all of 2007.
- Comorbid conditions were defined from diagnosis codes on Medicare claims from 2006, with prevalence measures from CMS' Chronic Condition Warehouse. Included inpatient facility claims or a 2 outpatient facility or 5 outpatient claims.
- Data were linked with 2007 Part D enrollment and drug event data in CMS' Chronic Condition Warehouse.
- Part D enrollment and low-income subsidy (LIS) receipt were defined as positive if they were continuous throughout the calendar year.
- We used logistic regression to estimate odds ratios of Part D enrollment and LIS receipt given (Part D enrollment) in patients who were not previously dually eligible, with adjustment for demographics, ESRD duration, and comorbidity.
- Medication use was assessed in Part D enrolled patients using generic ingredients, according to National Drug Code and drug event data linked to Red Book (2007).
- We calculated gross drug costs per member (Part D enrollee) and out-of-pocket (OOP) costs per user (enrollee with a 1 drug per month).

Results
- In the cohort of 196,101 dialysis patients, 69.2% were enrolled in Part D, higher than in the transplant, chronic kidney disease (CKD), and non-CKD cohorts (Figure 1).
- In patients who were not dually eligible (“non-duals”), Part D enrollment was highest in younger adults, blacks, men, and those with less time since ESRD onset (Table 1).
- In non-duals with Part D, LIS receipt was highest in younger patients, non-Asian/Pacific Islanders, American Indians, and Alaska Natives; and those in the first year of ESRD.
- In duals, Part D enrollment was nearly universal, because of administrative auto-enrollment.
- In non-duals, there was almost 3-fold variation in adjusted odds of Part D enrollment across ESRD Networks (Figure 2A).
- Congestive heart failure (CHF), other CV disease, GI disease, and liver disease were relatively strong, positive predictors of Part D enrollment, while cancer was a negative predictor (Figure 2B).
- In non-duals, there was over 6-fold variation in adjusted odds of LIS receipt across ESRD Networks (Figure 3A).
- CHF, other CV disease, COPD, and GI disease were positive predictors of LIS receipt (Figure 3B).

Conclusions
- Overall Part D enrollment is high, but enrollment rates varied in non-dually eligible patients, particularly across ESRD Networks. Further work is needed to identify reasons for lack of enrollment, including alternative sources of drug coverage.
- Use of multiple medications at any point in time was common.
- On average, US patients used more medications than non-US patients.
- The majority of patients received the low-income subsidy, but OOP costs were substantial in patients without the subsidy. Further work is needed to assess the effect of OOP costs on persistence in this patient group.

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