

# Sources of drug coverage among Medicare beneficiaries with end-stage renal disease

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## Introduction

- By the end of 2006, there were 538,572 individuals with end-stage renal disease (ESRD) in the United States, and 422,087 (78%) were covered by the Medicare program.<sup>1</sup>
- The expected remaining lifetime for an ESRD dialysis patient is 5.9 years, and about 20% of patients die within the first year of ESRD.<sup>1</sup>
- Management of ESRD sequelae requires extensive medication use. ESRD dialysis patients are prescribed, on average, between 6 and 12 medications at any one time.<sup>2,3</sup>
- Starting in 2006, all Medicare beneficiaries became eligible to enroll in Medicare Part D.
- Medicare Part D is a voluntary prescription drug program offered through private insurers.
- Relatively little is known about ESRD patient participation in Part D prescription drug plans (PDPs).
- Objectives of this research were (1) to describe the sources of drug coverage in the ESRD beneficiary population and (2) to explore beneficiary Part D plan preferences regarding premiums, deductibles, and the coverage gap.

## Methods

- Linked data from the Chronic Condition Warehouse and the United States Renal Data System were used.
- A 20% random sample of Medicare beneficiaries who were alive and had ESRD in December 2007 were identified.
- Patients were classified as having no known coverage, Part D coverage (with or without the Low-Income Subsidy [LIS]), coverage from a former employer, or coverage from other creditable sources.
- To describe stand-alone PDPs in which ESRD patients voluntarily enrolled, we included patients who self-enrolled and excluded patients eligible for auto-enrollment via LIS.
- Plan characteristics considered included deductibles (Y/N), gap coverage (Y/N), and premiums (by quartile).
- T-tests were performed on differences in observed proportions between ESRD and non-ESRD patients, and chi-squared tests were used for categorical data. Statistical significance was defined by  $P < 0.05$ .

## Results

- By the end of 2007, 17.1% of ESRD beneficiaries had no known source of creditable drug coverage; 46.2% were enrolled in a PDP with LIS and 18.1% in a PDP without LIS; 8.9% received former employer coverage; and 9.7% received coverage from another creditable source (Table 1).
- The proportions of patients with various sources of medication coverage were much different in ESRD as compared to non-ESRD Medicare beneficiaries.
- Rates of no known coverage were higher in those under age 65 years and lower in those over age 65 years. Rates of no known coverage varied by race/ethnicity, with black, Hispanic, and Asian individuals having lower rates than white, Native American, & other/unknown race/ethnicity individuals.
- The percent of ESRD beneficiaries enrolled in PDPs with LIS was highest in those < 65 years and in minorities.
- ESRD beneficiaries who enrolled in standalone PDPs without LIS showed a greater preference toward plans that had no initial deductibles and toward plans that offered some kind of drug coverage in the coverage gap than those without ESRD (Table 2).
- ESRD beneficiaries without LIS assistance were also more likely to enroll in plans with higher monthly premiums.
- Preferences in ESRD beneficiaries toward plans without gaps in coverage and toward higher premiums were stronger in whites than in blacks and other minorities.

Table 1: ESRD Beneficiary Drug coverage and Differences from the Non-ESRD Beneficiary Population, by Beneficiary Characteristics in 2007

Beneficiary Characteristics	Beneficiary Population	No Known Coverage		Beneficiary Source of Coverage		Part D (No LIS)		Part D (LIS)		Retiree Drug Subsidy		Other Creditable	
		%	Difference	%	Difference	%	Difference	%	Difference	%	Difference	%	Difference
All Beneficiaries	43,885,275	15.4%		34.0%		21.7%		15.9%		13.0%			
All ESRD Beneficiaries	435,920	17.1%	1.7% **	18.1%	-15.9% **	46.2%	24.5% **	8.9%	-7.0% **	9.7%	-3.3% **		
<b>Beneficiary Age</b>													
Under 20	3,150	26.2%	-0.6%	2.1%	2.1% **	69.5%	-0.2%	0.3%	-0.2%	1.9%	-1.1%		
20 to 44	66,990	22.3%	7.8% **	5.8%	-0.6%	66.3%	-6.1% **	0.7%	0.1%	4.9%	-1.2% **		
45 to 64	178,190	24.2%	6.4% **	12.0%	-5.9% **	49.4%	5.6% **	4.9%	-0.4%	9.5%	-5.7% **		
65 to 74	104,125	9.1%	-7.1% **	27.1%	-10.6% **	38.7%	24.7% **	14.1%	-3.4% **	11.0%	-3.7% **		
75 and above	83,465	7.2%	-6.5% **	30.5%	-7.4% **	31.8%	13.7% **	17.9%	-1.1% **	12.6%	1.4% **		
<b>Beneficiary Sex</b>													
Male	245,600	17.4%	3.0% **	19.0%	-12.6% **	41.4%	22.9% **	9.3%	-6.9% **	12.9%	-6.4% **		
Female	190,320	16.7%	0.6%	17.1%	-19.0% **	52.4%	28.1% **	8.4%	-7.3% **	5.5%	-2.4% **		
<b>Race/Ethnicity</b>													
White	201,570	18.5%	3.6% **	24.9%	-11.8% **	31.1%	14.6% **	12.4%	-5.6% **	13.0%	-0.9% **		
Black	137,125	12.0%	-1.4% **	12.0%	-7.9% **	60.8%	16.9% **	7.8%	-4.3% **	7.5%	-3.6% **		
Hispanic	60,355	16.2%	0.0%	13.1%	-18.0% **	62.5%	22.2% **	3.2%	-1.9% **	5.1%	-2.3% **		
Asian	15,165	17.1%	4.5% **	17.5%	-9.0% **	55.1%	8.8% **	3.3%	-2.5% **	7.0%	-1.8% **		
Native American	4,840	18.7%	-3.2% **	6.7%	-8.6% **	63.6%	18.7% **	1.7%	-3.8% **	9.4%	-3.2% **		
Other/Unknown	16,845	43.9%	4.0% **	9.0%	-11.5% **	37.0%	17.3% **	3.3%	-4.1% **	6.9%	-5.7% **		

Data derived from the 20% CCW Sample. Source of coverage, Medicare eligibility, and ESRD status ascertained in December 2007. Each observation is weighted by 5 to give population estimates. Other creditable coverage includes those with coverage from the Veterans Administration, Federal Employee Health Benefit Plan, TRICARE, a current employer, or a state pharmacy assistance program.  
 \* Difference between estimate for ESRD population and non-ESRD population is significant ( $P < 0.05$ ).  
 \*\* Difference between estimate for ESRD population and non-ESRD population is significant ( $P < 0.05$ ) after Bonferroni adjustment.

Table 2: Percentage of ESRD Beneficiaries Enrolled and Differences from Non-ESRD Beneficiaries, by Part D Plan Characteristic<sup>1</sup>

Beneficiary Characteristics	Beneficiary Population	No Deductible		Gap Coverage		1st Premium Quartile		2nd Premium Quartile		3rd Premium Quartile		4th Premium Quartile	
		%	Difference	%	Difference	%	Difference	%	Difference	%	Difference	%	Difference
All Beneficiaries	8,783,675	68.9%		33.7%		45.6%		28.6%		13.9%		11.9%	
All ESRD Beneficiaries	54,550	70.8%	1.9% **	38.0%	4.3% **	36.3%	-9.3% **	27.8%	-0.8%	13.3%	-0.6%	22.6%	10.7% **
<b>Beneficiary Age</b>													
Under 20	...	...		...		...		...		...		...	
20 to 44	3,340	63.5%	1.4%	32.9%	-1.3%	42.4%	-9.2% **	25.6%	4.0%*	11.1%	-1.8%	20.5%	6.6% **
45 to 64	15,850	71.6%	-0.3%	40.6%	0.4%	37.0%	-6.5% **	25.4%	-0.1%	12.5%	-1.0%	25.0%	7.5% **
65 to 74	19,040	71.3%	1.2%	40.3%	5.0% **	32.6%	-12.9% **	28.3%	0.2%	14.5%	-0.3%	24.5%	12.9% **
75 and above	16,270	71.1%	3.7% **	33.9%	2.7%*	38.3%	-7.4% **	29.6%	0.3%	13.2%	0.0%	18.6%	7.1% **
<b>Beneficiary Sex</b>													
Male	31,960	70.9%	2.4% **	37.7%	3.3% **	36.7%	-8.3% **	28.2%	-0.9%	13.3%	-0.8%	21.8%	9.9% **
Female	22,590	70.7%	1.5%	38.5%	5.2% **	35.7%	-10.3% **	27.1%	-1.2%	13.4%	-0.5%	23.8%	11.9% **
<b>Race/Ethnicity</b>													
White	36,645	72.6%	3.5% **	40.3%	6.4% **	35.0%	-10.7% **	26.4%	-1.8%*	13.6%	-0.3%	25.0%	12.7% **
Black	11,575	66.8%	-1.0%	31.7%	2.0%*	37.7%	-3.6%*	31.7%	-1.9%	12.8%	-2.0%*	17.7%	7.4% **
Hispanic	3,845	69.3%	-0.7%	38.3%	2.0%	42.3%	-5.3%*	29.1%	-2.1%	10.7%	-2.7%*	18.0%	10.1% **
Asian	1,335	65.5%	8.6%*	30.2%	3.3%	43.5%	-3.8%	28.8%	-6.3%*	13.5%	1.0%	14.2%	9.1% **
Native American	220	56.8%	-3.5%	27.9%	-1.3%	40.9%	-14.6%*	27.3%	-4.1%	13.6%	0.7%	18.2%	10.5%
Other/Unknown	930	67.7%	-2.3%	41.8%	6.0%	32.3%	-12.8% **	25.8%	-3.2%	17.7%	2.9%	24.2%	13.1% **

Data derived from the 20% CCW Sample. Source of coverage, Medicare eligibility, and ESRD status ascertained in December 2007. Each observation is weighted by 5 to give population estimates.  
 \* Analysis excludes beneficiaries receiving the LIS and beneficiaries in Medicare Advantage Part D plans.  
 \* Difference between estimate for ESRD population and non-ESRD population is significant ( $P < 0.05$ ).  
 \*\* Difference between estimate for ESRD population and non-ESRD population is significant ( $P < 0.05$ ) after Bonferroni adjustment.  
 # Results redacted due to CMS sample size reporting restrictions.

## Conclusions

- This research provides the first comprehensive description of prescription drug coverage sources for Medicare ESRD beneficiaries since Part D implementation.
- In 2007, a large proportion of ESRD Medicare beneficiaries lacked a known source of creditable drug coverage.
- A sizeable proportion of ESRD beneficiaries had Part D coverage with LIS; this appears to have been an important mechanism to help ESRD beneficiaries obtain prescription coverage.
- Among beneficiaries who self-enrolled in PDPs, there was a preference for more comprehensive and expensive plans.
- The Centers for Medicare and Medicaid Services and other health advocates should continue outreach work to ensure that beneficiaries who lack coverage are obtaining the coverage that they need, and that ESRD beneficiaries are joining the best plans for managing their conditions.

1. US Renal Data System. *USRDS 2009 Annual Data Report: Atlas of Chronic Kidney Disease and End-Stage Renal Disease in the United States*. Bethesda, MD: National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases; 2009.  
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