



Medication Trends in Dialysis Patients—Focus on Medicare Part D

Wendy L. St. Peter, PharmD, FASN,
FCCP

Professor, College of Pharmacy,
University of Minnesota

Co-investigator, USRDS

USRDS

Collaborators

USRDS

- Eric Weinhandl, MS
- Charles Herzog, MD
- James Ebben, BS
- Frank Daniels, BS

CMS

- Benjamin Howell, PhD, MPP
- Christopher Powers, PharmD
- Diane Frankenfield, DrPh

University of Minnesota

- Holly Epperly, PharmD, PhD candidate

Medicare Prescription Drug Coverage “Medicare Part D”

- Began January 1, 2006
- Voluntary prescription drug coverage
- ESRD/CKD pts with Medicare Part A or B are eligible
- Insurance offered by private companies
- Costs vary based on:
 - plan that patient picks
 - whether patient receives extra help (low income subsidy)
- 2007 1875 plans (avg. 55 per region)
 - Stand alone Prescription Drug Plans (PDPs)
 - Medicare Advantage Plans
 - Special Needs Plans (SNP)
- 2010 1007 plans (avg. 30 per region)

Standard Plan in 2011

Monthly Premium—Ms. Smith pays a monthly premium throughout the year.

1. Yearly Deductible	2. Copayment or Coinsurance (What you pay at the pharmacy)	3. Coverage Gap	4. Catastrophic Coverage
<p>Ms. Smith pays the first \$310 of her drug costs before her plan starts to pay its share.</p> <p>\$265 in 2007</p>	<p>Ms. Smith pays a copayment, and her plan pays its share for each covered drug until their combined amount (plus the deductible) reaches \$2,840.</p> <p>\$2400 in 2007</p>	<p>Once Ms. Smith and her plan have spent \$2,840 for covered drugs, she is in the coverage gap. In 2011, she gets a 50% discount on covered brand-name prescription drugs that counts as out-of-pocket spending, and helps her get out of the coverage gap.</p> <p>\$0 in 2007</p>	<p>Once Ms. Smith has spent \$4,550 out-of-pocket for the year, her coverage gap ends. Now she only pays a small copayment for each drug until the end of the year.</p> <p>\$3850 in 2007</p>

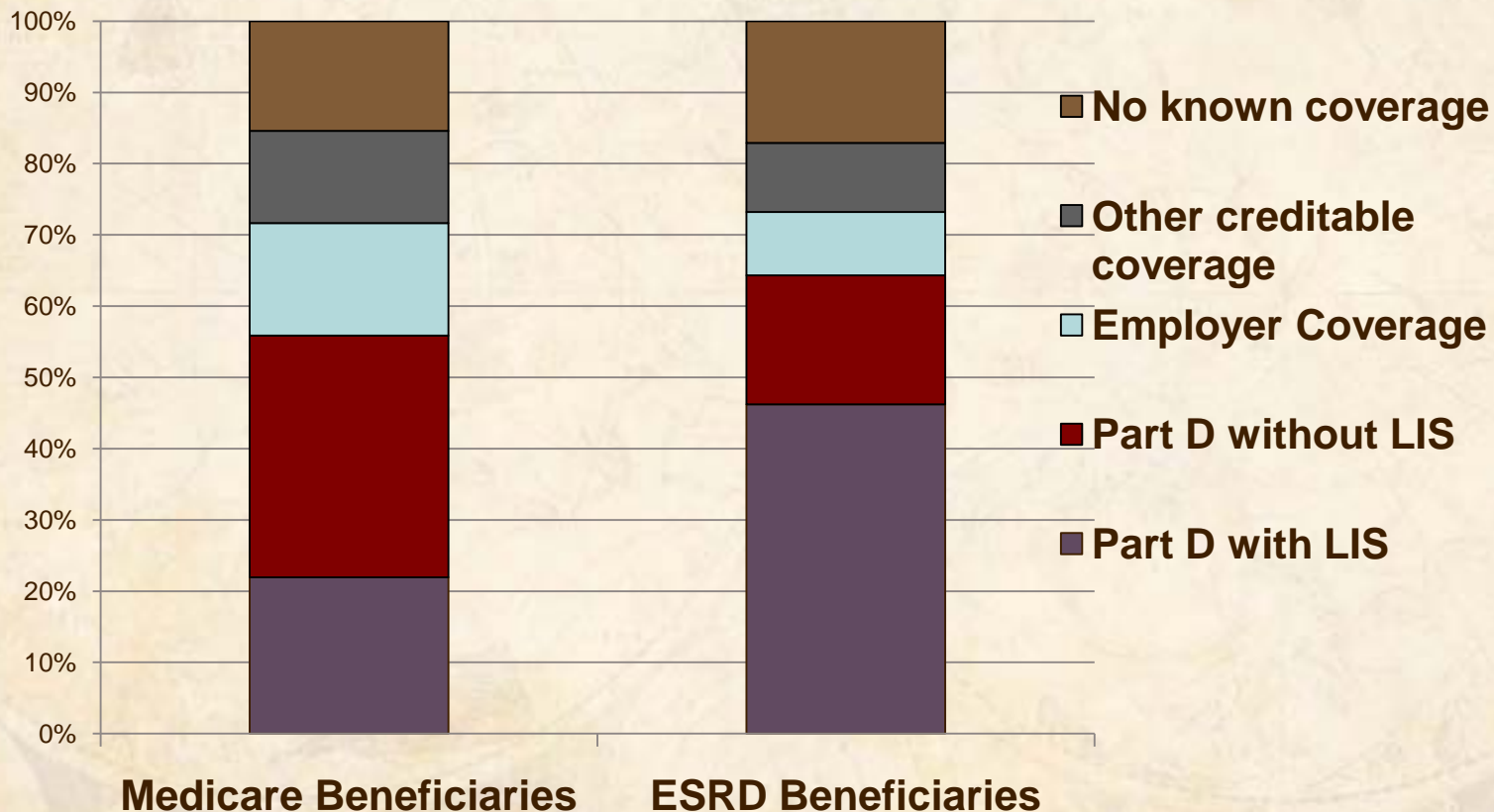
Low Income Subsidy (LIS)

- Program for those w/ limited Income and resources
- “Extra help” on deductibles, premiums and drug copayments or coinsurance
- No drug coverage gap (i.e. no “doughnut hole”)
- Can reduce medication costs up to 95%
- Patients automatically qualify if they have:
 - full Medicaid coverage
 - help from state Medicaid program to pay Part B premiums
 - Supplemental Security Income (SSI) benefits

Methods

- **Data: USRDS**
- **Populations**
 - Dec. 31, 2007 point prevalent ESRD (dialysis, TX), CKD
 - Dialysis: Medicare as primary payer, enrolled in Part D during entire year (2007)
- **Drug analysis**
 - Redbook® National Drug Codes (NDC) and MediSpan® Generic Product Identifier (GPI)
- **Costs: gross, out of pocket and net**
- **Statistical analysis**
 - Descriptive: Means, SD
 - Logistic regression: adjusted for demographics, ESRD network, comorbidity, +/- low income subsidy (LIS) status

Prescription Drug Coverage for All and ESRD Medicare Beneficiaries, 2007

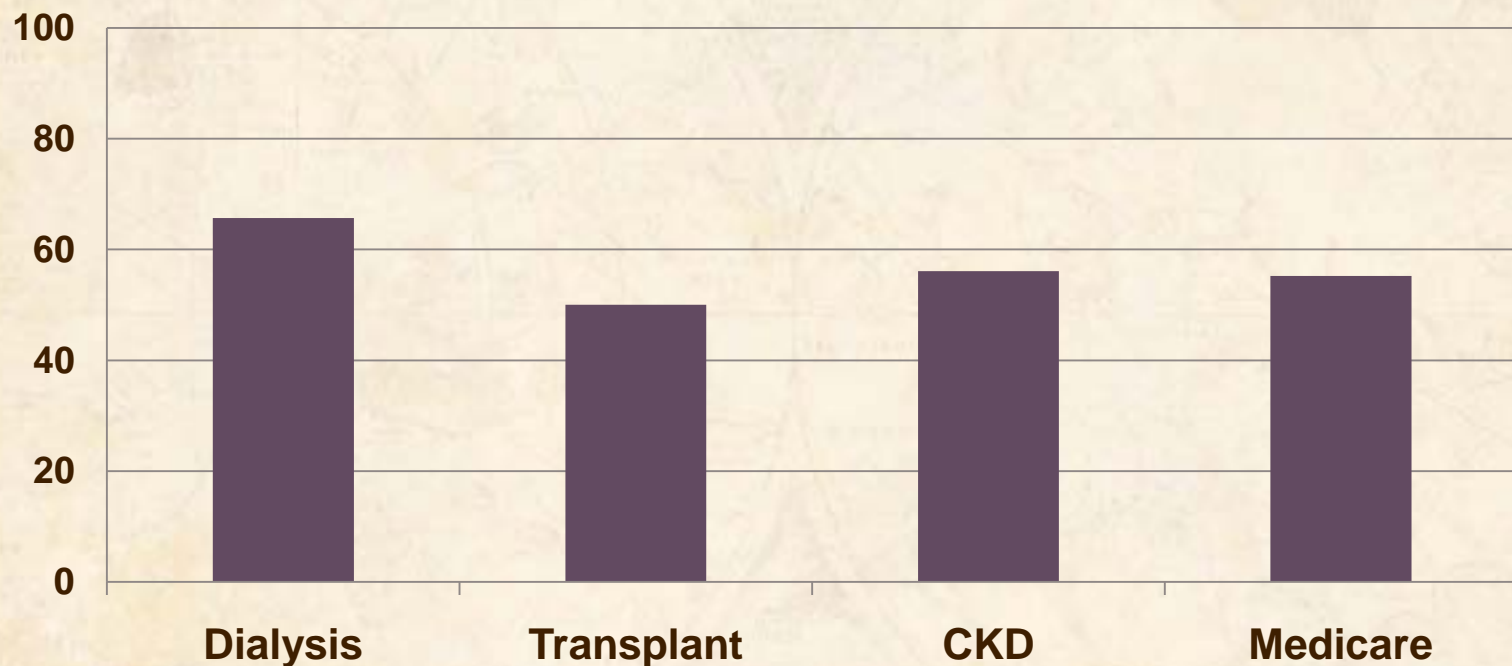


USRDS 2010 ADR

•20% random sample of Medicare beneficiaries
•Linked Chronic Condition Warehouse and USRDS dataset to obtain ESRD beneficiaries

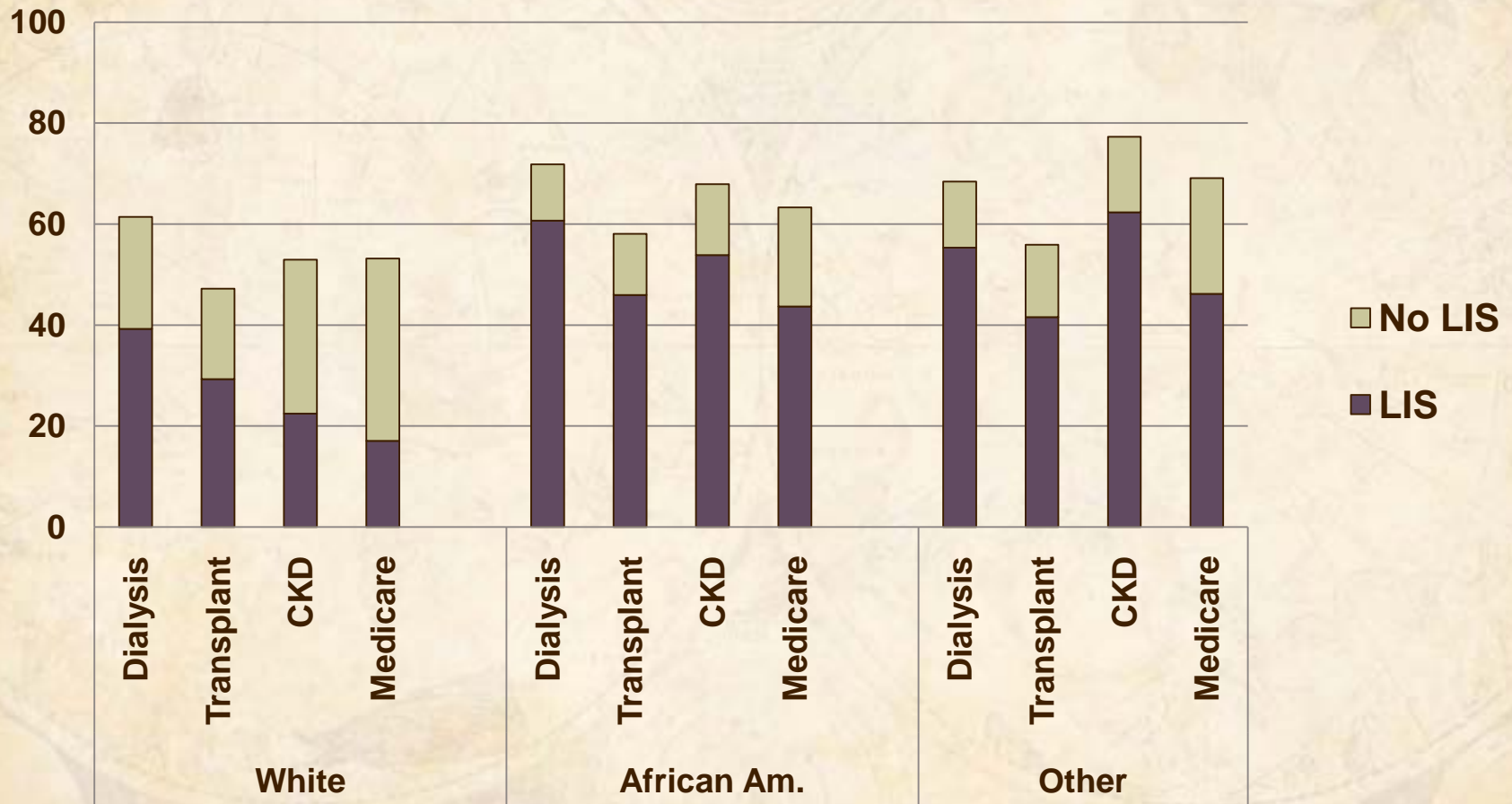
USRDS

Percentage of patients enrolled in Part D, by population, 2007



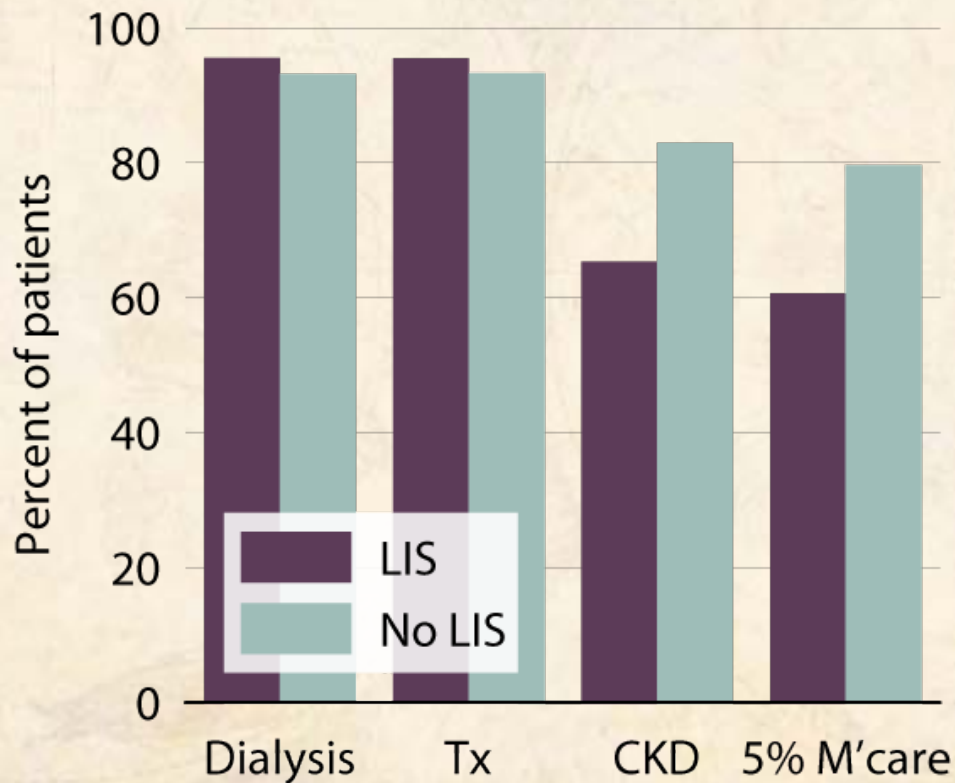
Dec. 31, 2007 point prevalent patients enrolled in Medicare Parts A, B, and/or C, and Part D

Percentage of patients enrolled in Part D, by population, race and LIS status, 2007



Part D enrollees with at least one Part D claim, by population & LIS (low income subsidy), 2007

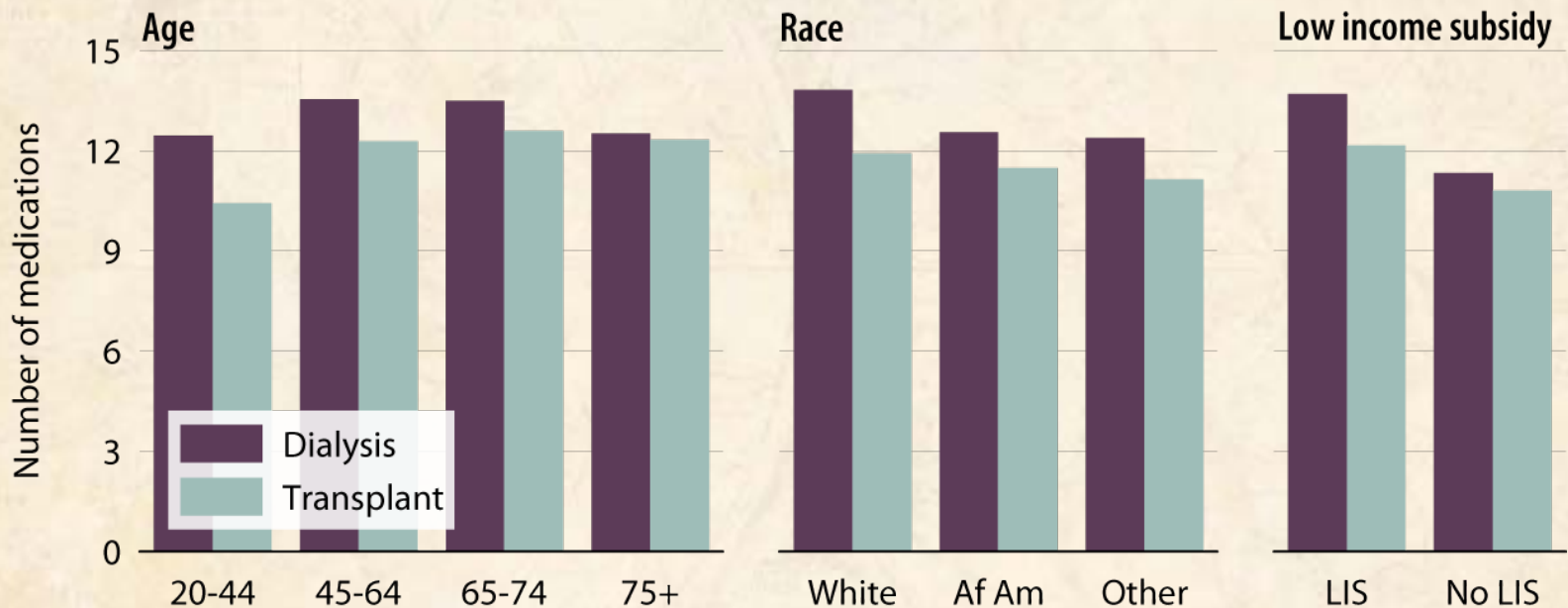
Figure 5.27 (Volume 2)



Jan.1, 2007 point
prevalent patients,
age 20+ (ESRD) and
age 66+ (non-ESRD)

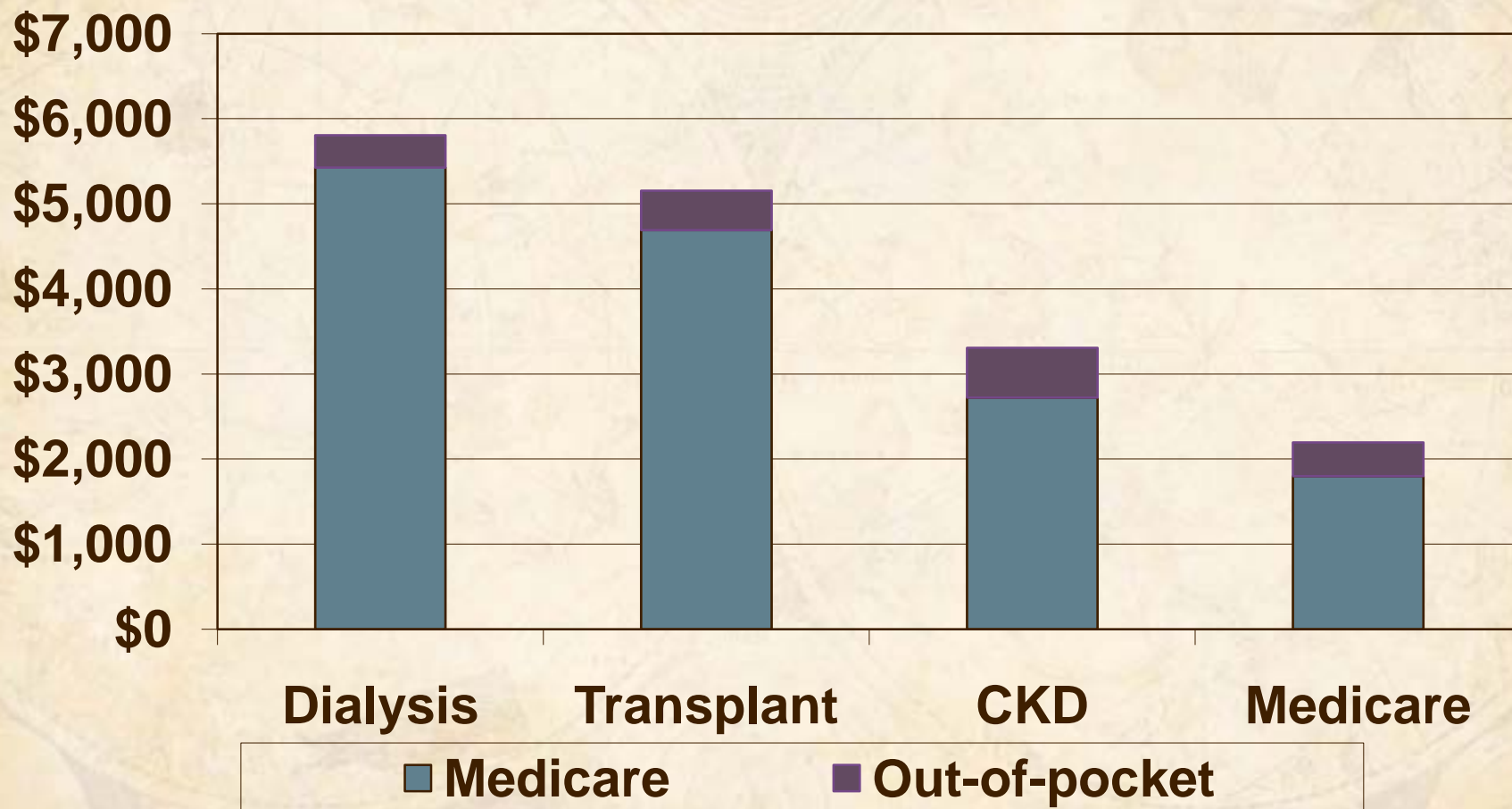
Cumulative number of Part D medications used by ESRD patients, by modality, age, race, & low income subsidy (LIS), 2007

Figure 5.28 (Volume 2)

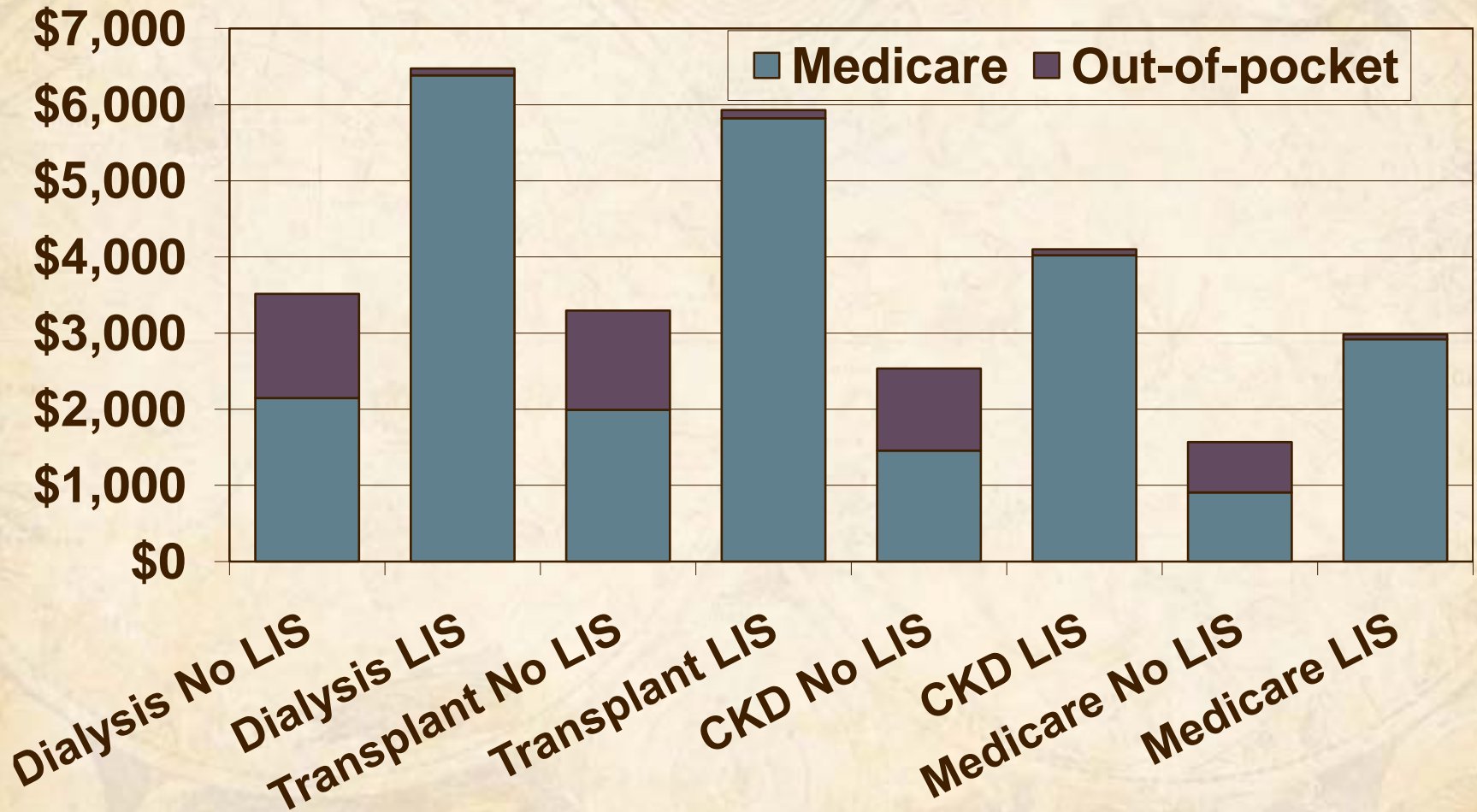


Jan.1, 2007 point prevalent ESRD patients, age 20+

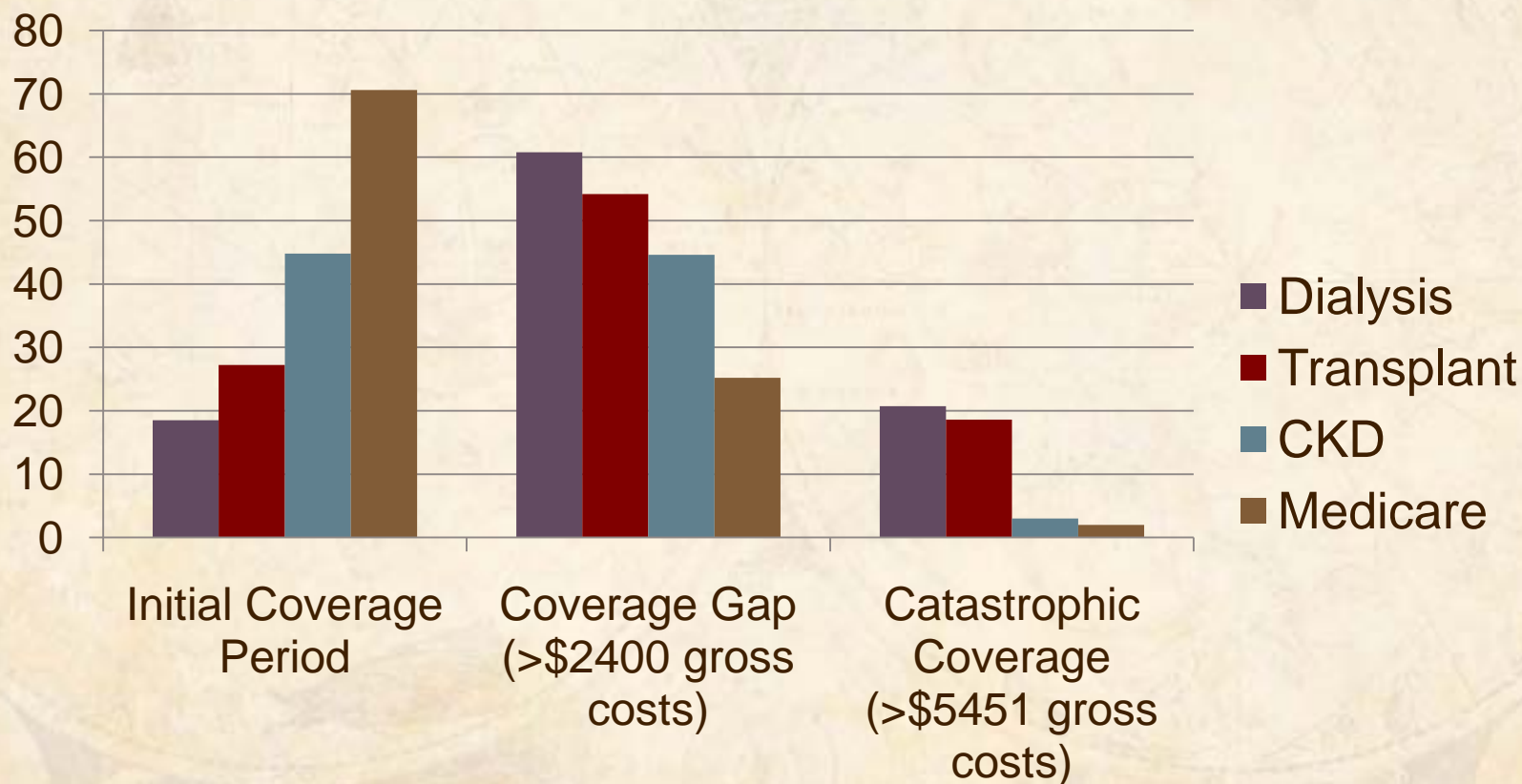
Net per capita Medicare and OOP expenditures for Part D benefits: 2007



Net per capita Medicare and OOP expenditures for Part D benefits: 2007, by LIS status



Approximate percent of non-LIS patients that reach each coverage phase



Top 25 Part D prescription drugs used in the ESRD population, by frequency & net cost

Table 11.a (continued: Volume 2)

By frequency

1. Metoprolol
2. Insulin
3. Sevelamer HCl
4. Amlodipine
5. Hydrocodone-Acetaminophen
6. Calcium Acetate
7. Clonidine
8. Lisinopril
9. Cinacalcet

st (\$)

8,459
 8,972
 8,191
 8,276
 8,651
 8,569
 8,949
 8,931
 8,564
 8,616
 8,323
 8,364
 8,865
 8,948
 8,287
 8,837
 8,263
 8,873
 8,935
 8,908
 8,406
 8,172
 8,349
 8,808
 8,802

Includes Part D claims for all ESRD patients beginning at the latest of first ESRD service date or January 1, 2007 & continuing until the earliest of death or Dec. 31, 2007, regardless of payor status. Costs are estimated Medicare payment, defined as the sum of the plan covered payment amount & low income subsidy amount.

Top 25 Part D prescription drugs used in the ESRD population, by frequency & net cost

Table 11.a (continued; Volume 2)

2007

By frequency

Generic name

Metoprolol Tartrate
 Insulin
 Sevelamer HCl
 Amlodipine Besylate
 Hydrocodone-Acetaminophen
 Calcium Acetate
 Clonidine HCl
 Lisinopril
 Cinacalcet HCl
 Atorvastatin Calcium
 Furosemide
 Levothyroxine Sodium
 Clopidogrel Bisulfate
 Warfarin Sodium
 Simvastatin
 Prednisone
 Nifedipine
 Carvedilol
 Omeprazole
 Gabapentin
 Pantoprazole Sodium
 Isosorbide Mononitrate
 Atenolol
 Metoclopramide HCl
 Oxycodone w/acetaminophen

By net cost

1. Sevelamer
2. Cinacalcet
3. Insulin
4. Lanthanum carbonate
5. Valganciclovir
6. Clopidogrel
7. Atorvastatin
8. Calcium acetate
9. Amlodipine

claims for all beginning at ESRD January 1, ending until the end of the calendar year or Dec. 31, of the calendar year of payor enrollment. Net cost is the estimated net amount, defined as the net amount paid by the plan at the end of the calendar year & net of any out-of-pocket amount.

Cardiovascular Medications

% of Part D-enrolled dialysis patients on CV medications, 2007

Figure 5.29 (Volume 2)

How does that compare to prior years?

	ACEI or ARB	Beta Blocker	CCB
USRDS DMMS Wave 2, 1998	19%	9%	48%
*DCI, 2003	44%	43%	45%
USRDS Part D, 2007	51%	62%	51%

*Manley H, et al. *NDT* 2004; 19:1842.

% of Part D-enrolled dialysis pts on lipid lowering agents, by race, 2007

Figure 5.31 (Volume 2)

How does this compare to prior years?

16.6% were on statins in 2000

DOPPS data; random sample of prevalent U.S. dialysis patients

Andreucci VE, et al. *Am J Kidney Dis* 44(S2):S61-S67.

January 1, 2007 point prevalent ESRD patients age 20 & older.

Prescription drug therapy in dialysis patients with cardiovascular disease, 2007

Table 9.a (Volume 2)

CHF

ACEI or ARB	46.7%
Beta Blocker	60.7%
ACEI or ARB + Beta blocker	35.3%
Digoxin	6.9%
Spironolactone	1.0%
Eplerenone	0.0%
Statins	35.5%

CABG
679

57.0
75.6
50.5
0.0
5.0
0.9
0.0
32.0
10.3
2.4
0.3
1.9
1.5
0.7
62.3
17.4

January 1 point prevalent dialysis patients age 20 & older, with a first cardiovascular diagnosis or procedure between January 1 & November 30, 2007.

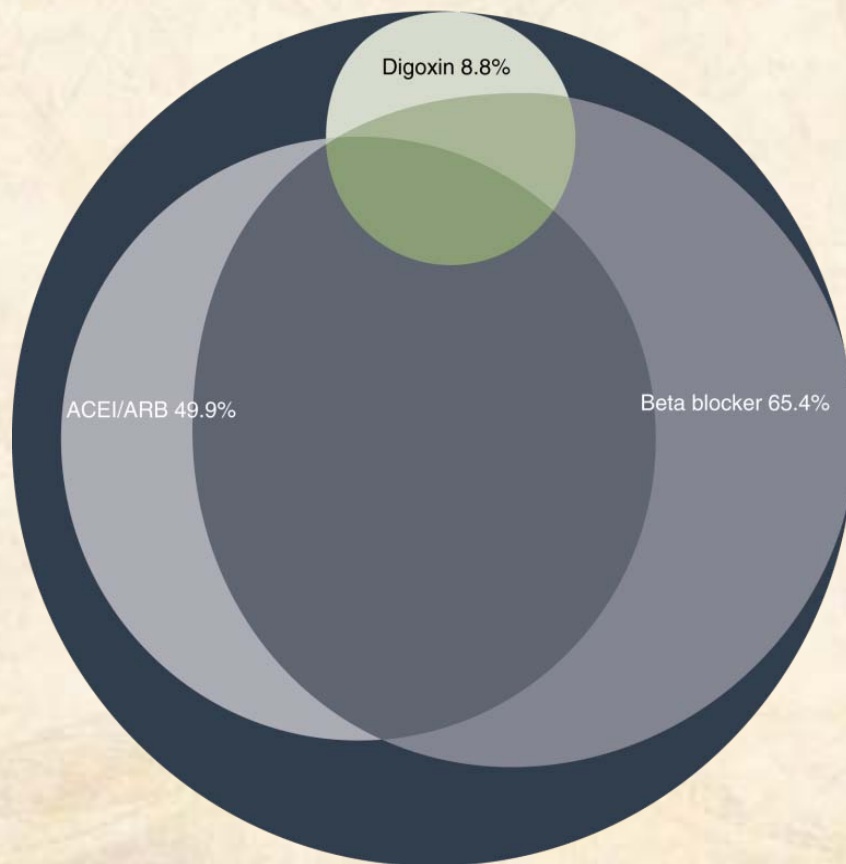
Prescription drug therapy in dialysis patients with cardiovascular disease, 2007

Table 9.a (Volume 2)

Atrial Fibrillation

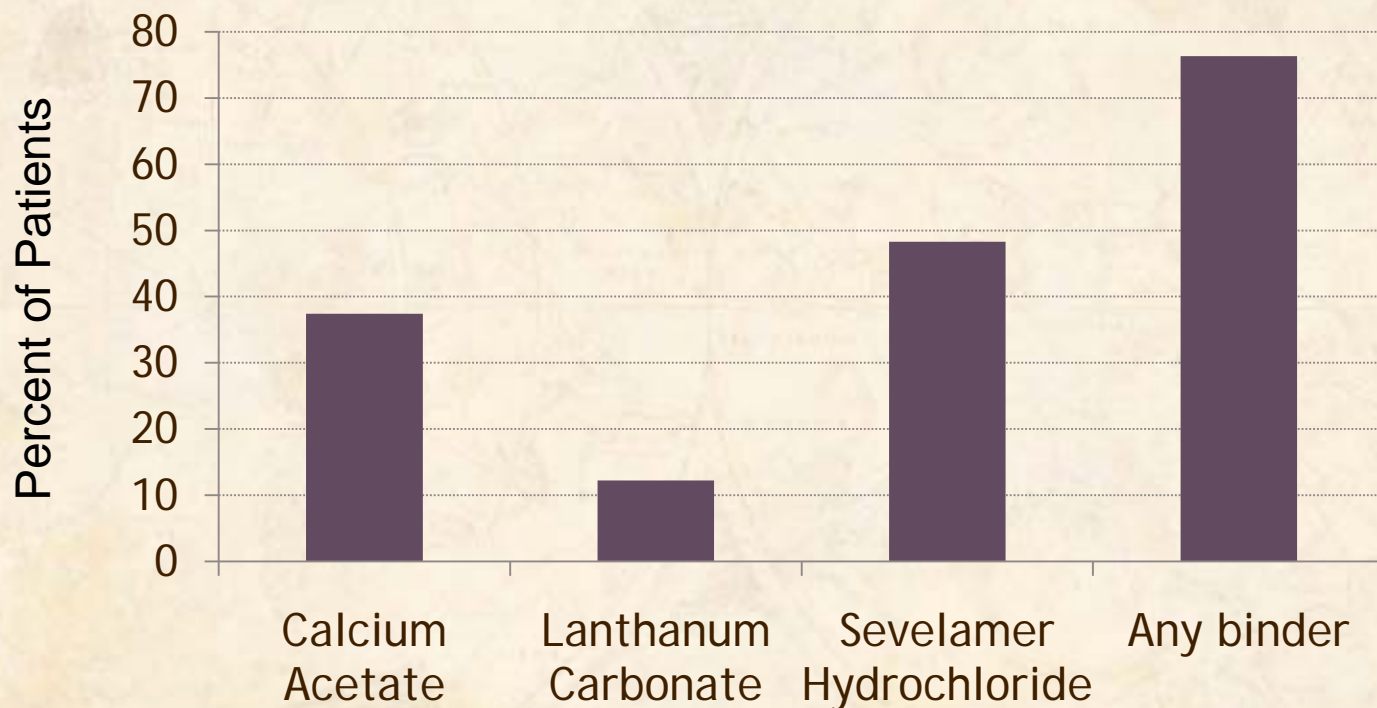
ACEI/ARB	ACEI or ARB	37.2%
Beta blocker	Beta Blocker	58.3%
ACEI/ARB+beta blocker	ACEI or ARB + Beta blocker	27.9%
L-Carnitine	Digoxin	15.1%
Digoxin	Clopidogrel	16.3%
Spirolactone	Warfarin	39.1%
Eplerenone	Clopidogrel + Warfarin	4.7%
Clopidogrel	Amiodarone	17.6%
Warfarin		
Clopidogrel+Warfarin		
Aggrenox		
Cilostazol		
Pentoxifylline		
Dipyridamole		
Statins		
Amiodarone		

Drug therapy in dialysis patients with CHF, 2007



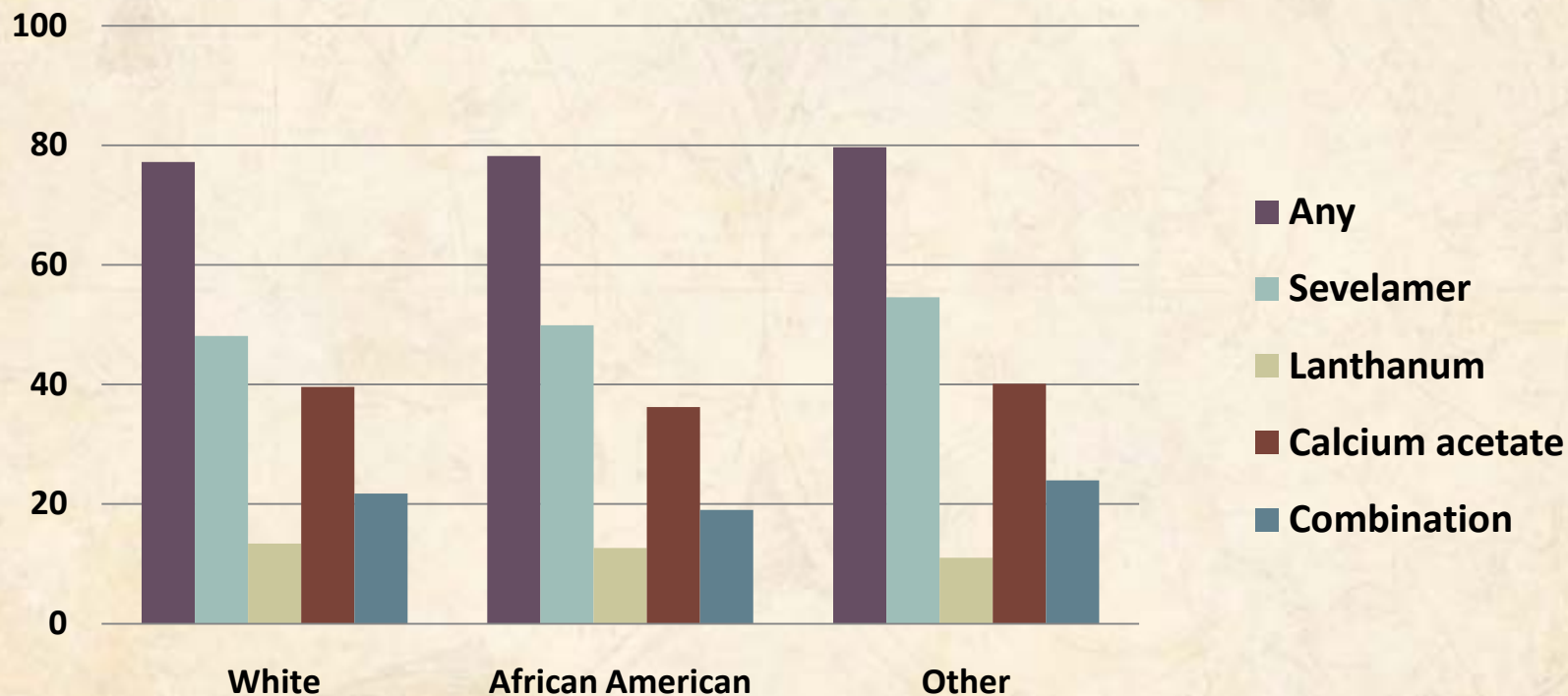
Phosphate Binders

Phosphate Binder Use (≥ 1 prescription)



% of Part D-enrolled dialysis patients on phosphate binders, by race, 2007

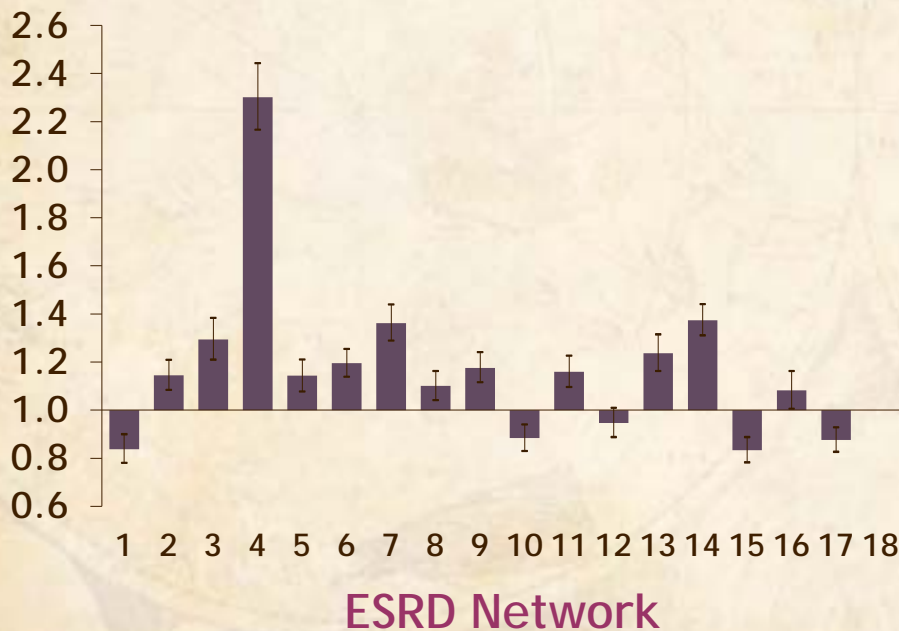
Figure 5.35 (Volume 2)



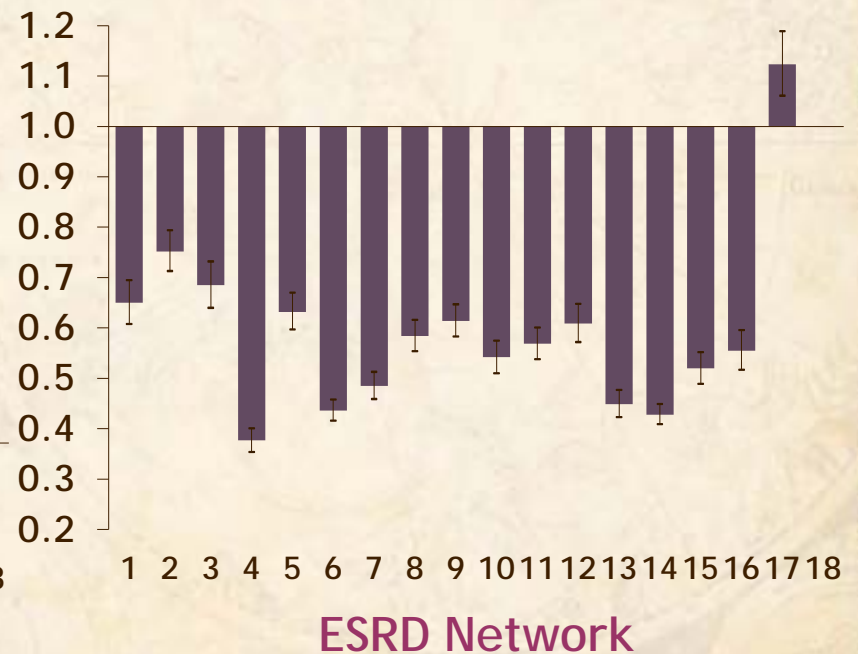
Jan.1, 2007 point prevalent ESRD patients, age 20+

Adjusted odds ratios of calcium acetate, sevelamer hydrochloride use across ESRD Networks (referent: Network 18, So. CA)

Calcium Acetate



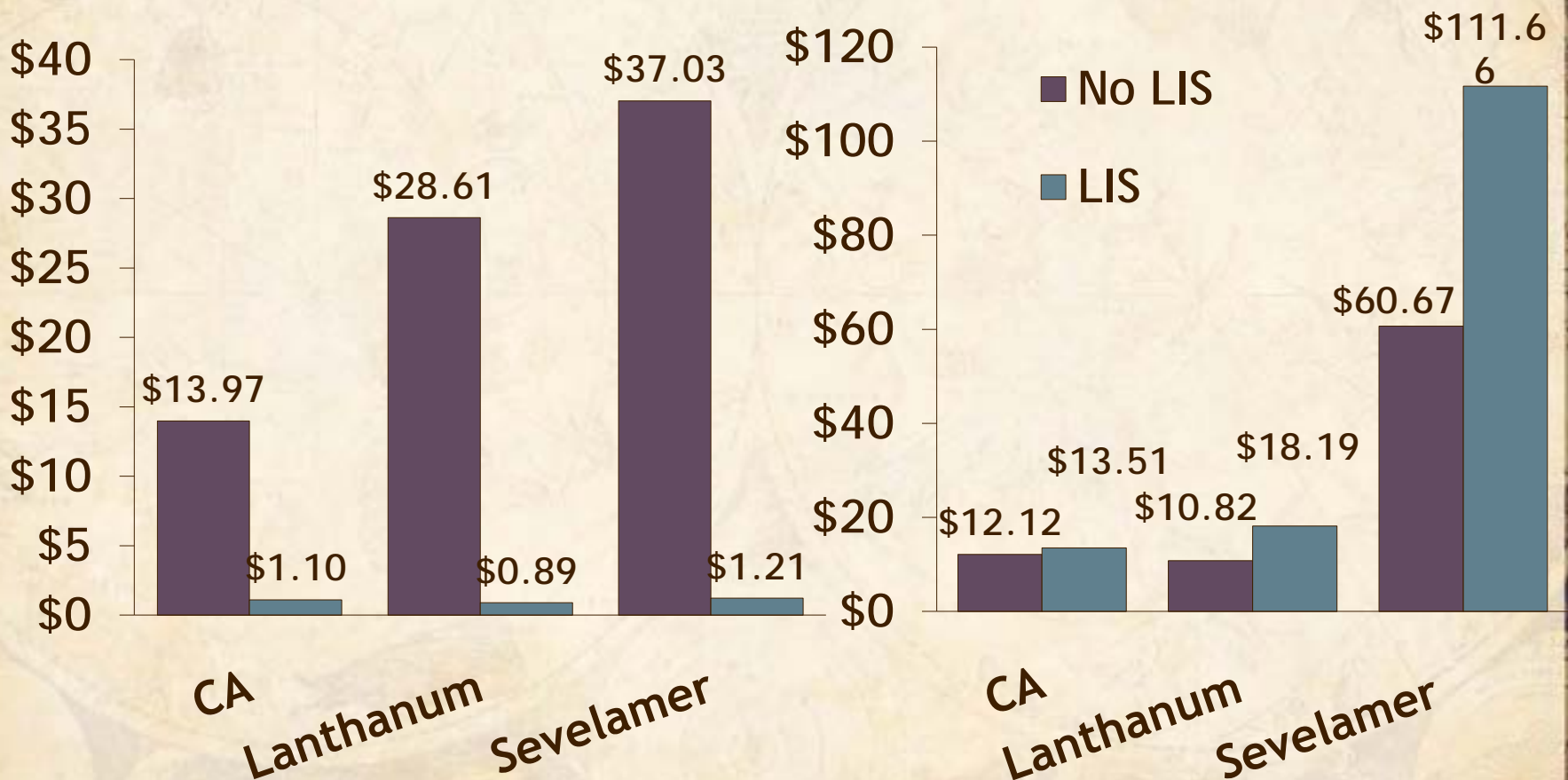
Sevelamer



Phosphate Binders

Out of pocket costs per user per month (left)

Gross costs per member per month (right)



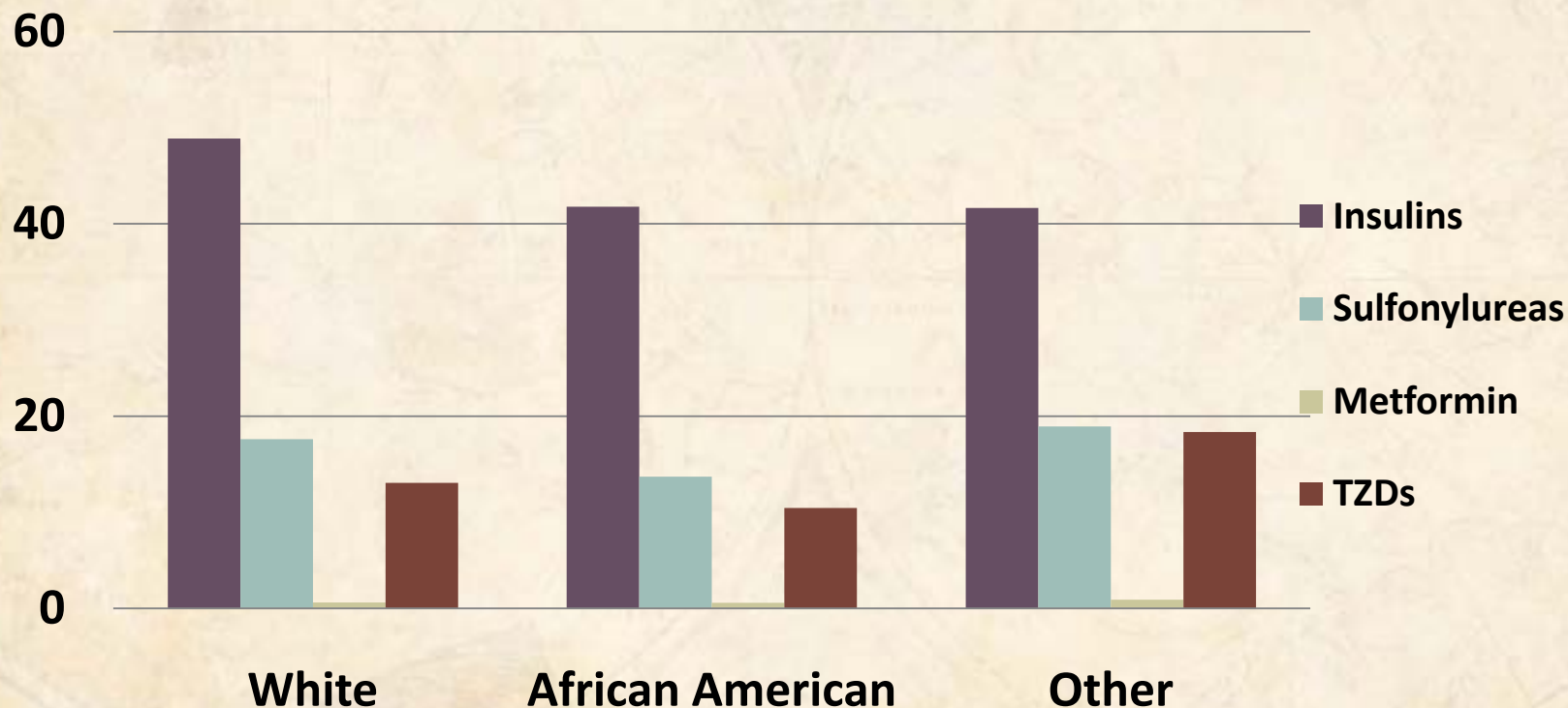
Diabetes Medications

Use of diabetes medications in dialysis patients with diabetes (≥ 1 prescription)

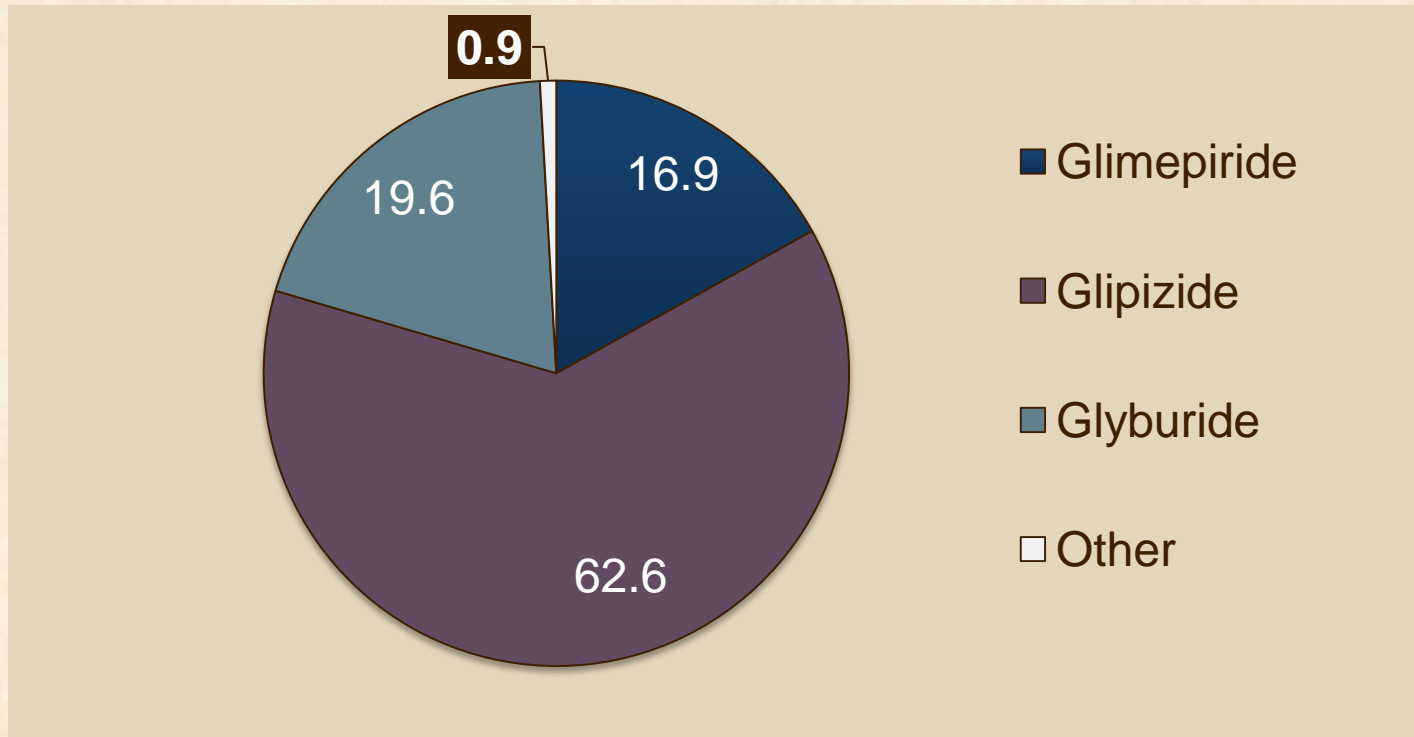


% of Part D-enrolled diabetic dialysis pts on diabetes agents, by race, 2007

Figure 5.37 (Volume 2)

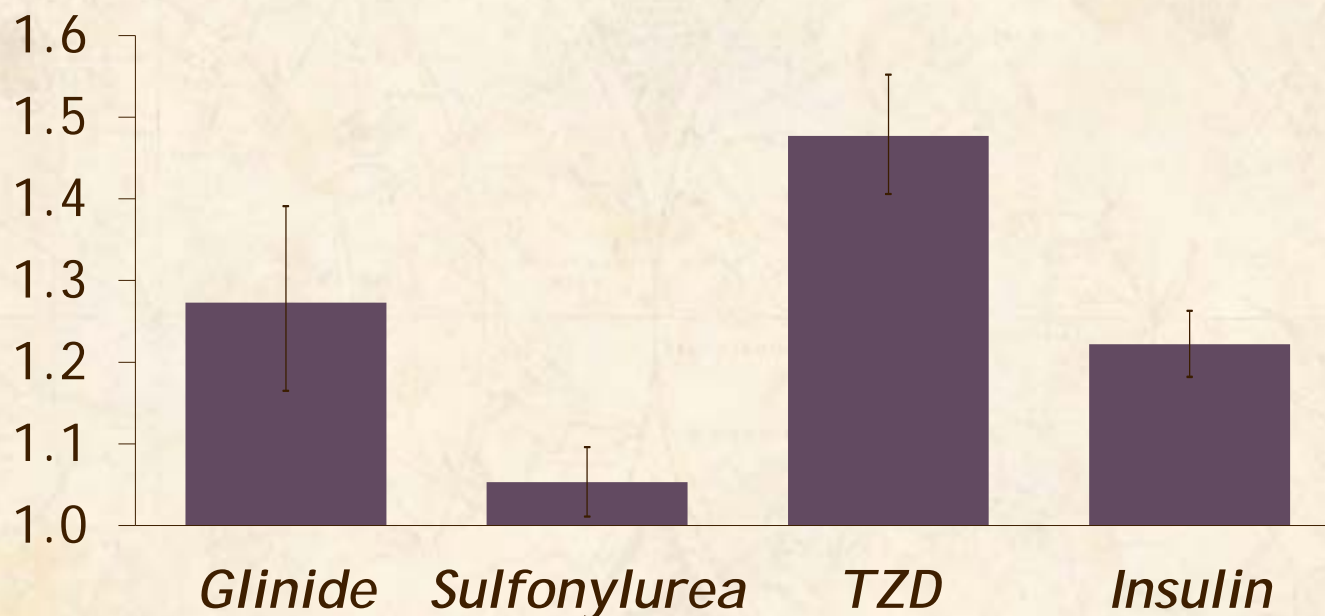


Distribution of use of individual sulfonylurea agents



Each prescription was weighted by the days of medication supplied

Adjusted odds ratios of antidiabetic medication (LIS vs. no LIS)



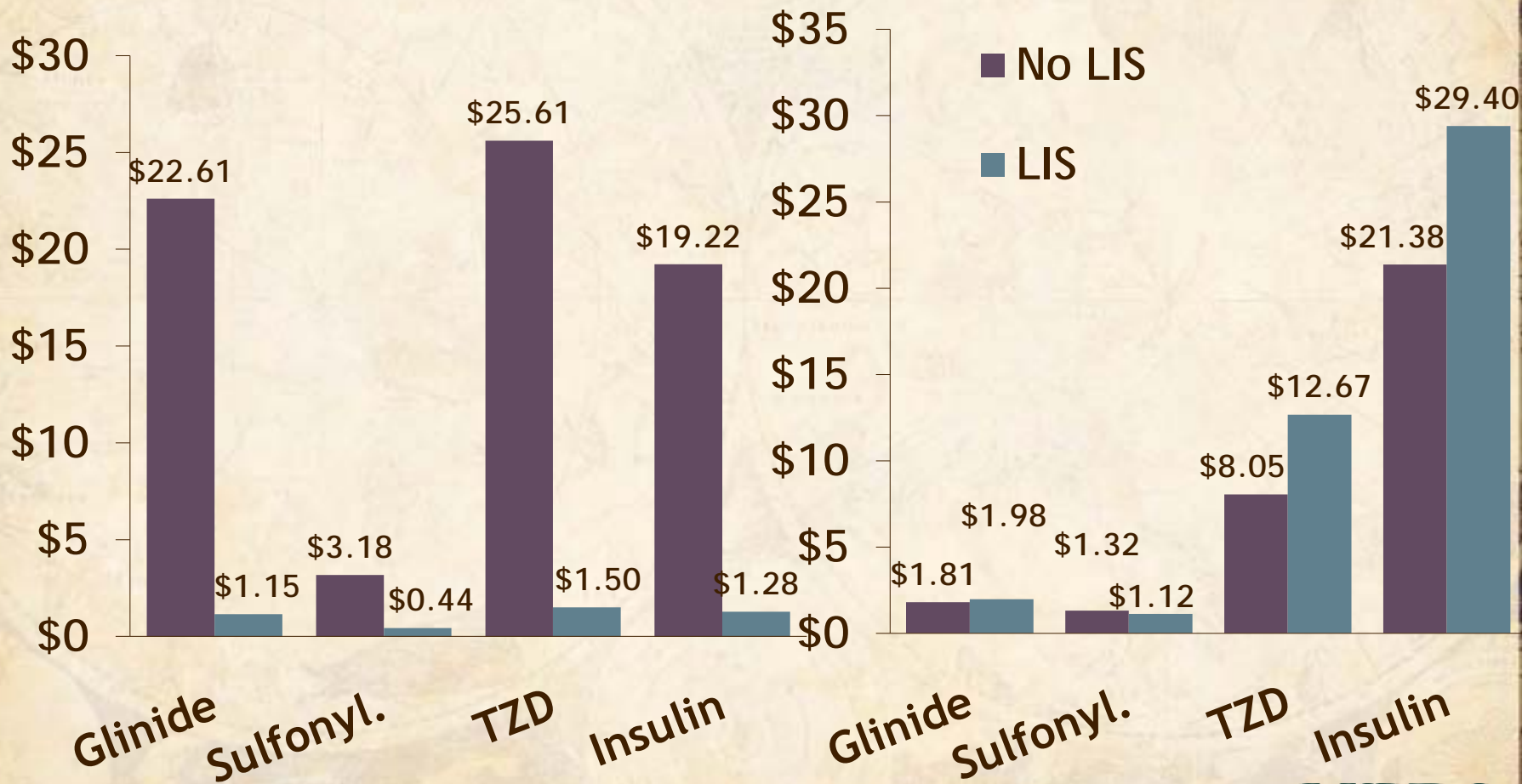
Adjusted for demographics, ESRD Network, LIS status, CV comorbidity and diabetes type

LIS = Low income subsidy status

Diabetes Medications

Out of pocket costs per user per month (left)

Gross costs per member per month (right)



Conclusions

- **Part D data allows for a more comprehensive analysis of oral medication use in dialysis/ESRD**
- **Wide variability in medication use patterns across ESRD networks**
- **Most dialysis patients enrolled in Part D have low income subsidy (LIS) status**
 - **LIS patients have more Part D medications**
 - **LIS patients have higher odds of having more expensive DM Part D meds than non LIS patients**
- **Beta blocker, ACEI/ARB and statin use have substantially increased substantially**
- **Non-calcium-based phosphate binder use predominates over calcium acetate use**

USRDS Posters or Free Communication Sessions on Medicare Part D

- **Use and Costs of ACEIs, ARBs and Renin Inhibitors in U.S. Adult Dialysis Patients with Medicare Part D in 2007 (TH-PO519)**
- **Sources of Drug Coverage among Medicare Beneficiaries with End-Stage Renal Disease (TH-PO094)**
- **Use and Costs of Anti-Diabetic Medications in U.S. Adult Dialysis Patients with Medicare Part D, 2007 (F-PO1515)**

USRDS Posters or Free Communication Sessions on Medicare Part D

- **Use and Costs of Phosphate Binders in U.S. Dialysis Patients with Medicare Part D in 2007 (F-PO1517)**
- **Medicare Part D Enrollment and Medication Use and Costs in US Dialysis Patients in 2007 (F-PO1506)**
- **Cardiovascular Medication Use in Kidney Transplant Patients in 2007 (SA-FC448)**