

The Impact of Medicare Part D on Drug  
Utilization and Out-of-Pocket Spending:  
Evidence from the Health and Retirement Study

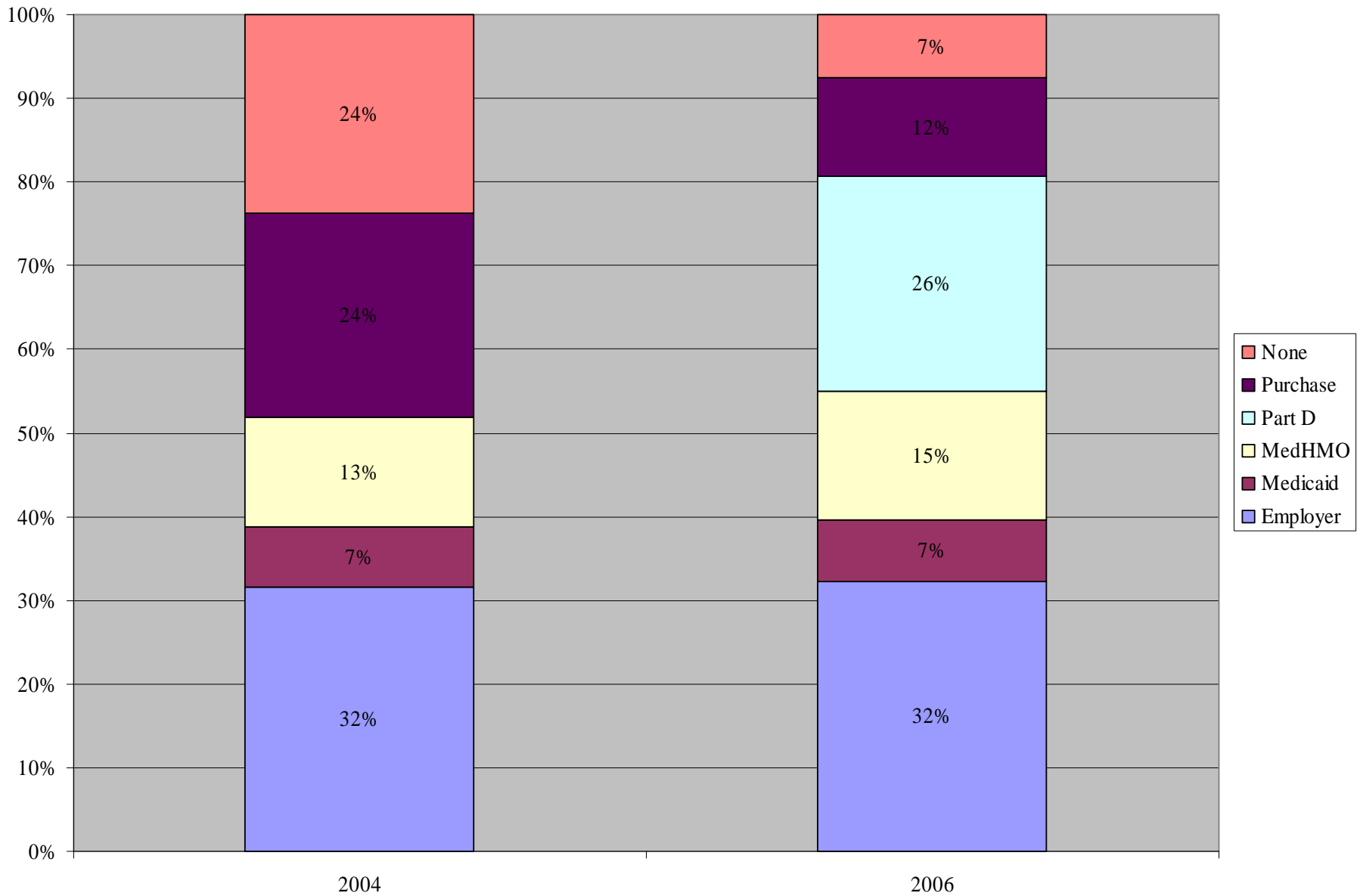
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# Outline of talk

- Background
- Data: The Health and Retirement Study
- Results
  1. Selection into Part D among the uninsured
  2. Changes in use
  3. Changes in unmet need
  4. Changes in OOP spending
  5. How generous is Part D compared to private coverage?

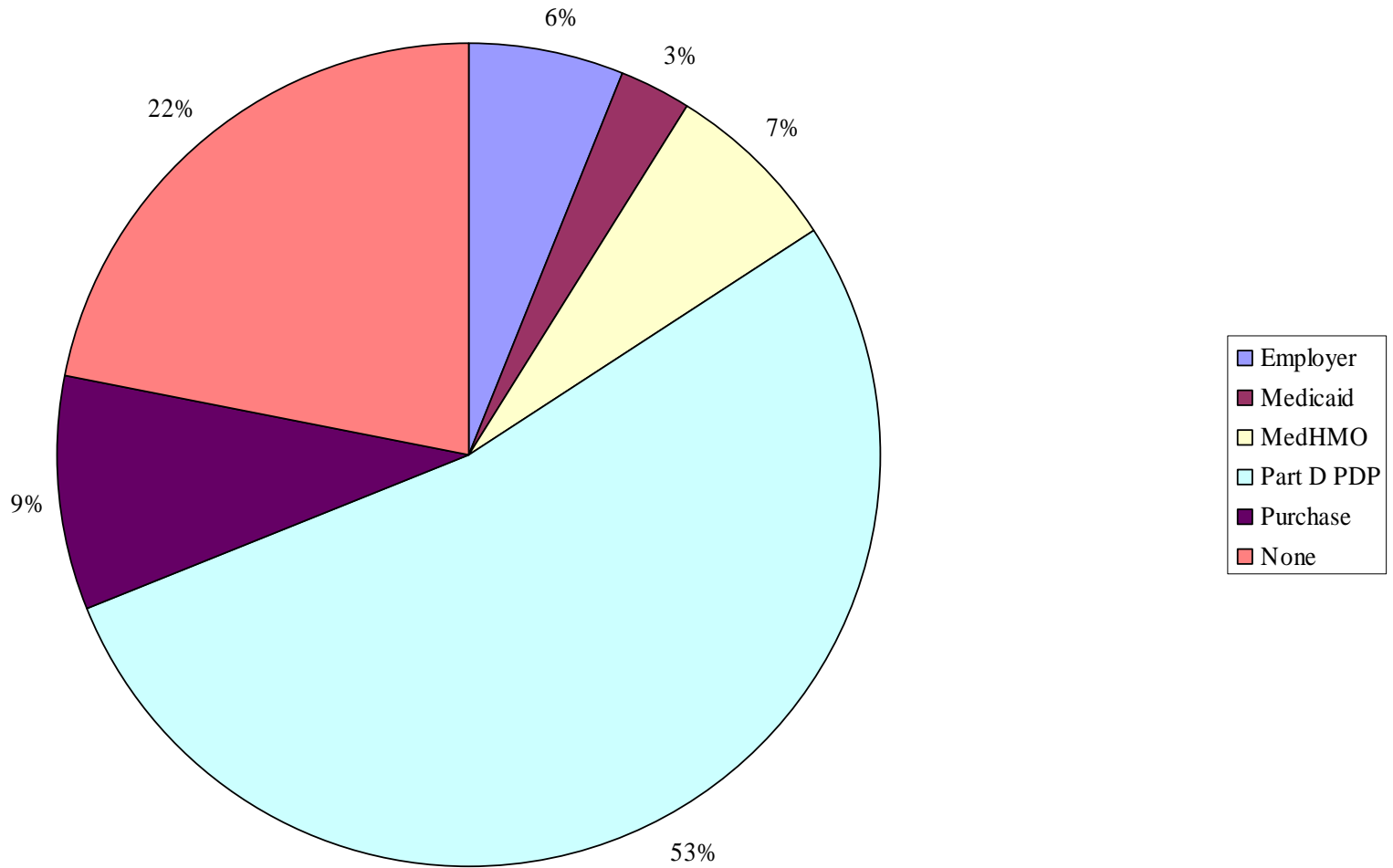
# Prescription drug coverage for Medicare beneficiaries in 2004 and 2006

Source: Health and Retirement Study



# 2006 prescription drug coverage of those with no coverage in 2004

Source: Health and Retirement Study, 2004 and 2006



# Background

- Medicare Part D had a huge effect on prescription drug coverage of the elderly.
- More than half of seniors with no drug coverage in 2004 were in stand-alone Part D plans in 2006.
- Another 10% had Part D coverage through Medicaid or a Medicare HMO.
- Existing studies based on pharmacy claims find significant increases in utilization and decreases in out-of-pocket spending (Lichtenberg & Sun 2007; Yin et al. 2008); Duggan & Morton (2008) find lower prices, higher use using data on all drug sales.
- What do panel data on individuals show?

# Data

- Health and Retirement Study, 2004 and 2006 waves
- Our sample: respondents 65 and older with Medicare in 2004 and 2006 (n=9,322)
- Drug coverage
- Regular prescription drug use
  - Hypertension, diabetes, heart conditions, stroke, psychiatric conditions
- Average monthly out-of-pocket spending for drugs
- Medication cutbacks due to cost
- Health, other employment demographic information

# Drug coverage in 2004 and 2006: sample n

2006 2004	Employer	Medicaid	MedHMO	Part D	Purchase	None	Total
Employer	<b>2,017</b>	36	176	276	290	57	2,911
Medicaid	21	605	37	127	40	18	848
MedHMO	132	38	<b>794</b>	85	73	17	1,139
Purchase	594	125	192	734	441	128	2,214
None	133	94	157	<b>1,147</b>	210	<b>469</b>	2,210
Total	2,956	898	1,356	2,369	1,054	689	9,322

# 1. Selection into Part D among the uninsured

- Respondents with no drug coverage in 2004 who enrolled in stand-alone Part D were more likely in 2004 to take drugs regularly and had higher out-of-pocket spending in 2004 than those who remained uninsured.
- In other words, there is adverse selection into Part D.

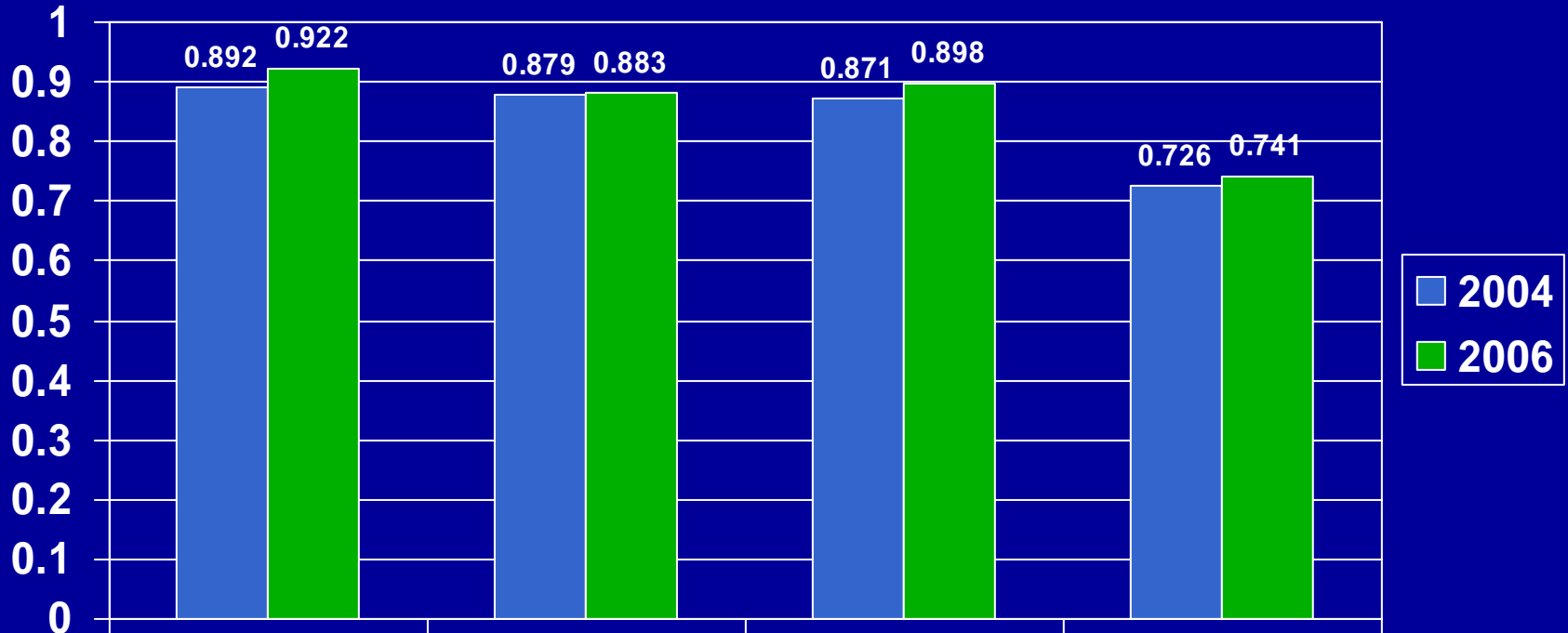
Table 3: 2004 characteristics of respondents with no drug coverage in 2004, by 2006 coverage

	Employer	Medicaid	Drug coverage in 2006:				Total
			MedHMO	Part D PDP	Purchase	None	
Regular Rx use in 2004	0.811	0.773	0.782	0.871	0.807	0.726	0.821
Number of Rx	1.1	1.0	1.1	1.2	1.0	0.9	1.1
>3 regular Rx	0.059	0.012	0.023	0.061	0.023	0.017	0.044
Out-of-pocket drug spending							
Any?	0.783	0.745	0.772	0.857	0.783	0.708	0.804
25th percentile	7	0	6	25	8	0	15
50th percentile	44	65	60	100	48	33	60
75th percentile	100	200	168	200	130	100	175
90th percentile	300	350	300	400	300	250	317
# of Rx/# of conditions	0.756	0.713	0.816	0.791	0.776	0.745	0.778
Cut back because of costs?	0.046	0.292	0.106	0.122	0.138	0.076	0.112
Fair or poor health	0.195	0.503	0.239	0.287	0.309	0.200	0.267
Age	78.3	77.0	77.2	77.0	78.2	77.6	77.3
n	133	94	157	1,147	210	469	2,210

## 2. Changes in use for the newly insured versus the consistently insured or uninsured

- The probability of regular Rx use increases significantly by about the same amount for all four groups.
- So does the number of medications.
- In other words, Part D did not have a significant effect on (these measures of) use.

# Fraction with regular Rx use in 2004 and 2006, by insurance status



EHI

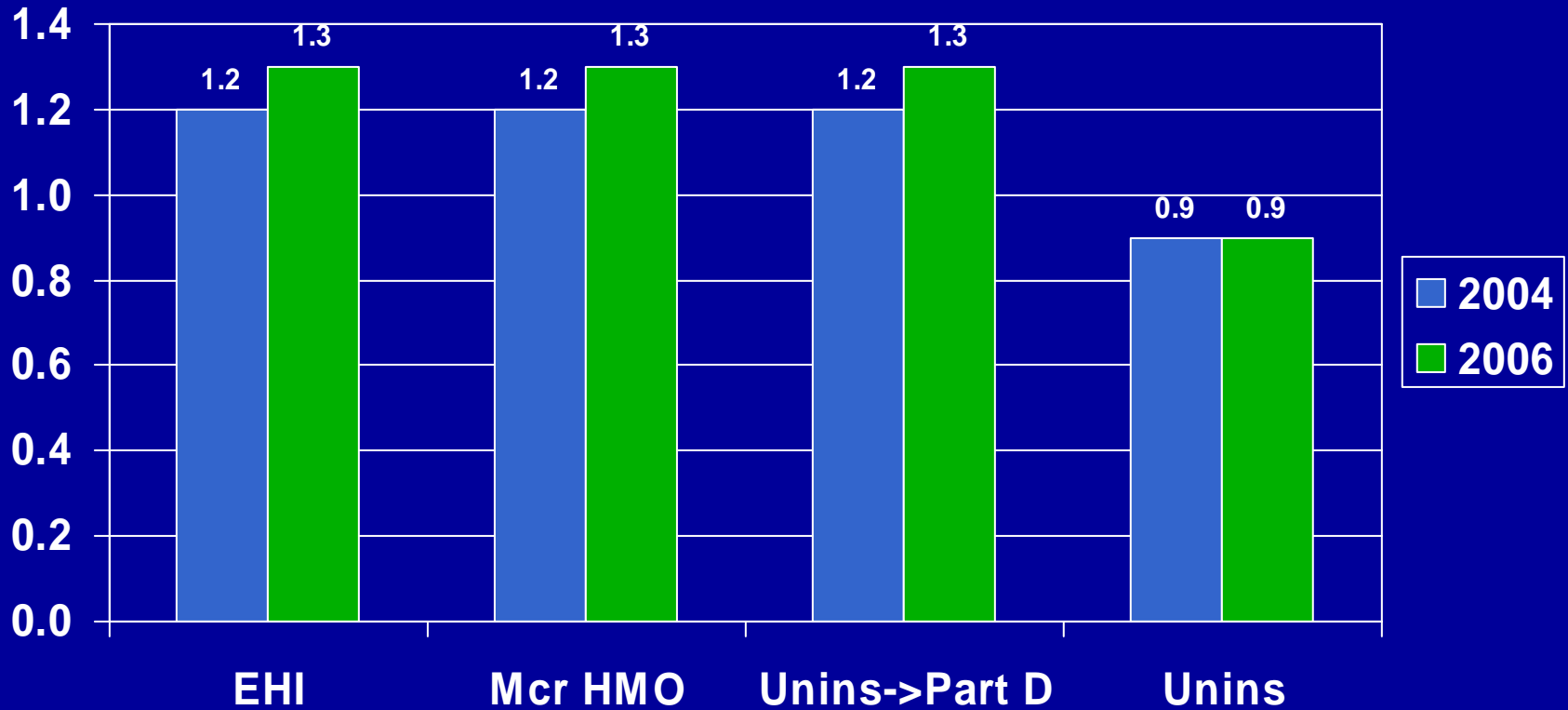
Mcr HMO

Unins->Part D

Unins

Drug coverage in 2004 & 2006

# Average number of medications in 2004 and 2006, by insurance status



Drug coverage in 2004 & 2006

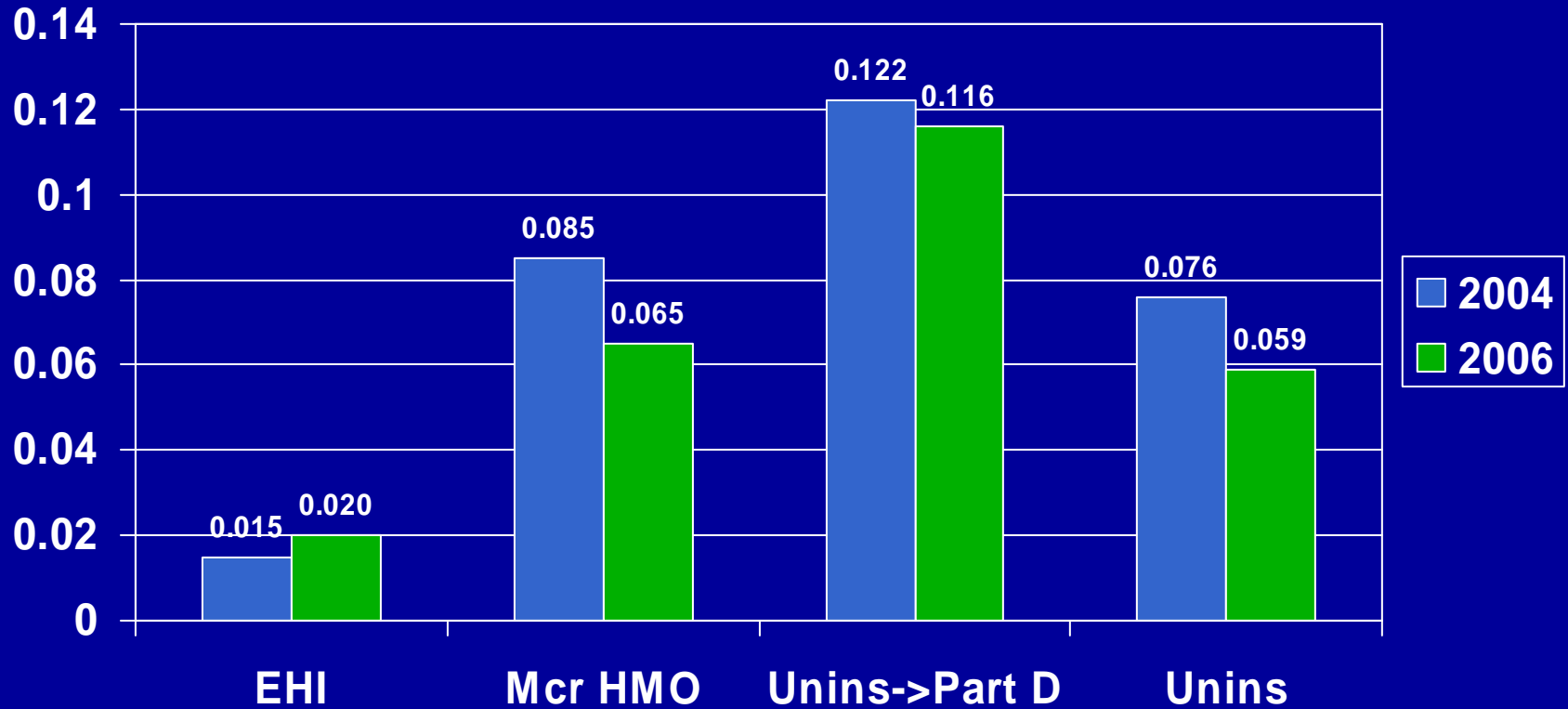
## 2. Changes in use for the newly insured versus the consistently insured or uninsured

- These patterns are consistent across four of the specific conditions (hypertension, diabetes, heart conditions, psychiatric conditions), but not stroke
  - Most stroke patients also have high blood pressure or heart disease, and medications are often the same.
- Results are consistent with more detailed supplemental data available for about a quarter of the sample.

### 3. Changes in unmet need

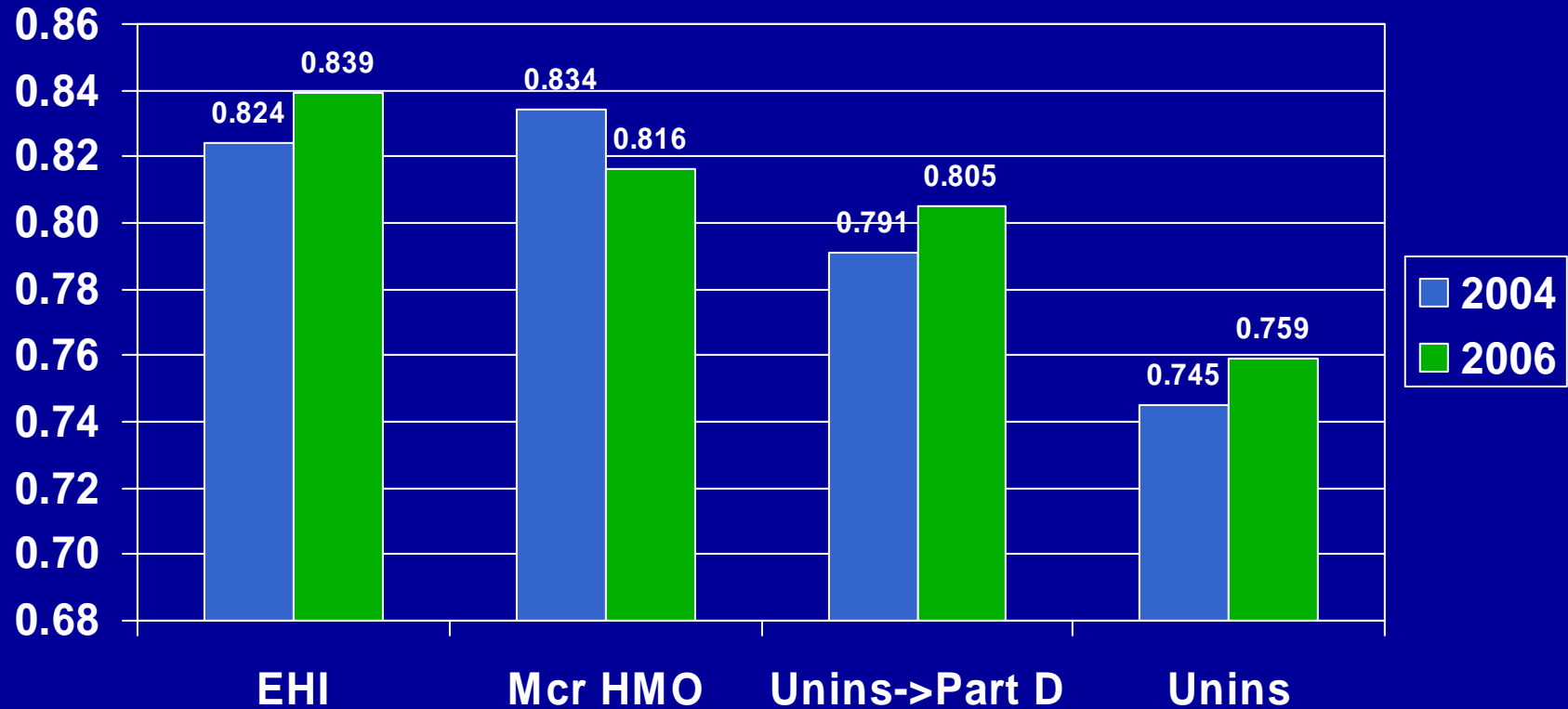
- The probability of cutting back on medications due to cost does not change for previously uninsured Part D enrollees.
  - Caveat about question wording: “At any time *in the last two years* have you ended up taking less medication than was prescribed for you because of the cost?”
- “Medication intensity” (# of medications/# of conditions) also does not change significantly.

# Fraction with cutbacks due to cost in 2004 and 2006, by insurance status



Drug coverage in 2004 & 2006

# # of medications/# of conditions in 2004 and 2006, by insurance status

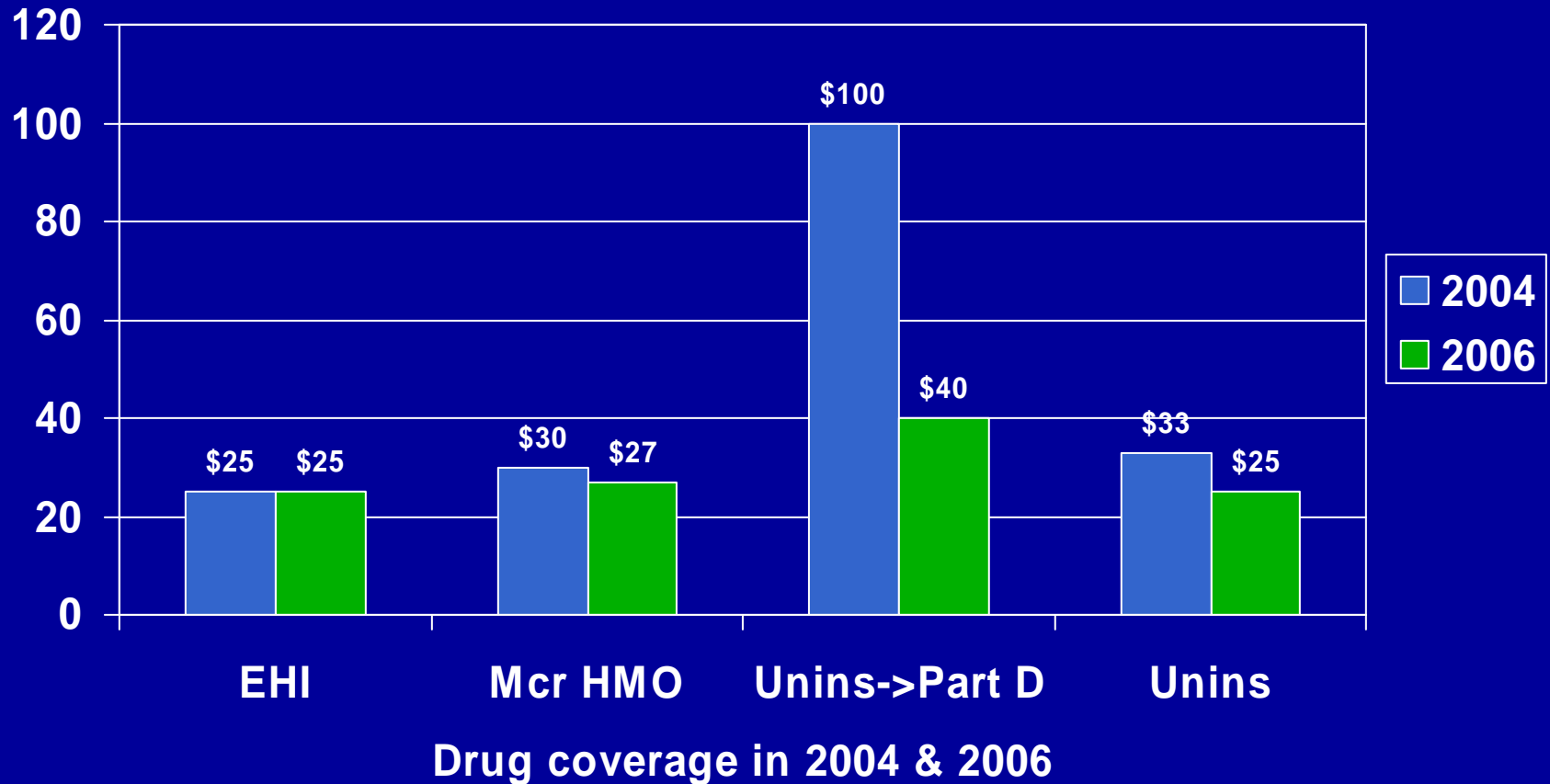


Drug coverage in 2004 & 2006

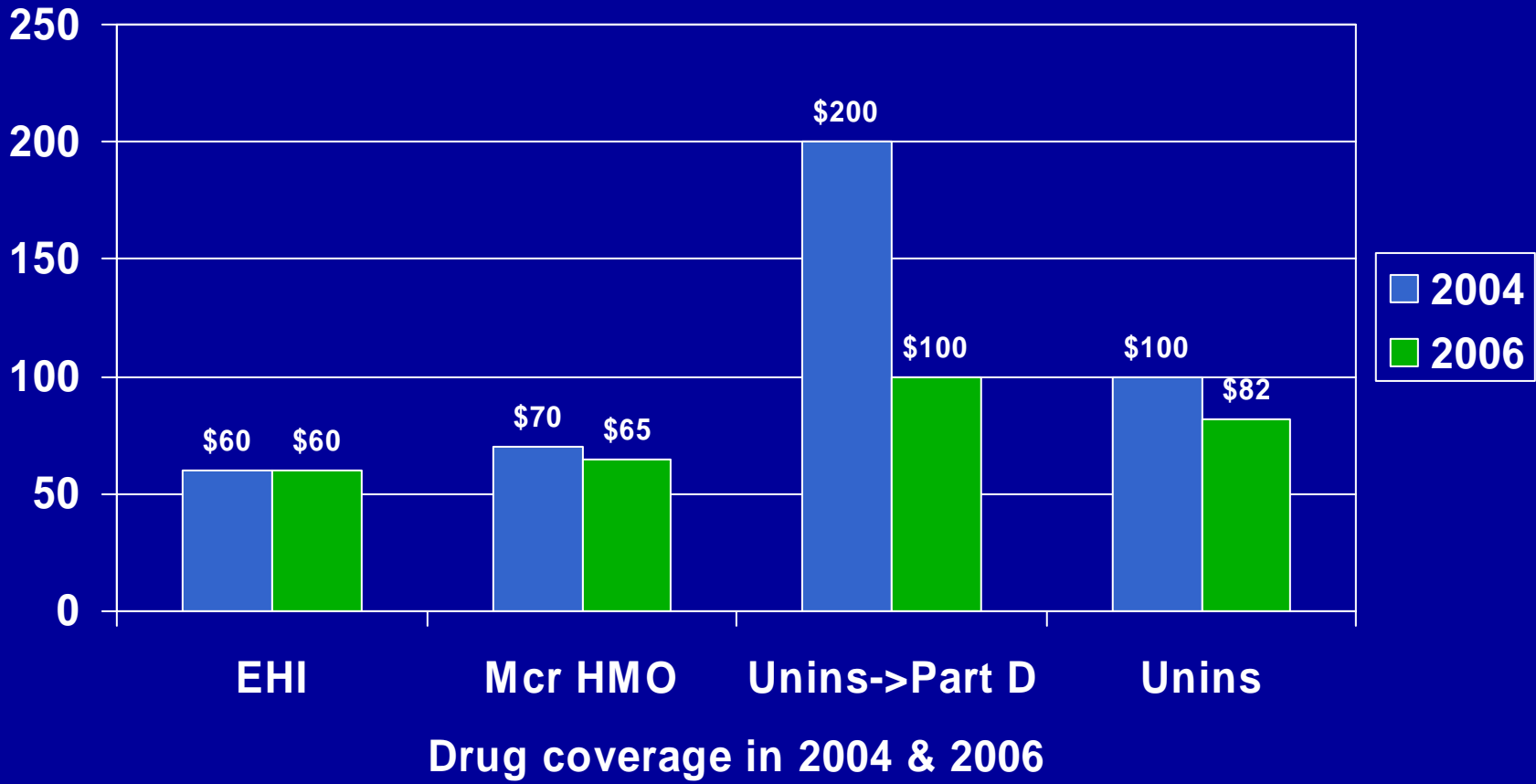
## 4. Changes in out-of-pocket drug spending

- Out-of-pocket drug spending declines significantly for those newly enrolled in Part D.
- It did not really change for the other groups.
- Exception: 90<sup>th</sup> percentile for Medicare HMO enrollees.
- The median decline is \$30 for new Part D enrollees and 0 for the other groups.

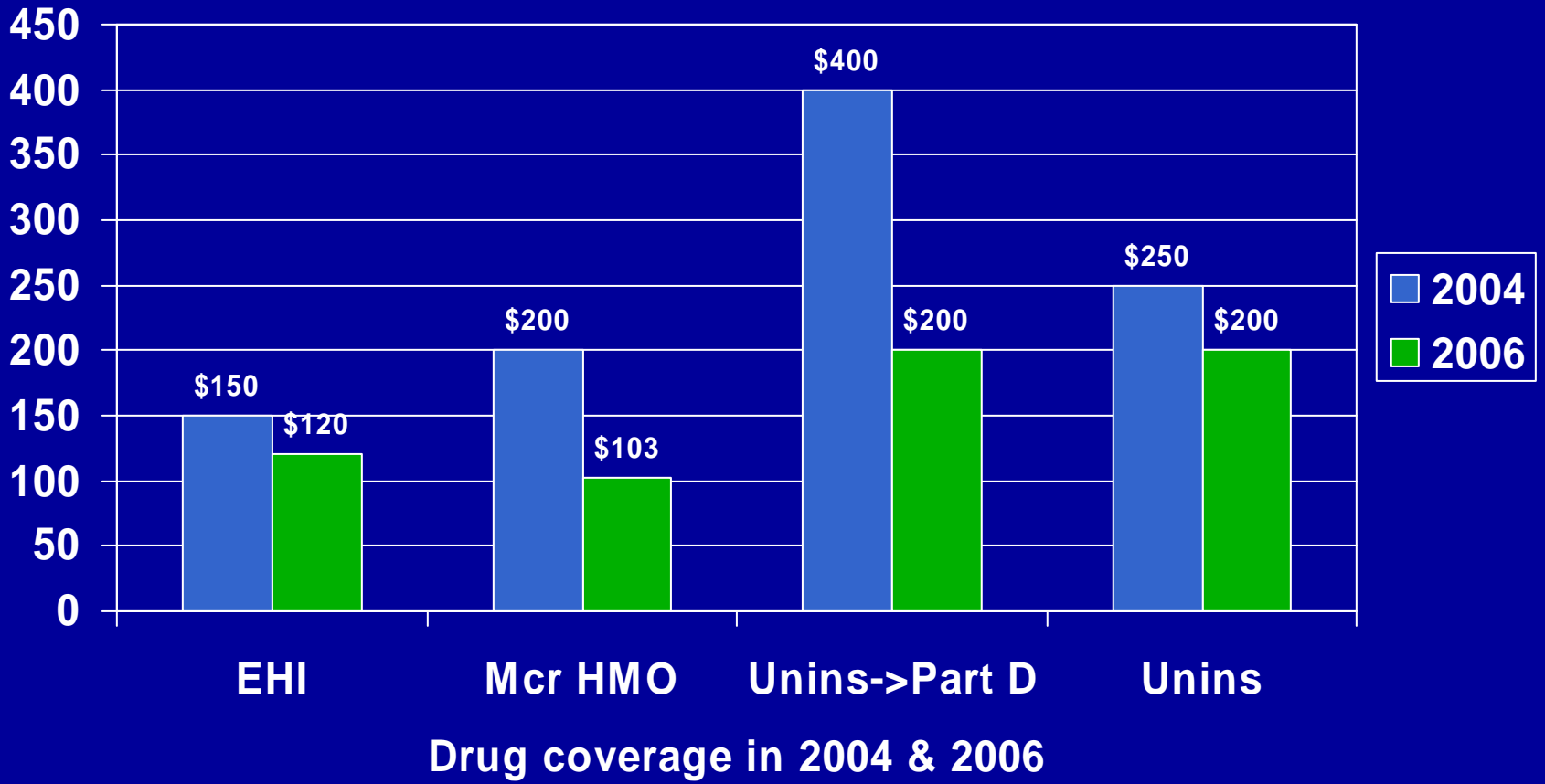
# Median out-of-pocket drug spending in 2004 and 2006, by insurance status



# 75<sup>th</sup> percentile of o.o.p. drug spending in 2004 and 2006, by insurance status



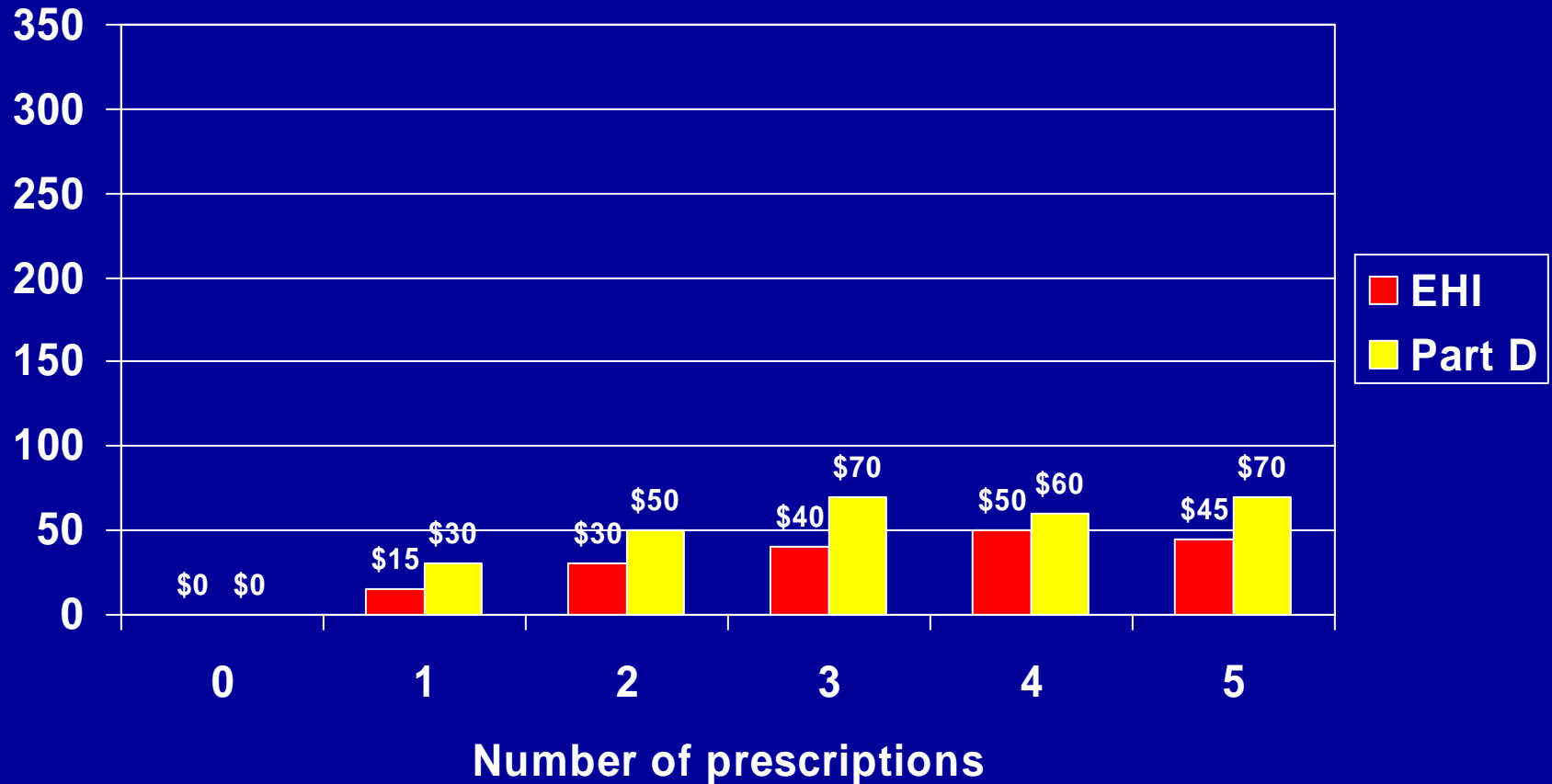
# 90<sup>th</sup> percentile of o.o.p. drug spending in 2004 and 2006, by insurance status



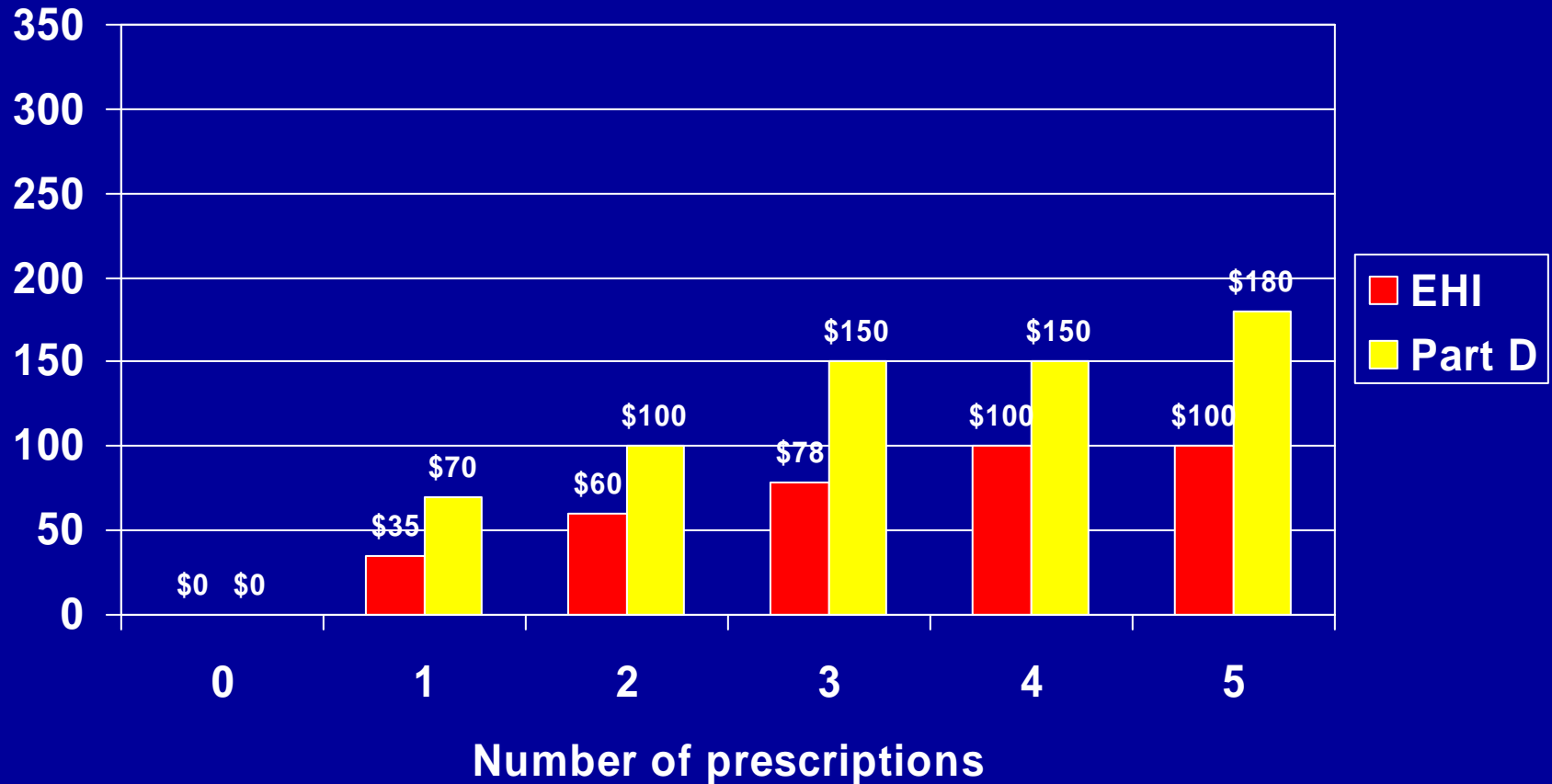
## 5. How generous is Part D compared to employer coverage?

- How much does out-of-pocket spending increase with number of prescriptions taken for those with Part D compared to those with employer coverage?

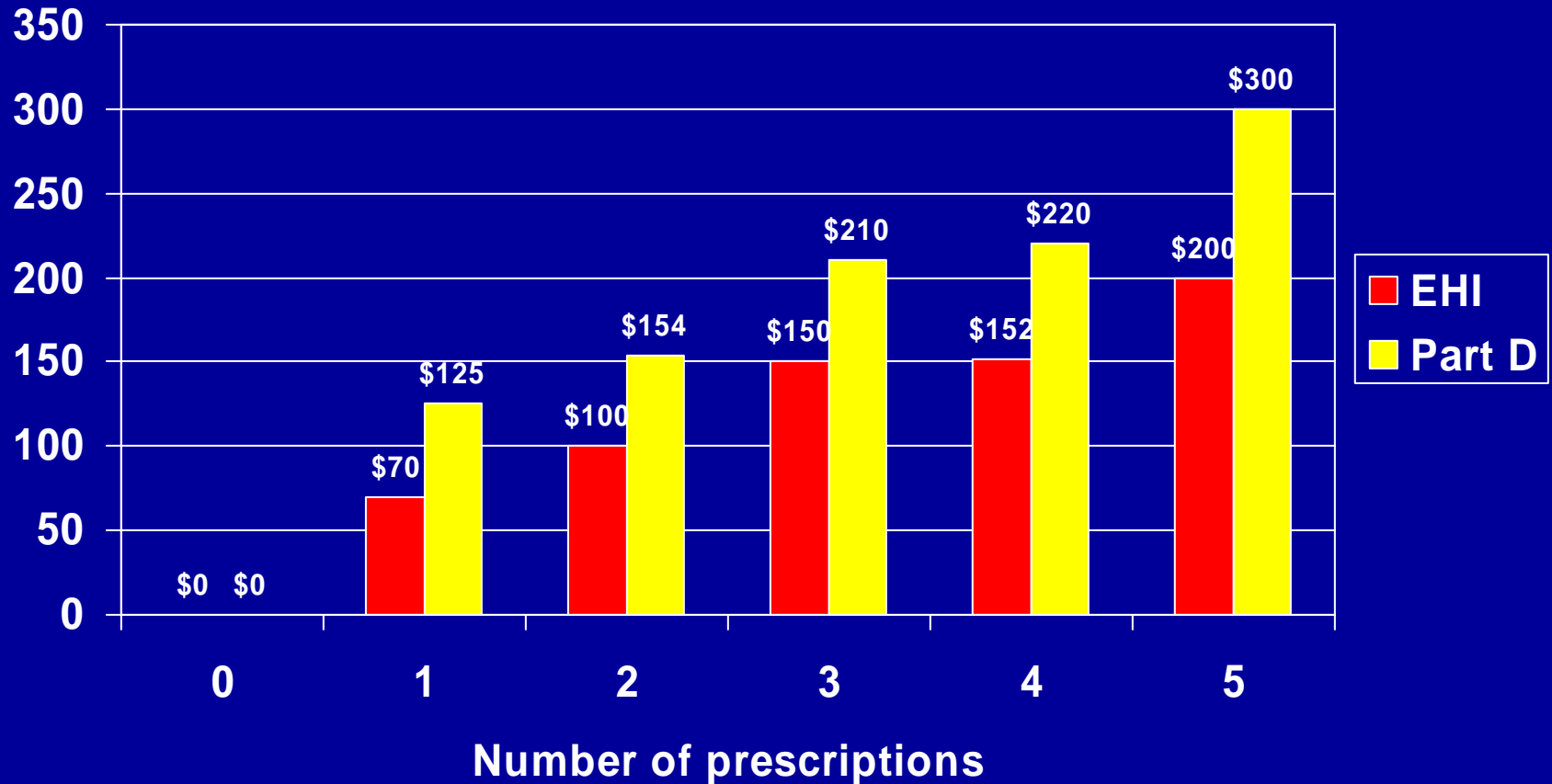
# Median o.o.p. Rx spending as a function of number of conditions, EHI versus Part D



# 75<sup>th</sup> %ile o.o.p. Rx spending as a function of number of conditions, EHI versus Part D



# 90<sup>th</sup> %ile o.o.p. Rx spending as a function of number of conditions, EHI versus Part D



## 5. How generous is Part D compared to employer coverage?

- Linear quantile regression models with controls for age and health status suggest that marginal out-of-pocket spending for additional prescriptions are as follows:

	EHI	Part D
Median	\$9.6	\$17.0
75 <sup>th</sup> percentile	\$16.0	\$29.3
90 <sup>th</sup> percentile	\$30.8	\$50.0

# Conclusions

- We find small increases in utilization as a result of Medicare Part D.
- These increases are not significantly larger than those experienced by beneficiaries who consistently had employer coverage.
- Out-of-pocket spending on drugs declined significantly for new Part D enrollees.
- Medication cutbacks remain almost as prevalent among new Part D enrollees as they were in 2004.

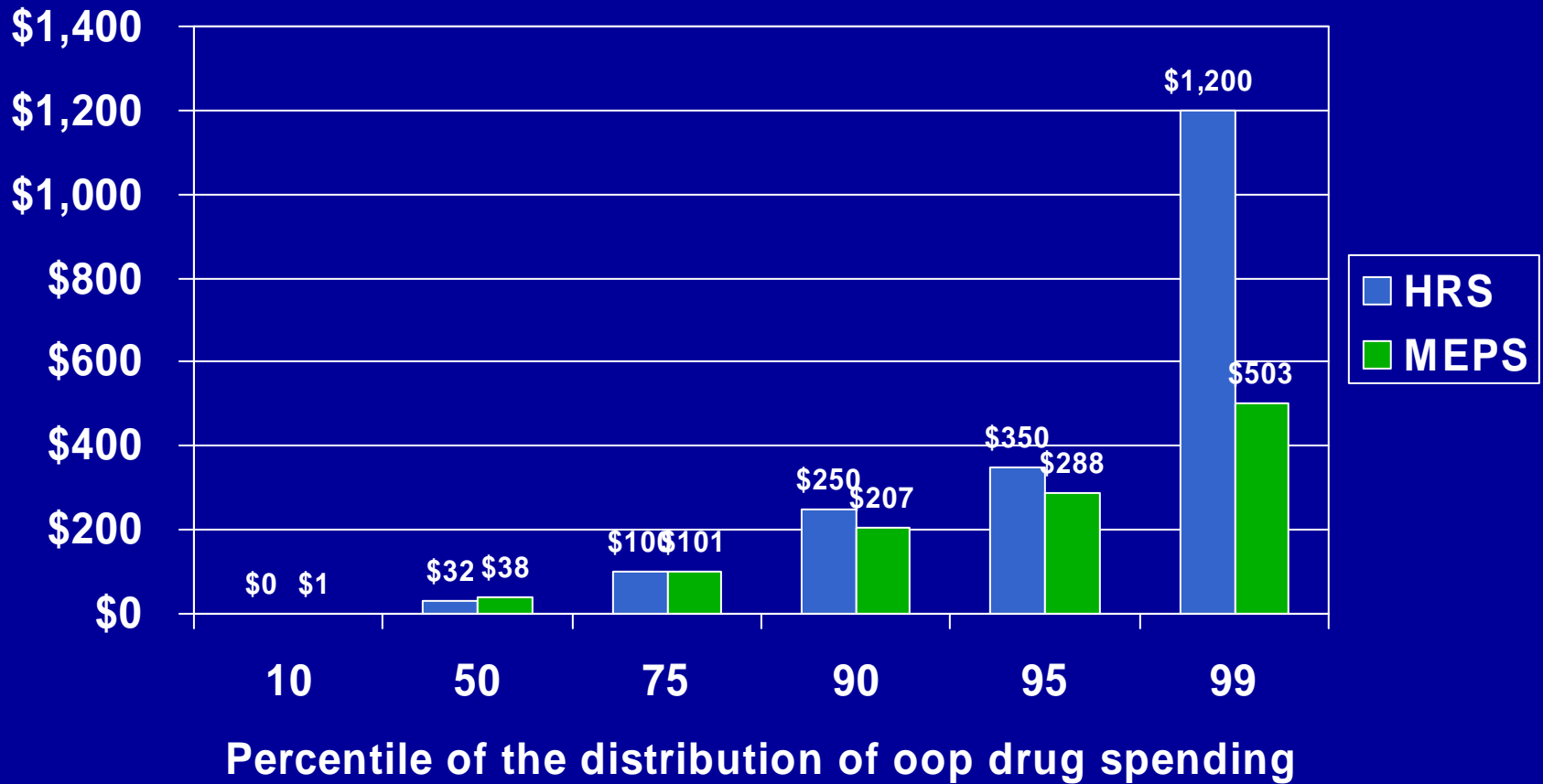


Backup slides start here.

# Why don't we find more a change in use?

- Price elasticity much lower than we think?
  - But...cutback question?
    - Timing of cutback question is off.
- Adjustment takes time
  - 2005-2007 mailer also shows no big change (caveat: nonresponse).
- Difference w/Duggan & Morton:
  - Maybe under 65 Medicare recipients really matter?

# Distribution of out-of-pocket drug spending for Medicare beneficiaries in 2004: HRS versus MEPS



# How much regular Rx use do the HRS condition lists capture?

- Short list (2004):
  - Hypertension
  - Diabetes
  - Heart conditions
  - Stroke
  - Psychiatric conditions
- Long list (2006)
  - High cholesterol
  - Pain
  - Asthma/allergies
  - Gastrointestinal problems
  - Sleep problems
  - Anxiety/depression

# How much regular Rx use do the HRS condition lists capture?



# Fraction with regular Rx use and median Rx out-of-pocket spending by 2004 and 2006 coverage

Rx coverage			Rx coverage in 2006					
in 2004:	Employer	Medicaid	MedHMO	Part D PDP	Purchase	None	Total	
Employer	0.892	0.919	0.896	0.898	0.925	0.615	0.891	
	25	0	30	50	38	5	28	
Medicaid	0.880	0.923	0.965	0.884	0.817	0.649	0.906	
	30	0	3	0	10	6	0	
MedHMO	0.852	0.813	0.879	0.839	0.811	0.656	0.863	
	30	0	30	50	30	0	30	
Purchase	0.905	0.886	0.864	0.890	0.875	0.741	0.880	
	30	12	35	70	27	20	40	
None	0.811	0.773	0.782	0.871	0.807	0.726	0.821	
	44	65	60	100	48	33	60	

# Growth in Rx spending and total health spending

Source: CMS Office of the Actuary

