MedPAC analysis of factors affecting LIS use of prescription drugs

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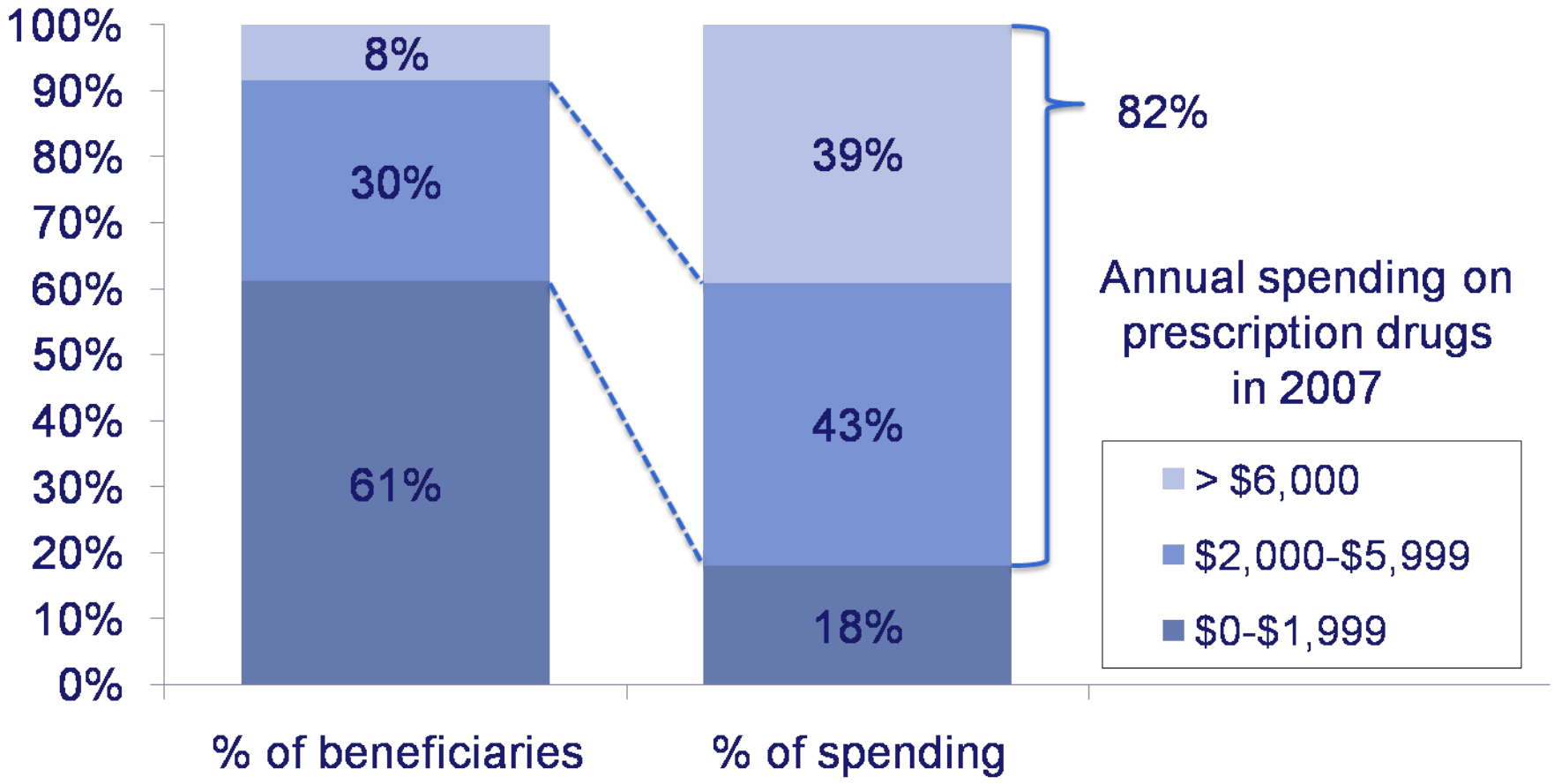
Motivation for the study

- Spending for low-income subsidy (LIS) is a large component of Part D cost
  - Spending grew from $42.5 billion in 2006 to $49.1 billion in 2008
  - LIS cost became the largest component in 2008
- Competing concerns:
  - Ensure that LIS beneficiaries have access to needed medications
  - Use Part D's resources efficiently
- Interested in understanding:
  - How LIS utilization patterns compare to non-LIS
  - What factors explain differences in utilization

Spending is concentrated



Source: MedPAC analysis of 2007 Medicare Part D prescription drug event data.

LIS enrollees more likely to have high spending

	Annual gross spending* in 2007		
	< $2,000	$2,000 - $5,999	> $6,000
% receiving LIS	34%	43%	76%
% by age			
< 65 (disabled)	22%	20%	46%
65 – 80	56	53	36
80 +	22	27	18

*Gross spending includes all payments for ingredient costs, dispensing fees, and sales tax.

Source: MedPAC analysis of 2007 Medicare Part D prescription drug events data and Part D denominator file.

Analysis of LIS vs. non-LIS utilization using 2007 PDE data

- In 2007, LIS enrollees accounted for about 40% of the enrollment and 55% of gross spending
- Average monthly spending:
  - $301 for an LIS enrollee
  - $156 for a non-LIS enrollee
- Average number of prescriptions per month:
  - 4.6 for an LIS enrollee
  - 3.4 for a non-LIS enrollee

LIS vs. non-LIS generic use varies by therapeutic class

Drug therapeutic class	Spending		Generic dispensing rate*	
By order of aggregate spending	(billions)	(% of total)	LIS	Non-LIS
All therapeutic classes	$62.2	100%	60%	62%
Antihyperlipidemics	6.0	9.7	42	47
Antipsychotics	5.0	8.0	19	18
Peptic ulcer therapy	4.0	6.5	48	54
Diabetic therapy	4.0	6.4	53	65
Antihypertensive therapy agents	4.0	6.4	65	66

*Generic dispensing rate defined as the proportion of generic prescriptions dispensed within a therapeutic class.

Source: MedPAC analysis of 2007 Medicare Part D prescription drug events data.

Potential reasons for different utilization patterns between LIS and non-LIS enrollees

- Availability of generics
- Plan benefit design
- Health status
  - Compare utilization patterns for beneficiaries with different levels of risk (RxHCC)
- Financial incentives
  - LIS and non-LIS face different financial incentives

Part D risk scores (RxHCC)

- Prescription drug hierarchical condition category (RxHCC) model developed prior to 2006
  - Prospective model using past medical diagnosis to predict drug spending
  - Use hierarchical disease groups
  - Does not currently use information on past drug use
- LIS enrollees, on average, have a higher RxHCC score compared to non-LIS enrollees

Financial incentives faced by LIS and non-LIS enrollees

- In 2007, cost sharing amounts for most LIS enrollees were between $0 and $5.35
  - LIS cost-sharing does not differentiate between
    - Generics and multiple source brands
    - Preferred and nonpreferred brands
- Non-LIS enrollees, on average, paid $5 for generics, $28 for preferred brand-name drugs, and $60 for nonpreferred brand-name drugs

Study design

- Choose a narrow therapeutic class: statins
- Compare utilization patterns for LIS and non-LIS statin users with similar risk profile
  - Preferred drug dispensing rate (PDR)
  - Generic drug dispensing rate (GDR)
- Limit to users in plans with preferred and nonpreferred tiers for brands, and require copays rather than coinsurance
- Limit to users enrolled in plans for 12 months in 2007, and received LIS for 12 months or never received LIS during the year

Statins

- Six statins available in 2007
  - Atorvastatin (Lipitor)
  - Fluvastatin (Mevacor, Altoprev)
  - Pravastatin (Pravachol)
  - Simvastatin (Zocor)
  - Rosuvastatin (Crestor)
- Generics available for lovastatin, pravastatin, and simvastatin
- Statin combination drugs (only available as brands)
  - Advicor: lovastatin/niacin
  - Vytorin: simvastatin/ezetimibe (cholesterol absorption inhibitor)
  - Caduet: atrovastatin/amlodipin (calcium channel blocker)

Statin users in 2007

- Spending totaled $5.3 billion, ~90% of spending on antihyperlipidemics
- About 10 million Part D enrollees filled at least one prescription for a statin
- Roughly 36% of statin users received LIS
- Average number of statin prescriptions filled per month was about the same for LIS and non-LIS users
- Average gross spending per month was higher among LIS users than for non-LIS users

Statin users in the sample compared to all statin users

	All statin users		Statin users in sample	
	LIS	Non-LIS	LIS	Non-LIS
# of users (millions)	3.8	6.6	1.6	3.6
# of PDE* records (millions)	31.8	57.8	13.6	31.3
Demographic characteristics				
% female	66%	57%	67%	58%
% white	58%	85%	58%	88%
% under 65	32%	10%	29%	7%
Average risk score (RxHCC)	1.312	1.106	1.320	1.116

*PDE (prescription drug events) records standardized to a 30-day supply.

Source: MedPAC analysis of 2007 Medicare PDE data and Part D denominator file.

Statin users in the sample by RxHCC quintiles

	% of users			Mean RxHCC	
	All	LIS	Non-LIS	LIS	Non-LIS
By RxHCC*					
1st quintile	20%	13%	23%	0.701	0.708
2nd quintile	20	14	22	0.963	0.959
3rd quintile	20	18	21	1.138	1.135
4th quintile	20	22	19	1.337	1.333
5th quintile	20	32	15	1.820	1.699
All	100	100	100	1.320	1.116

*RxHCC quintiles are based on all statin users in the sample.

Source: MedPAC analysis of 2007 Medicare prescription drug events data and Medicare enrollment file.

Preferred drug dispensing rate for statins: LIS vs. non-LIS users

	Preferred Drug Dispensing Rate (PDR)					
	All users in the sample	Users in the sample by RxHCC quintiles				
		1st	2nd	3rd	4th	5th
LIS	76%	74%	75%	76%	76%	76%
Non-LIS	90	90	90	90	89	89

Source: MedPAC analysis of 2007 Medicare prescription drug events data and Medicare enrollment file.

What are the cost implications?

Average cost per statin prescription*						
	All brands		Preferred brands		Nonpreferred brands	
	LIS	Non-LIS	LIS	Non-LIS	LIS	Non-LIS
OOP cost	$3	$36	$3	$34	$3	$55
Plan cost**	$42	$49	$44	$50	$39	$43
Low-income subsidy cost***	$47	N/A	$44	N/A	$57	N/A
Total cost	$93	$85	$91	$84	$99	$98

*Prescription standardized to a 30-day supply.
**Does not reflect rebates from pharmaceutical manufactures.
***Medicare Part D's extra help with cost-sharing for beneficiaries receiving the LIS.

Source: MedPAC analysis of 2007 Medicare prescription drug events data and Medicare enrollment file.

Generic dispensing rate for statins: LIS vs. non-LIS users

	Generic Dispensing Rate (GDR)					
	All users in the sample	Users in the sample by RxHCC quintiles				
		1st	2nd	3rd	4th	5th
LIS	41%	45%	43%	42%	40%	40%
Non-LIS	46	47	46	46	46	46

Source: MedPAC analysis of Medicare PDE data and Medicare enrollment file.

What are the cost implications?

Average cost per statin prescription*						
	Generics		Preferred brands		Nonpreferred brands	
	LIS	Non-LIS	LIS	Non-LIS	LIS	Non-LIS
OOP cost	$1	$6	$3	$34	$3	$55
Plan cost**	$14	$13	$44	$50	$39	$43
Low-income subsidy cost***	$7	N/A	$44	N/A	$57	N/A
Total cost	$22	$19	$91	$84	$99	$98

*Prescription standardized to a 30-day supply.
**Does not reflect rebates from pharmaceutical manufactures.
***Medicare Part D's extra help with cost sharing provided to beneficiaries receiving the LIS.

Source: MedPAC analysis of 2007 Medicare prescription drug events data and Medicare enrollment file.

Limitations

- The analysis does not fully account for differences in health status or the medication needs
- Results are not generalizable as they are likely to vary across different therapeutic classes

Summary

- Health status, as measured by RxHCC, generally does not seem to affect the utilization patterns for statins
- LIS users tend to use more statins that are placed on nonpreferred tiers compared to non-LIS users
- LIS users tend to use more brand statins compared to non-LIS users
- Further research needed to determine whether financial incentives or other factors contribute to different utilization patterns

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