



Medicare Part D: Improving Care for Beneficiaries without Drug Coverage

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This study was commissioned by PhRMA.



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Purpose of Study

- This analysis was designed to identify the nature and quantify the degree of impact that Part D is having on a cohort of beneficiaries who had no prescription drug coverage in 2005, and are therefore among the key groups toward which the new benefit was targeted.
- Specific benefits we measured for patients without drug coverage in 2005 include:
 - Reduction in patient out-of-pocket costs
 - Access to greater number of medications
 - Improved access to drug therapies for chronic conditions highly prevalent among the Medicare population

Key Findings

Prior to the implementation of Medicare Part D, many Medicare beneficiaries lacked coverage for prescription drugs. Their inability to pay out of their own pockets resulted in limited access to needed medications for many people.

In addition, according to data gathered through the Medicare Current Beneficiary Survey in 2004, it was concluded that one year before Medicare Part D implementation, Medicare beneficiaries reported high rates of cost-related medication nonadherence (skipping or reducing doses or not filling prescriptions because of cost).¹

This research was undertaken to measure the impact of Part D on access and adherence. The results suggest that Part D is helping to improve both access and adherence.

Key Findings:

- Patients with no drug coverage significantly reduced their out-of-pocket costs with Part D, on both a per unit (cost per day of supply) and cumulative basis, even as they increased the number of medications used.
- Patients with no drug coverage in 2005 significantly improved their access to medications under Part D.
- Patients with no drug coverage in 2005 also obtained access to a greater number of distinct drugs under Part D.
- For each chronic condition examined (Alzheimer's, high cholesterol, diabetes, hypertension, osteoporosis), there was a significant increase in the number of prescriptions on average filled per month, suggesting that patients with these conditions are now getting drug treatment under Part D that they were previously not receiving.

¹ Soumerai, Stephen B., et al, "Cost-Related Medication Nonadherence Among Elderly and Disabled Medicare Beneficiaries", *Arch Intern Med.* 2006;166:1829-1835.

Approach

- This analysis is based on anonymous patient-level pharmacy transaction data collected by Verispan. Verispan is a health care information company founded by Quintiles Transnational Corp. and McKesson Corp., and is a leading provider of de-identified patient-centric, longitudinal data delivered in near real time, as well as one of the major providers of health care information and services overall.
- For this study, Verispan's pharmacy transaction records were obtained for all patients age 65+ as of 1/1/05; in addition, all transaction records with a Verispan-identified Medicare Part D payer in 2006 were obtained. Data was made available for the period January 1, 2005 through June 30, 2006.
- In some cases, comparisons were made between all records in 2005 and all records with Part D coverage in 2006 for a fixed patient population, In other cases, comparisons were made patient-by-patient, between each patient's actual experience in 2005 (starting with the first month in which the patient appears in the data) and that patient's experience after the initiation of Part D coverage.

Note: For a more detailed discussion of methodology, see Appendix I

How We Quantified Patient Cost

- We evaluated two different cost metrics, each measuring a different aspect of how patient out of pocket cost has been impacted by Part D:
 - **Average monthly cost:** this is a *cumulative* measure which reflects the combined average monthly amount spent per patient for all prescriptions they fill. This metric is most reflective of the total patient “cost burden.”
 - **Average cost per day of supply:** this is a *per unit* measure, which reflects the average amount spent per patient for each days’ supply of medication, regardless of how many prescriptions they fill. It removes the number of prescriptions from the equation, providing a way to measure cost impact independent of utilization.
- Both metrics are important in fully understanding the ways in which Part D has impacted patient out of pocket cost.

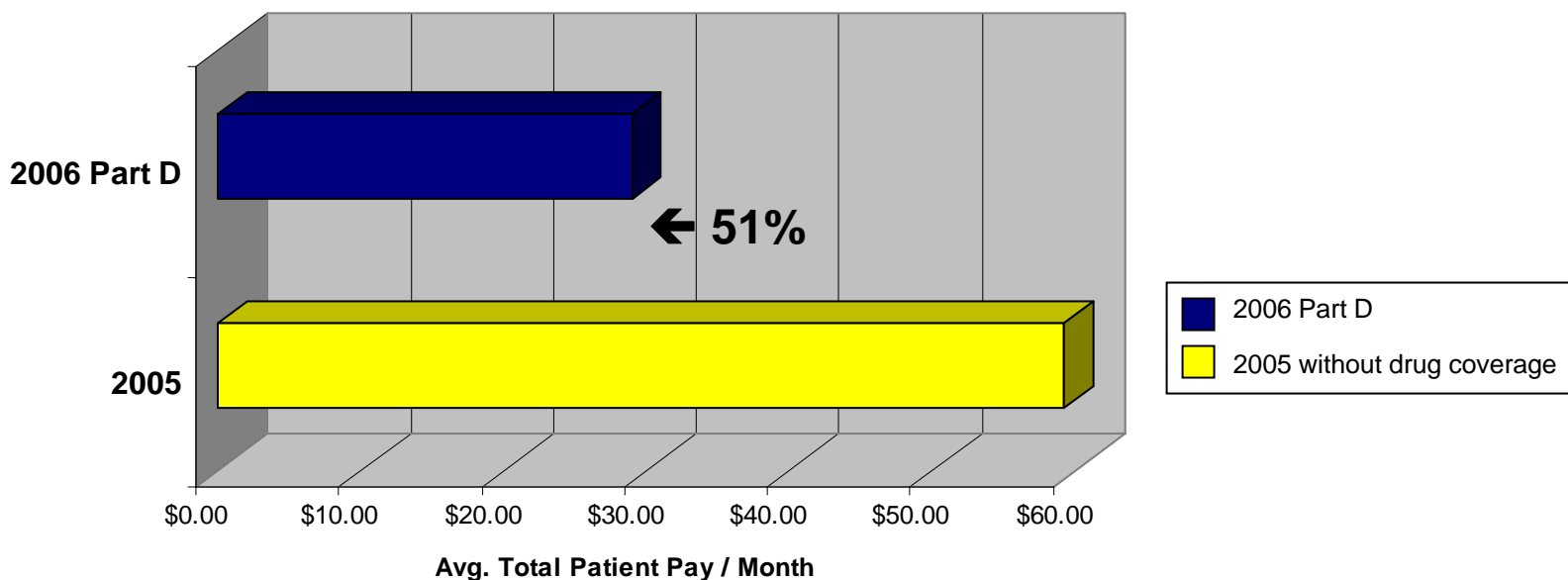


Results

Patients without drug coverage in 2005 reduced their monthly cost under Part D, even as access improved

Even as the number of medicines used increased, the average monthly out-of-pocket cost per patient decreased by 51% under Part D, from \$59 to \$29.*

Average Total Monthly Patient Cost — 30-day Rx's: 2005 without coverage vs. 2006 (post Part D coverage)



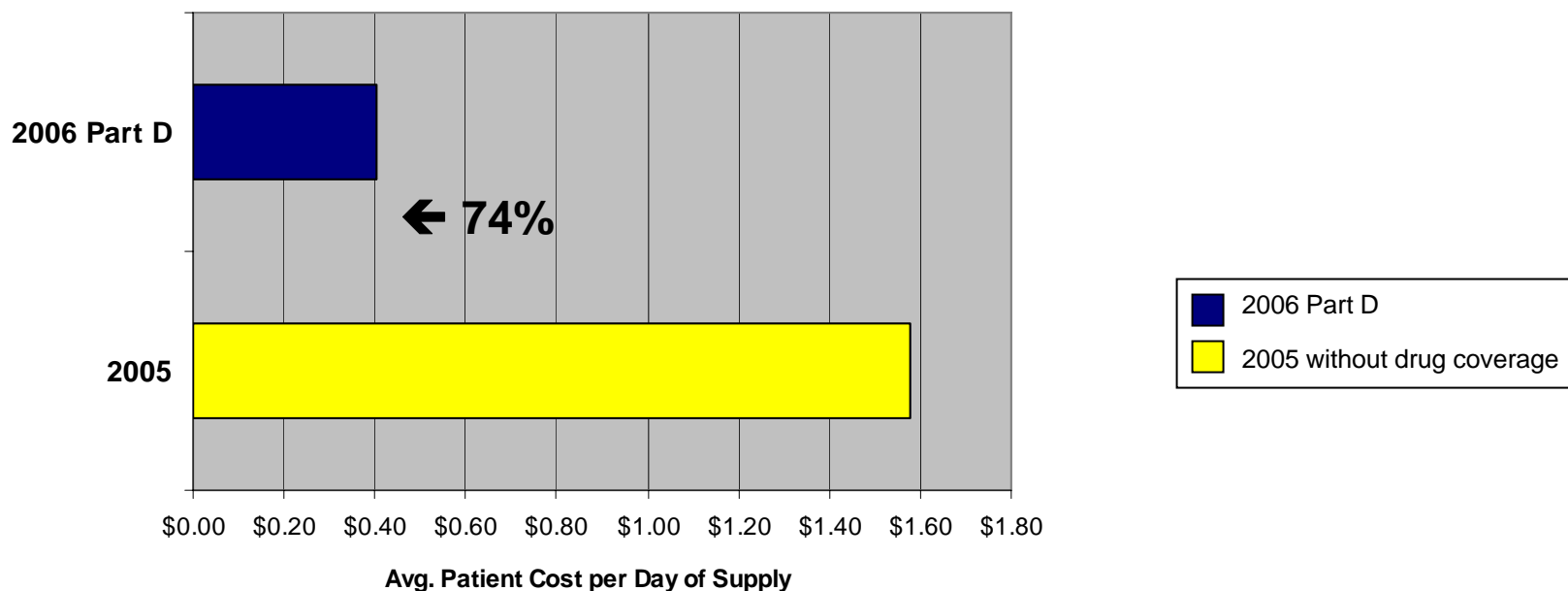
*Patient Cost is inclusive of patient co-payments, coinsurance or other patient contribution to drug cost; and, any amounts applied to deductible, but exclude plan premium cost.

Sources: Verispan Longitudinal Data, Amundsen Group analysis

Patients without drug coverage in 2005 significantly reduced their per unit out-of-pocket spending with Part D

The average patient cost per day of supply decreased by 74%, from \$1.58 to \$0.40, under Part D.*

Average Patient Cost per Day of Supply: 2005 without coverage vs. 2006 (Part D coverage)

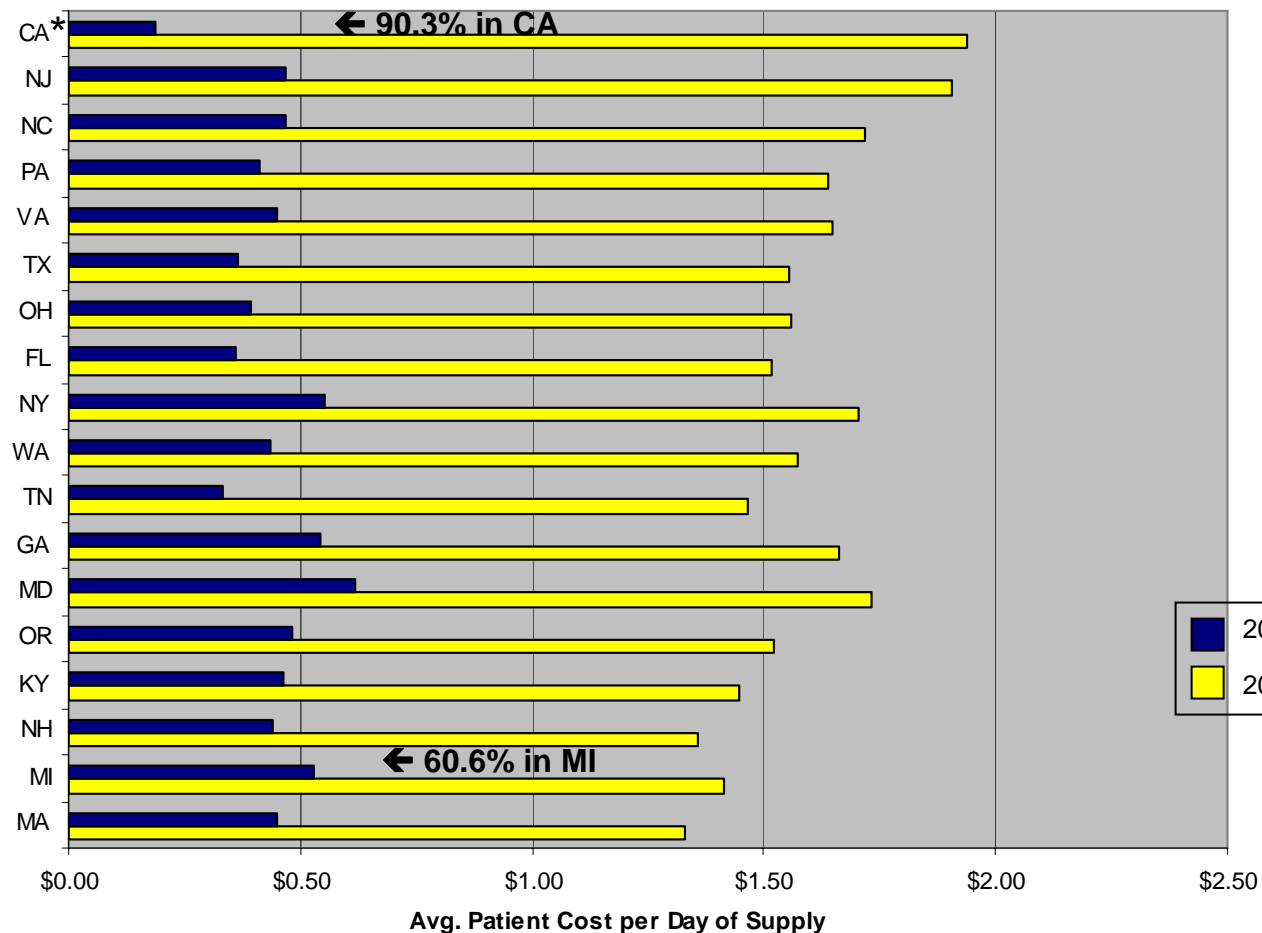


*Patient Cost is inclusive of patient co-payments, coinsurance or other patient contribution to drug cost; and, any amounts applied to deductible, but excludes plan premium cost.

Sources: Verispan Longitudinal Data, Amundsen Group analysis

Patients saw a significant reduction in their per unit out-of-pocket spending under Part D in each state examined

Average Patient Cost** per Day of Supply: 2005 without coverage vs. 2006 (Part D coverage)



**Patient Cost is inclusive of patient co-payments, coinsurance or other patient contribution to drug cost; and, any amounts applied to deductible

2006 Part D
2005 without drug coverage

*Note: Variation among states is likely due to a combination of underlying market factors which we have not attempted to identify here

Includes **only those states** with data sufficient for analysis: at least 1,000 patients **AND** 10,000 Rx's attributable to Part D in 2006

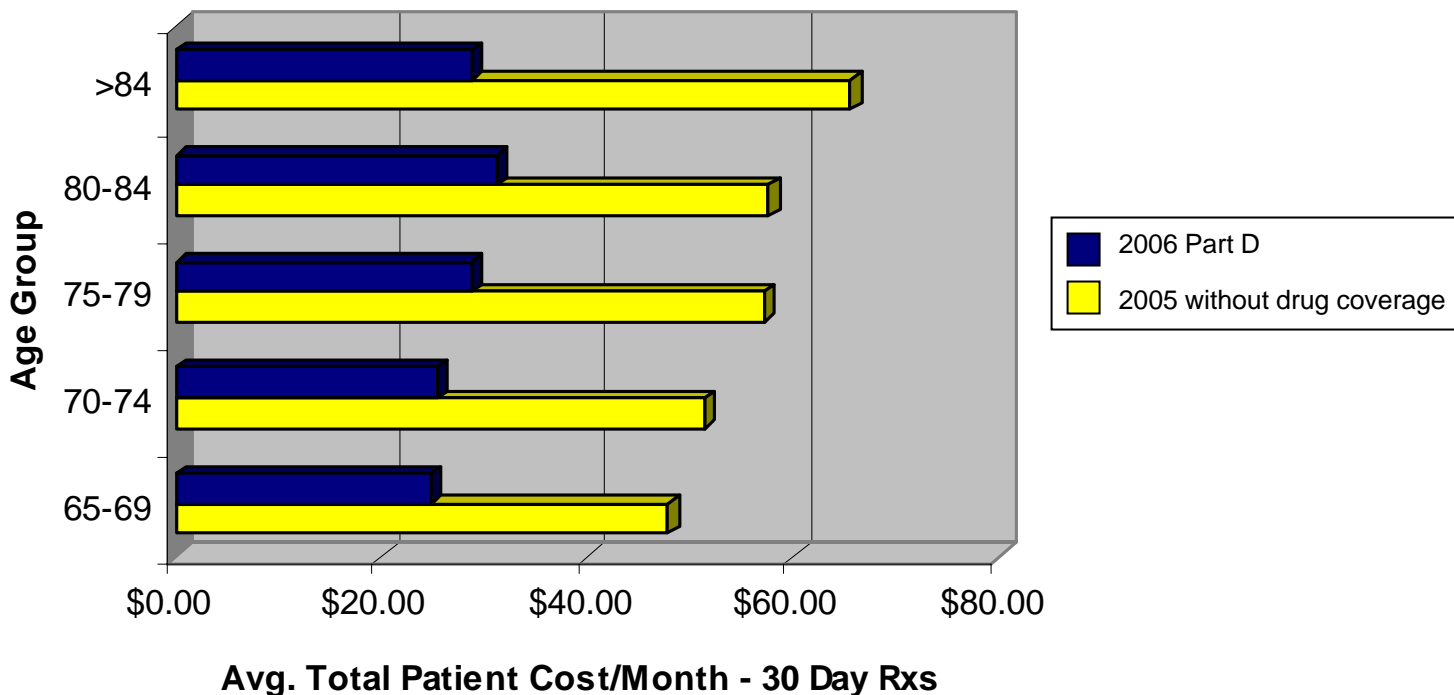
Sources: Verispan Longitudinal Data, Amundsen Group analysis



The impact of Part D in reducing cumulative out-of-pocket costs was fairly uniform across age groups

The average monthly out-of-pocket cost per patient decreased with Part D coverage for each age group within the Medicare population.*

Average Total Monthly Patient Cost — 30-day Rx's: 2005 without coverage vs. 2006 (post Part D coverage)

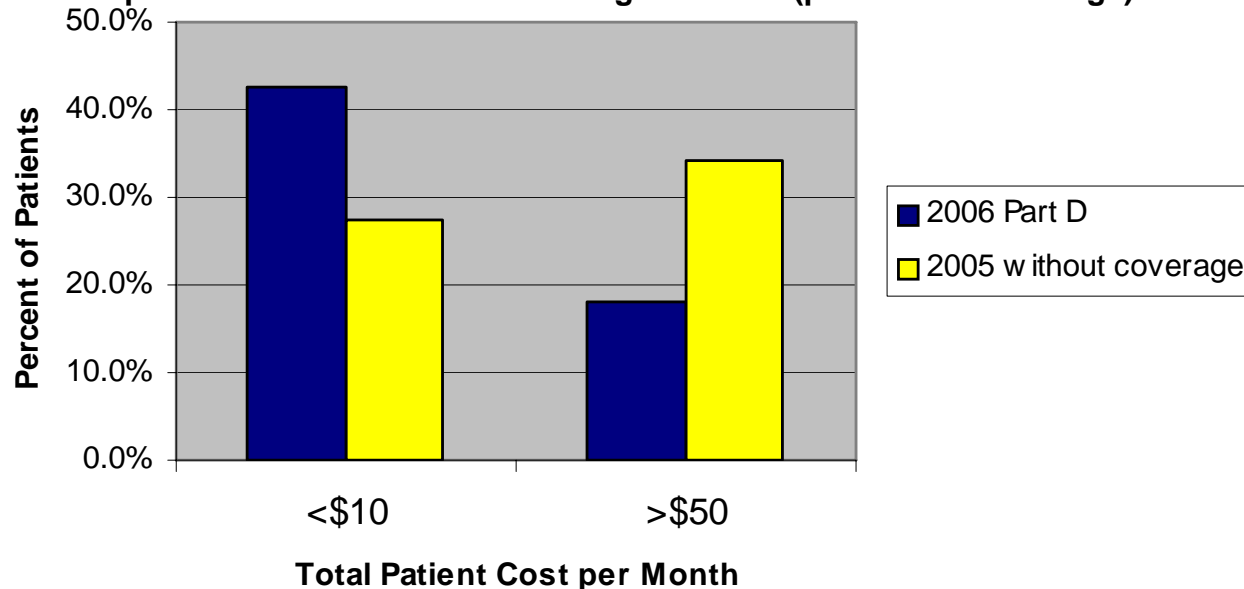


*Patient Cost is inclusive of patient co-payments, coinsurance or other patient contribution to drug cost; and, any amounts applied to deductible

More patients are benefiting from lower out-of-pocket costs with Part D compared to that with no coverage in 2005

The percentage of patients spending over \$50 per month out-of-pocket decreased from 34% in 2005 with no coverage to only 18% with Part D coverage in 2006. On the other hand, 42% of patients with Part D coverage in 2006 spent under \$10 per month, versus 27% in 2005 with no coverage.

Total Patient Cost* per Month: 2005 without coverage vs. 2006 (post Part D coverage)



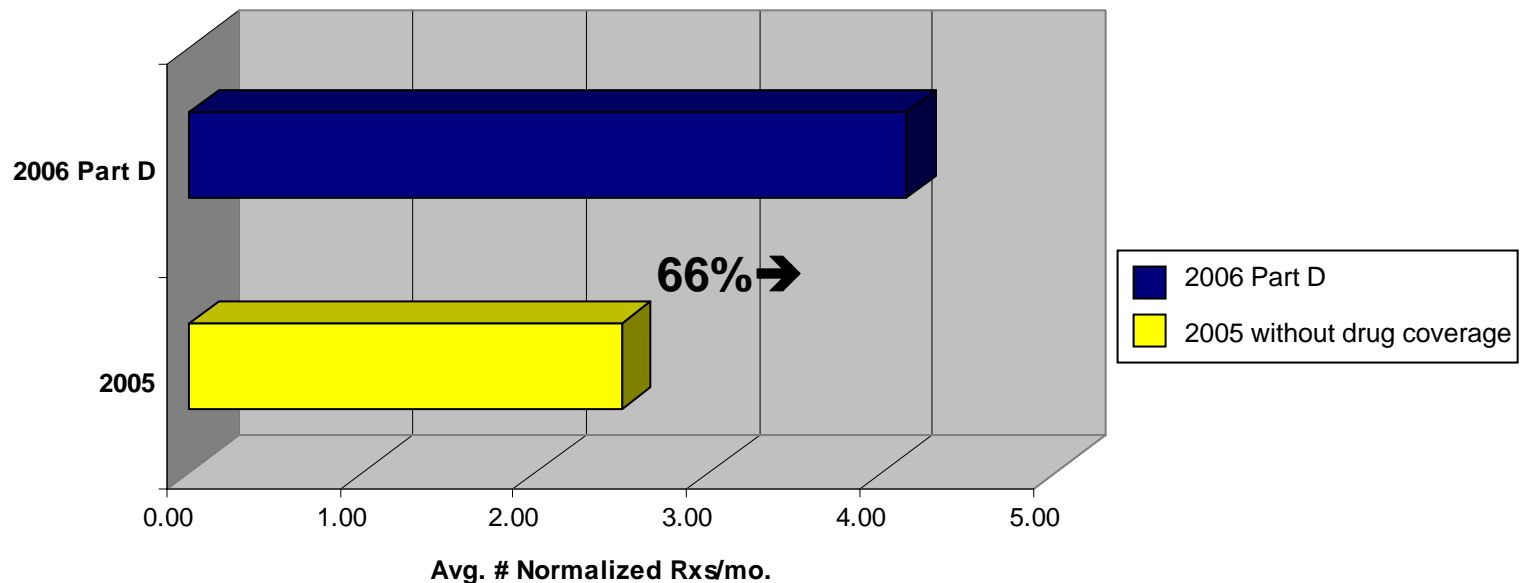
*Patient Cost is inclusive of patient co-payments, coinsurance or other patient contribution to drug cost; and, any amounts applied to deductible

Sources: Verispan Longitudinal Data, Amundsen Group analysis

Patients without drug coverage in 2005 now have better access to medicines under Part D

The average number of monthly Rx's filled per patient has increased by 66%, from 2.5 to 4, under Part D.

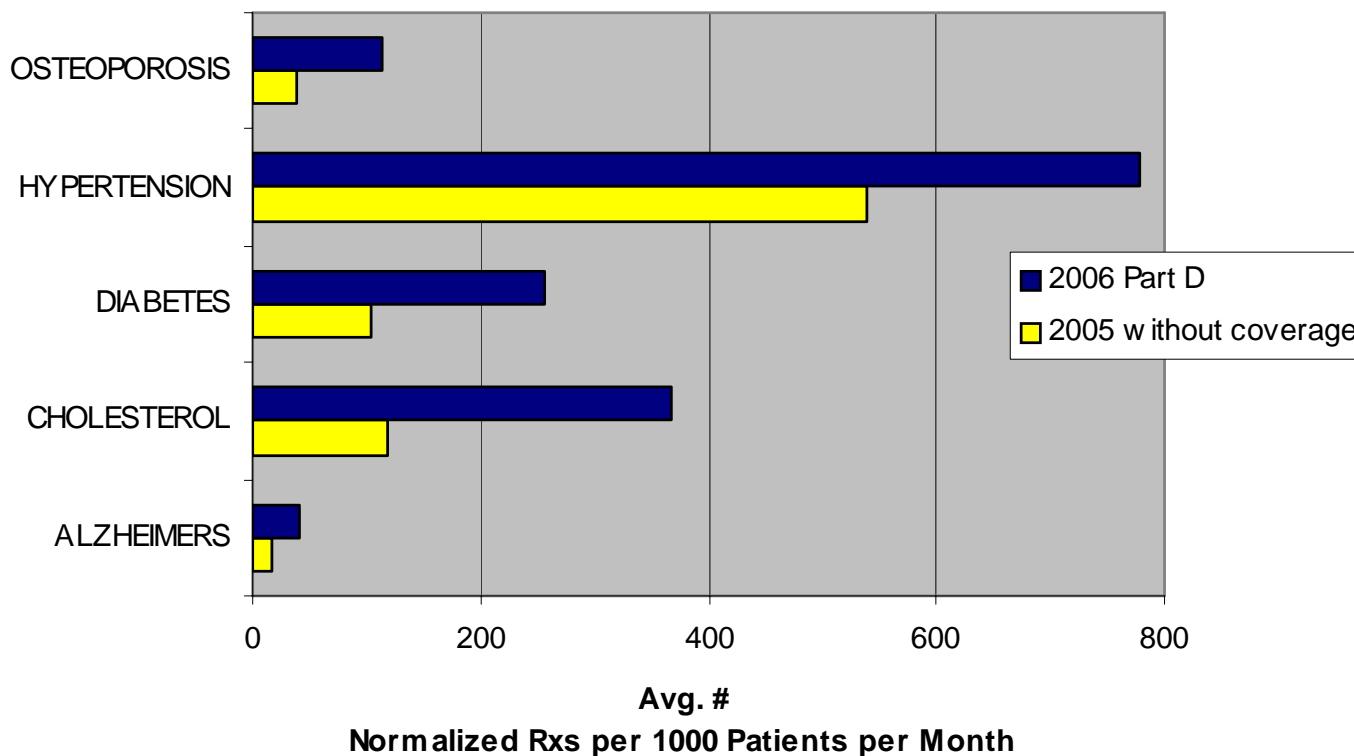
Average # of Normalized Rx's per Patient per Month: 2005 without coverage vs. 2006 (post Part D coverage)



Patients without drug coverage in 2005 are getting better access to drug treatment for chronic conditions

These results suggest that the pre-Part D nonadherence problem identified by Soumerai, et al¹, is showing some improvement with Part D.

Average # of Normalized Rxs per 1000 Patients per Month: 2005 without coverage vs. 2006 (post Part D coverage)



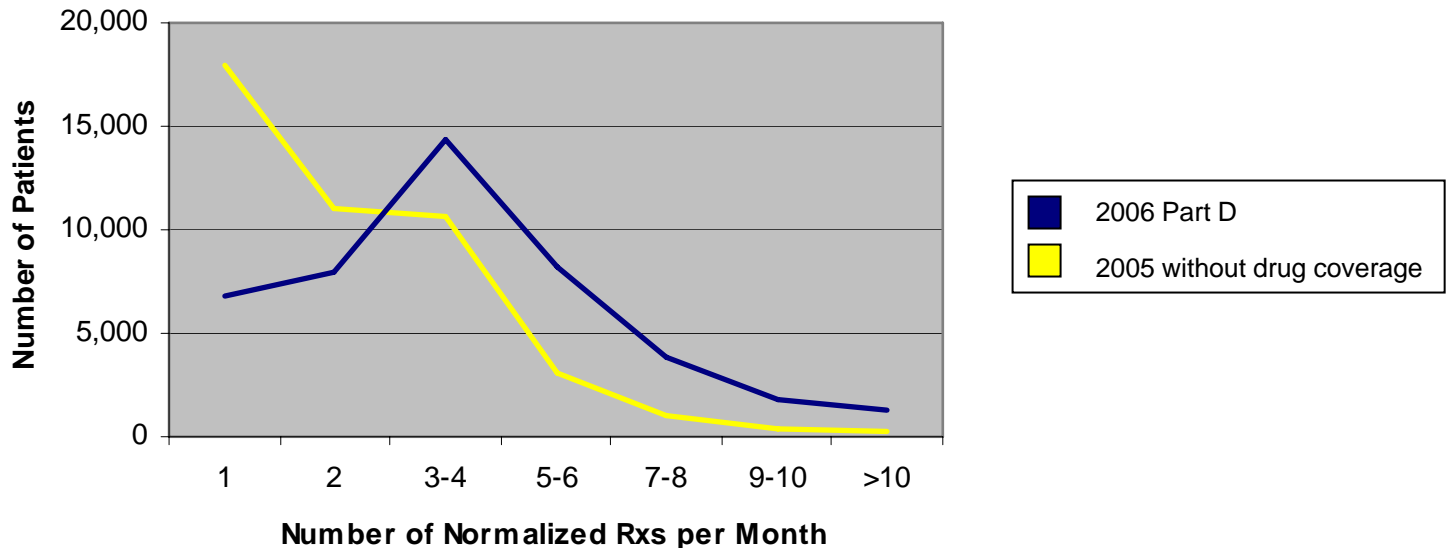
¹ Soumerai, Stephen B., et al, "Cost-Related Medication Nonadherence Among Elderly and Disabled Medicare Beneficiaries", *Arch Intern Med.* 2006;166:1829-1835.

Sources: Verispan Longitudinal Data, Amundsen Group analysis

Patients without coverage in 2005 are now utilizing more prescriptions per month with Part D coverage

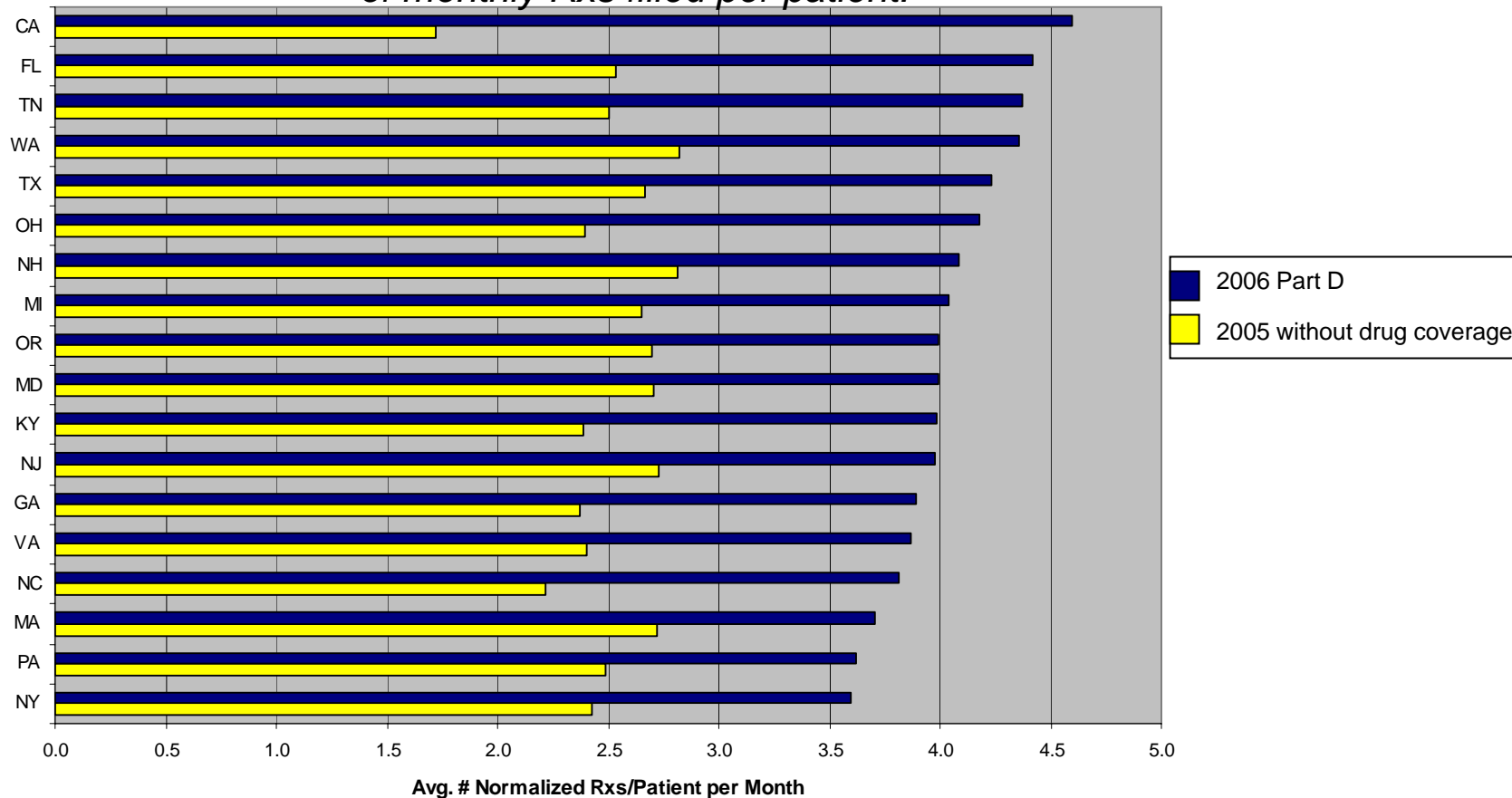
While in 2005 most patients filled only 1 or 2 prescriptions per month, many more patients were filling 3 or more prescriptions per month with Part D coverage in 2006.

Distribution of Patients by # of Normalized Rx's per Month: 2005 without coverage vs. 2006 (post Part D coverage)



Patients without drug coverage in 2005 experienced improved access in each state examined

All states examined showed a significant increase in the average number of monthly Rx's filled per patient.*

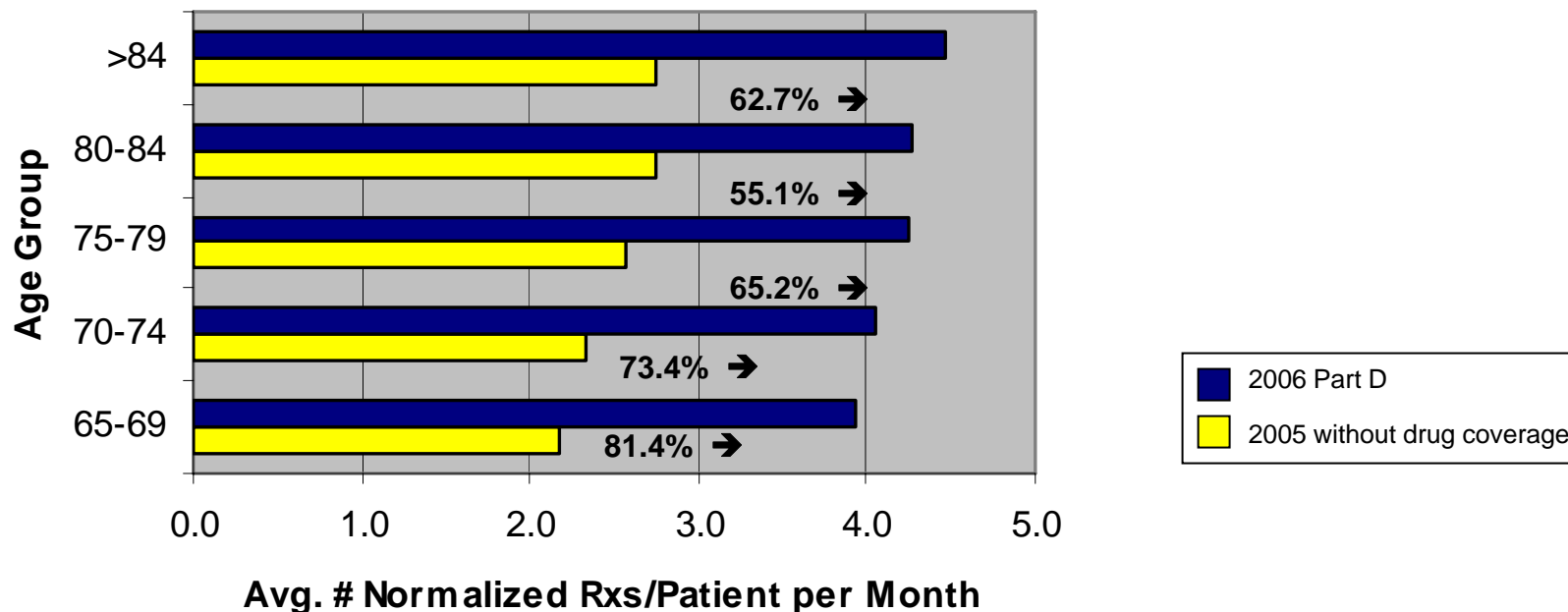


*Includes **only those states** with data sufficient for analysis: at least 1,000 patients **AND** 10,000 Rx's attributable to Part D in 2006

Sources: Verispan Longitudinal Data, Amundsen Group analysis

All age groups have benefited from access to more medicines

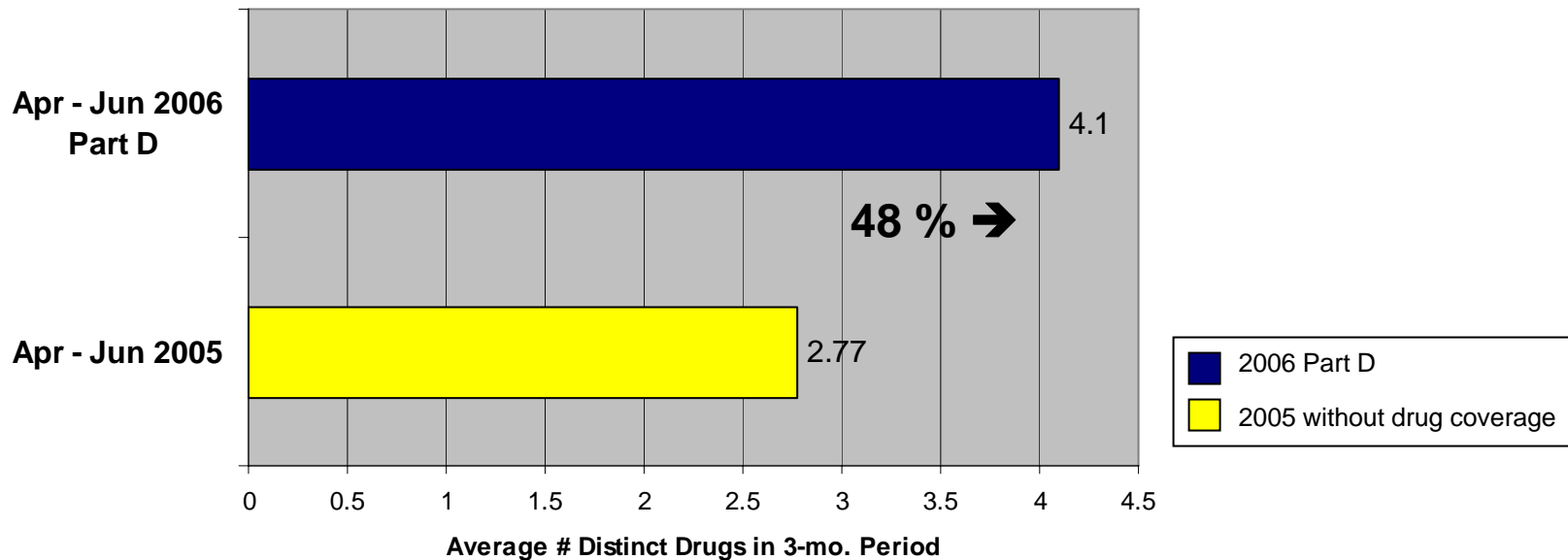
When the Medicare population was examined by age group, all groups exhibited improvement in the average number of monthly Rx's filled per patient.



Patients without drug coverage in 2005 gained access to a greater variety of therapies with Part D coverage

The average number of distinct drugs per patient used over a 3-month period increased by 48%, from 2.8 to 4.1, with Part D coverage.

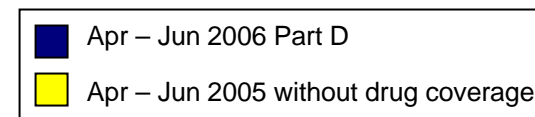
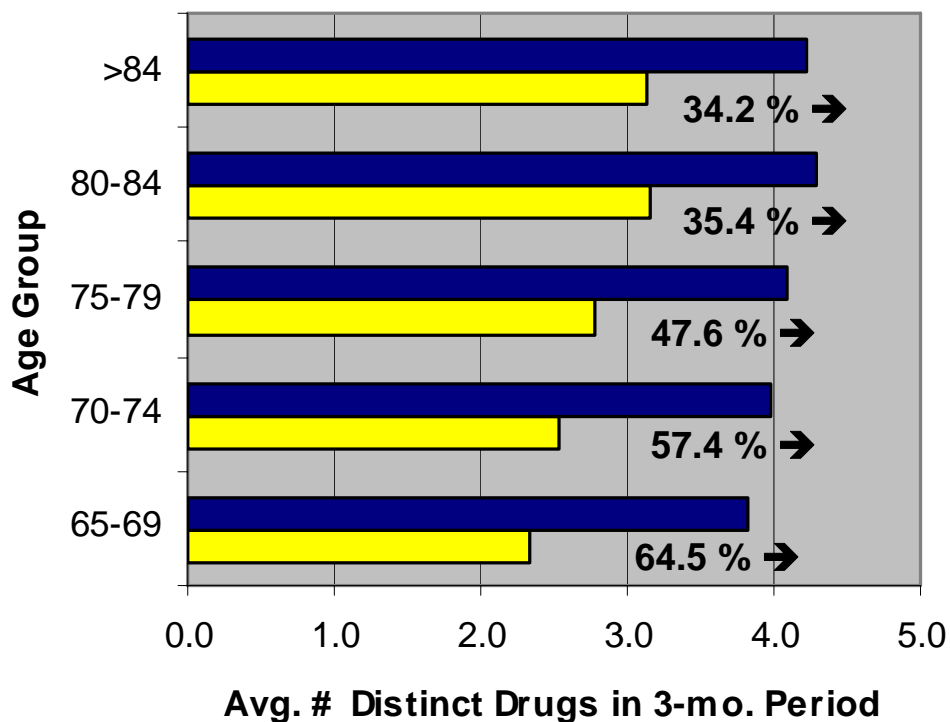
Average # of Distinct Drugs Utilized in 3-mo. Period: 2005 without coverage vs. 2006 (Part D coverage)



Part D resulted in improved access to a greater variety of therapies for all age groups

Each age group within the Medicare population experienced an increase in the average number of distinct drugs used per patient, with Part D coverage.

Average # of Distinct Drugs Utilized in 3-mo. Period: 2005 without coverage vs. 2006 (Part D coverage)





APPENDIX I

Methodology

DATA:

- This analysis is based on anonymous patient-level pharmacy transaction data collected by Verispan. Verispan is a health care information company founded by Quintiles Transnational Corp. and McKesson Corp., and is a leading provider of de-identified patient-centric, longitudinal data delivered in near real time, as well as one of the major providers of health care information and services overall.
- For this study, Verispan's pharmacy transaction records were obtained for all patients age 65+ as of 1/1/05; in addition, all transaction records with a Verispan-identified Medicare Part D payer in 2006 were obtained.
- Data was made available for the period January 1, 2005 through June 30, 2006.
- Unique patient ID numbers assigned by Verispan enabled aggregation of all activity at a patient level, with full patient confidentiality maintained by removing patient-identifiable information.
- In order to further “clean” the data to include only those patients and transactions for which the analyses would be meaningful, we excluded transactions:
 - for which the total amount paid by all parties for the drug was \$0;
 - for patients with transactions in three or more states (suggesting that these were, in fact, at least two different patients mistakenly assigned a single patient ID);
 - for drugs which are predominantly obtained OTC (and for which, therefore, many Part D plans would not be likely to provide coverage).

Methodology – cont'd.

COHORTS:

- Since our objective was to analyze the impact of Part D on patients without any drug coverage in 2005, it was necessary to extract a cohort of patients from the Verispan data set which met specified conditions. Therefore, only those patients for whom the following conditions applied were included in the analysis:
 - For all 2005 transactions, the “Patient Pay Amt” captured by Verispan (patient’s portion of total drug cost, including co-payments, amounts applied to deductible, etc.) was equal to the total drug cost; AND,
 - Verispan’s payer type classification was “True Cash” for all 2005 transactions.
- All 2005 and 2006 transactions were extracted for all patients meeting these criteria.
- All patient-level data was de-identified, ensuring patient confidentiality while enabling analysis of aggregate information for each patient.

VARIABLES:

- The following key variables were obtained for each transaction:
 - name and NDC classification of the drug that was prescribed and its associated therapeutic class
 - days’ supply filled
 - patient’s out-of pocket cost
 - third party pay amount
 - name and categorization of third party payer
 - geography (state) in which the transaction occurred
 - patient birth month
- In addition, because some transactions represented 60- or 90-days’ supply (the equivalent of 2 or 3 months of therapy respectively), each transaction was converted to a “Normalized Rx”, based on the days of supply (1-44 days’ supply = 1 Rx; 45-74 days’ supply = 2 Rx; 75+ days’ supply = 3 Rx)

Methodology – cont'd.

The resulting data set on which all analysis was conducted was comprised of the following:

	2005	2006	2006 Part D	Applicable Analyses (Slide #s)
A. # Normalized Rxs	4,040,563	2,314,063	540,949	9, 13, 14, 15, 17
B. # of Patients	529,618	224,911	44,302	
C. # of Patients w/ transactions Apr-Jun 2005 AND Part D transactions Apr-Jun 2006			18,382	18, 19
D. # of Patients with 30-day supply transactions in 2005 AND 30-day supply Part D transactions in 2006			23,102	8, 11, 12
E. State-level analysis		>1,000 patients and >10,000 Normalized Rxs per state		10, 16

Notes:

A. Normalized Rxs:

- 2005 and 2006 counts are mutually exclusive
- 2006 Part D count is a subset of 2006 count

B. # of Patients:

- 2005: number of patients in the data set meeting both cohort conditions for 2005
- 2006: number of 2005 patients with at least one transaction in 2006
- 2006 Part D: number of 2006 patients with at least one Part D transaction

C. and D.: both are subsets of 2006 Part D count

- E. State-level Analysis: **Only includes those states with sufficient sample size:** i.e., at least 1,000 patients and 10,000 normalized Rxs covered by Part D in 2006

Methodology – cont'd.

ANALYSIS:

Two general types of analysis were undertaken:

- *Transaction-based* —all records in 2005 (e.g., normalized Rxs) were compared to all records post Part D coverage in 2006 for a fixed patient population
- *Patient-based* — comparisons were made on a patient-by-patient basis between all “captured months” in 2005 (starting with first month in which the patient appears in data) and all records post that patient’s initiation of Part D coverage:
 - Individual differences were calculated between the activity in 2005 and that in 2006 for each patient; overall results represent the average of these differences across all patients
 - Patient-level analysis enabled us to accommodate each patient’s actual experience in the data set, that is, # of months of activity in 2005 and # of months with Part D coverage in 2006, taking individual enrollment dates into account.

Methodology – cont'd.

ANALYSIS OF CHRONIC CONDITIONS:

- In order to analyze the impact of Part D on access to drugs for specific chronic conditions, we selected those conditions which are highly prevalent in the Medicare population, and for which the drug treatments used could be assumed to be used exclusively for treating those (but not other) conditions:
 - Alzheimer's
 - High Cholesterol
 - Diabetes
 - Hypertension
 - Osteoporosis
- Verispan's drug class (USC) classifications were used, with specific classifications selected to comprise the range of likely treatments for each of the conditions (see Appendix II), and analysis conducted separately for those drugs falling into each group.



APPENDIX II

USC Groupings for Analysis of Utilization by Selected Therapeutic Classes

DRUG CLASS	USC NAME	DRUG CLASS	USC NAME
HIGH CHOLESTEROL	ANTIHYPERLIPIDEMIC AGENTS OTHER	ALZHEIMERS	ALZHEIMER-TYPE DEMENTIA
	BILE ACID SEQUESTRANTS		
	CHOLESTEROL ABSORPTION INHIBITORS		
	CHOLESTEROL REDUCERS COMB PRODUCTS		
	FIBRIC ACID DERIVATIVES		
DIABETES	HMG-COA REDUCTASE INHIBITORS	HYPER-TENSION	ACE INHIBITORS
	DIABETES THERAPY ALPHA-GLUCOS INHIBITORS		ACE INHIBITORS W/DIURETICS
	DIABETES THERAPY AMINO ACID DERIVATIVES		ALPHA BLOCKERS ALONE & COMBO
	DIABETES THERAPY BIGUANIDES		ALPHA-BETA BLOCKERS
	DIABETES THERAPY INCRETIN MIMETICS		ALPHA-BETA BLOCKERS
	DIABETES THERAPY INSULIN SENSITIZERS		ANGIOTENSIN II ANTAGONISTS
	DIABETES THERAPY MEGLITINIDES		ANTIHYPERTENSIVES
	DIABETES THERAPY NON-INSULIN COMB		BETA BLOCKERS
	DIABETES THERAPY SULFONYLUREAS		BETA/ALPHA-BETA BLOCKERS W/DIURETICS
	HUMAN INSULIN ANALOG-COMBINATIONS		CALCIUM CHANNEL BLOCKERS
	HUMAN INSULIN ANALOG-FAST ACTING	CENTRALLY ACTING AGENTS	
	HUMAN INSULIN ANALOG-LONG ACTING	DIURETICS OTHER	
	HUMAN INSULIN-COMBINATIONS	DIURETICS POTASSIUM-SPARING	
	HUMAN INSULIN-FAST ACTING	DIURETICS THIAZIDES	
	HUMAN INSULIN-INTERMEDIATE ACTING	SELECTIVE ALDOSTERONE RECEPTOR ANTAGONIST	
HUMAN INSULIN-LONG ACTING			
INSULIN OTHERS	OSTEO-POROSIS	BISPHOSPHONATES	
		BONE DENSITY REGULATORS OTHERS	
		BONE FORMATION AGENTS	
		CALCITONINS	



Contact information:

The Amundsen Group, Inc.

www.amundsendgroup.com

52 Waltham Street

Lexington, Massachusetts 02421

p: 781.863.1005

f: 781-240-8400