



Managed Solutions, LLC
A Strategic Consulting & Communications Company

Measurement of Unused Prescription Drugs in Medicare Part D Nursing Stays

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1/11/11

An independent study conducted to estimate the amount of unconsumed medication among Medicare Part D residents in skilled nursing facilities and the potential cost reductions that could be achieved through shorter fill times.

Section 3310 of the Patient Protection and Affordable Care Act (Public Law 111-148 of the 111th Congress, signed into law on March 23, 2010) mandates that Medicare Part D Prescription Drug Plans (PDP) or Medicare Advantage Prescription Drug Programs (MA-PD) move from dispensing in traditional 30-day fills to shorter fill times for nursing home residents, effective January 1, 2012.

Section 3310 states:

SEC. 3310. REDUCING WASTEFUL DISPENSING OF OUTPATIENT PRESCRIPTION DRUGS
IN LONG-TERM CARE FACILITIES UNDER PRESCRIPTION DRUG PLANS
AND MA-PD PLANS.

(a) In General.--Section 1860D-4(c) of the Social Security Act (42 U.S.C. 1395w-104(c)) is amended by adding at the end the following new paragraph:

“(3) Reducing wasteful dispensing of outpatient prescription drugs in long-term care facilities.--The Secretary shall require PDP sponsors of prescription drug plans to utilize specific, uniform dispensing techniques, as determined by the Secretary, in consultation with relevant stakeholders (including representatives of nursing facilities, residents of nursing facilities, pharmacists, the pharmacy industry (including retail and long-term care pharmacy), prescription drug plans, MA-PD plans, and any other stakeholders the Secretary determines appropriate), such as weekly, daily, or automated dose dispensing, when dispensing covered part D drugs to enrollees who reside in a long-term care facility in order to reduce waste associated with 30-day fills.”.

(b) <<NOTE: 42 USC 1395w-104 note.>> Effective Date.--The amendment made by subsection (a) shall apply to plan years beginning on or after January 1, 2012.

The rationale behind this mandate is that shorter fills will result in fewer unconsumed medication units (“waste”) that normally occur due to medication switching, discharges from the facility, death or other causes. The Congressional Budget Office (CBO) estimates that implementing standardized dispensing in quantities of less than 30 days will result in \$5.7 billion in program savings over the eight year period from 2012 to 2019 (House Action Reports, 2010). Various other estimates have placed the value of unconsumed medication in long term care (LTC) facilities at over \$1 billion per year (Spiro, 2009). However, these estimates combine information from various surveys at different points in time and do not differentiate between medication use in Medicare Part A and Part D.

To date, no published study has quantified the amount of unconsumed medication among residents of skilled nursing facilities (SNFs) covered solely by Medicare Part D prescription plans, nor has a study been performed to estimate the potential reduction in unconsumed medication units that might be achieved through shorter fill times.

In response to this lack of data, the Long Term Care Pharmacy Alliance (LTCPA) retained Managed Solutions, LLC (MSLLC) to carry out an independent study to estimate the amount of unconsumed medication among Medicare Part D residents in SNFs and the potential cost reductions that could be achieved through shorter fill times. These results are detailed in the report below.

Addendum: Since the writing of this study, a notice of proposed rulemaking (NPRM) has been released by the Centers for Medicare and Medicaid Services (CMS) that propose to dispense all brand name drugs to Part D enrollees in LTC facilities in 7-day-or-less increments. (Federal Register 42 CFR Parts 417, 422, and 423). The Addendum provides an additional breakeven analysis by prescription ingredient cost for brand and generic products separately to determine the impact of shorter fills on each of these product groups.

LTCPA is a trade organization composed of two national chain-based LTC pharmacy providers (Omnicare and Pharmerica) and an organization that provides group purchasing and contracting services to independent LTC pharmacy providers (Managed Health Associates). Together, LTCPA members serve 1.8 million Medicare Part D beneficiaries, or ninety percent of all LTC facility residents.

MSLLC is a consulting company founded in 2000 with primary areas of competence in health economics and quantitative market studies. The two principals of MSLLC have each been engaged in various LTC projects for over 25 years, including during their tenure in the pharmaceutical industry.

Confidentiality of Proprietary Information |

Much of the data collected from LTC pharmacies is proprietary and confidential company information. Individual LTC pharmacy companies that participated in this study will not be identified and certain data will be shown only in the aggregate.

Executive Summary |

Section 3310 of the Patient Protection and Affordable Care Act (PPACA) attempts to reduce the waste associated with unused medications for nursing home residents covered by Medicare Part D by moving from traditional 30-day fills to shorter fill times. Debate has circulated around the inclusion of this provision in the PPACA and subsequent rule-making as robust data quantifying the amount and costs associated with unused pharmaceuticals in the long term care (LTC) space is not available. Estimates of unconsumed medications in LTC facilities vary greatly and have failed to reach consensus partly due to incongruent study samples.

In response to this lack of data, the Long Term Care Pharmacy Alliance (LTCPA) retained Managed Solutions, LLC (MSLLC) to carry out an independent study to estimate the amount of unconsumed medication among Medicare Part D (Part D) residents in skilled nursing facilities and the potential cost reductions that could be achieved through shorter fill times.

The purpose of the study was to establish an objective data-based foundation to inform the discussion on short cycle dispensing. Specific objectives of the study were to:

- Derive an estimate of the amount of unused medication dispensed to residents covered by Part D in skilled nursing facilities.
- Estimate the impact of shorter prescription fill times on 1) the amount of unused medication and 2) total dispensing fees to Part D plans.
- Identify a subset of Part D-covered prescriptions that could potentially yield net cost savings through shorter fill times after accounting for additional dispensing fees.

Eight LTC pharmacies participated in the study providing data on both dispensed and returned prescriptions from their client nursing facilities containing unused medication. These eight LTC pharmacies met the criteria that their client facilities routinely returned unused medication dispensed to Part D residents and that the companies kept track of all returns. The study focused on returns of oral solid dosage forms, since these medications can feasibly be dispensed in shorter days supply.

The following key findings summarize the primary analysis performed utilizing data from the eight LTC pharmacy sample and are reflected in the main body of the report. A second breakeven analysis based on prescription ingredient costs was carried out for brand and generic products separately and is presented in the Addendum of the report. This analysis utilizes a separate data set to establish the mix of brand and generic products in dispensed prescriptions, resulting in small differences from the aggregate numbers in the main report.

Key Findings of Primary Analysis:

- **The number of all returned solid oral prescriptions containing unused medications is 6.1% of all dispensed prescriptions.**
- **The value (cost to Medicare Part D plans) of all returned solid oral prescriptions is 2.9% of the value of all dispensed prescriptions. Returned prescriptions contain, on average, about half of the dispensed doses.**
- **The total annual cost of unused oral solid medications was estimated at \$125 million. This represents potential savings in reducing unused medications for Part D covered LTC residents.**
- **Applying a 7-day fill time to roughly 59 million brand and generic oral solid prescriptions each year will result in an additional 194 million dispensings annually. Applying an average dispensing fee of \$4.74 to each additional dispense results in a net additional cost of over \$820 million to Part D plans.**

- **Moving to a 7-day fill results in an increase in costs to Part D plans for all prescription cost ranges except those with an ingredient cost of \$400+. The annual savings in this cost range are about \$12 million and account for less than 2% of dispensed prescriptions.**

Key Findings of Second Analysis:

A sample of 10.3 million Medicare Part D dispensed prescriptions was used to establish proportions of brand vs. generic products, oral solid vs. other dosage forms and the breakout by prescription ingredient cost. The sample for this analysis came from one of the national LTC pharmacy companies utilized in the primary study.

- **Requiring a 7-day fill for all oral solid brand products will result in 14 million additional dispensings and over \$150 million in additional costs to Part D plans each year.**
- **Limiting shorter fills to high cost brand products with prescription ingredient costs of \$400+ may result in modest savings, about \$10 million annually, to Part D plans.**
- **Requiring a 7-day fill for all oral solid generic products will result in 60 million additional dispensings and \$700 million in additional costs to Part D plans of each year. There are no significant savings opportunities for generic products at any level of medication cost.**

While it may appear that implementing a shorten-cycle dispensing regimen will necessarily generate savings in the Medicare Part D program, the analysis shows that any savings achieved by reducing unused medications are overwhelmingly exceeded by the additional dispensing fees resulting from the far greater number of prescriptions dispensed.

This study represents the first analysis of the levels of unused medication dispensed to nursing home residents covered by Medicare Part D and the impact of short fill dispensing on Medicare Part D costs based on a large data sample of both dispensed and returned prescriptions from multiple LTC pharmacies.

Background |

Currently, unconsumed medications in nursing facilities covered by Medicare Part D plans are either returned to the pharmacy for destruction or destroyed at the nursing facility. Part D plans cannot receive a credit for these unused medications since the drug is “owned” by the resident once it is dispensed and charged. However, if the package is intact (no pills punched out) the product can be returned to stock and the transaction reversed. State pharmacy regulations govern whether or not returns to the pharmacy are permitted for non-scheduled drugs. Federal statutes prohibit a nursing home from returning any scheduled drugs (“controlled substances”) to the pharmacy. Controlled drugs must be destroyed on site at the nursing facility and requires strict record keeping of all destroyed units.

Section 3310 of the Patient Protection and Affordable Care Act (PPACA) attempts to reduce the waste associated with unused medications that are not reused by moving from traditional 30-day fills to shorter fill times. Debate has circulated around the inclusion of this provision in the PPACA and subsequent rule-making as robust data quantifying the amount and costs associated with unused pharmaceuticals in the LTC space is not available. Estimates of unconsumed medications in LTC facilities vary greatly and have failed to reach consensus partly due to incongruent study samples.

A study comparing 30-day dispensing to unit dose dispensing in a single nursing facility projected a 13% savings for the unit dose system. (Parrott, 1980). A survey of consulting pharmacists conducted by the American Society of Consultant Pharmacists estimated 17% of medications go unused but did not discriminate between Medicare Part D and other residents (ASCP 2009). A patient-reported study of retirement community residents found that unused medication represented 2% to 3% of medication costs (Morgan, 2001). None of these studies reported results by length of stay or type of insurance coverage.

A literature search was unable to identify any published studies specifically for residents of skilled nursing facilities (SNFs) covered by Medicare Part D quantifying the amount of unconsumed medication based on medication actually destroyed in the facility or returned to the dispensing pharmacy.

In conducting this study, the primary objectives were:

- **Objective 1:** Derive an estimate of the amount of unused medication dispensed to residents covered by Medicare Part D in SNFs.
- **Objective 2:** Estimate the impact of shorter prescription fill times on 1) the amount of unused medication and 2) total dispensing fees to Part D plans.
- **Objective 3:** Identify a subset of Part D-covered prescriptions that could potentially yield net cost savings through shorter fill times after accounting for additional dispensing fees.

This study seeks to establish an objective data-based foundation to inform the discussion on short cycle dispensing.

Methodology |

To qualify for participation in this study, LTC pharmacies were chosen where (1) their client nursing facilities returned all unused Medicare Part D medications (except controlled substances) and (2) the returned medications were logged and stored on an ongoing basis. Data was obtained from eight pharmacies, operated by five LTC pharmacy companies.

Data Collection and Calculation of Unused Medication Rates

Table 1 shows the time periods for which Part D dispensed medications and returned medications were used in the estimates and Table 2 shows the collected data variables and calculations.

Table 1: Medicare Part D Data Collection Periods

LTC Pharmacy Company	# of Pharmacies	Dispensing Dates	Return Dates
A	2	Dec 2009 - May 2010	Dec 2009 - May 2010
B	2	Feb 2010 - April 2010	June 6 - July 6, 2010
C	1	Mar 2010 - April 2010	Mar 2010 - April 2010
D	1	May 2010	June 2010
E	2	Feb 2010 - April 2010	Feb 2010 - April 2010

Table 2: Medicare Part D Data Variables and Calculations

Data Variables for Aggregate Rxs	Calculation
1 Number of Rxs dispensed	Raw data
2 Amount paid for dispensed Rxs including dispensing fee	Raw data
3 Average dispensing fee	Raw data
4 Amount paid for dispensed Rxs not including dispensing fee	(2) - (3) x (1)
5 Number of Rxs returned (with part of Rx unused)	Raw data
6 Percentage of returned Rxs	(5) / (1)
7 Amount paid for unused medication units not including dispensing fee	Raw data
8 Percentage of returned Rx cost	(7) / (2)
9 Number of Rxs dispensed--solid oral dosage forms	Raw data
10 Amount paid for dispensed Rxs including dispensing fee--solid oral dosage forms	Raw data
11 Amount paid for dispensed Rxs not including dispensing fee--solid oral dosage forms	(10) - (3) x (9)
12 Number of Rxs returned--solid oral dosage forms	Raw data
13 Percentage of returned Rxs--solid oral dosage forms	(12) / (9)
14 Amount paid for unused medication units not including dispensing fee--solid oral dosage forms	Raw data
15 Percentage of returned Rx cost--solid oral dosage forms	(14) / (10)
16 Percentage of solid oral returned Rxs based on all dispensed Rxs	(12) / (1)
17 Percentage of returned Rx cost--solid oral dosage forms based on amount paid for all dispensed Rxs	(14) / (2)

Table 2: Medicare Part D Data Variables and Calculations (cont.)

Data Variables for Individual Returned Rxs	
18 NDC number	Raw data
19 Medication description	Raw data
20 Dosage form	Raw data
21 Quantity dispensed (e.g., number of tablets)	Raw data
22 Quantity returned (e.g., number of tablets)	Raw data
23 Unit cost based on charge to payer without dispensing fee	Raw data
24 Cost of dispensed Rx	(21) x (23)
25 Cost of returned Rx	(22) x (23)
26 Percentage of units returned--solid oral dosage forms	(22) / (21) averaged over returned Rxs

In Table 2, the critical value is Line 17, the value of solid dosage form returns divided by total dispensing, including the dispensing fee. The numerator of this ratio represents the amount of unused Part D medications that could potentially be reduced by shorter fills. We therefore exclude dosage forms other than oral solids, such as liquids, creams, ointments and powders are typically dispensed in manufacturer containers and are problematic to split into smaller packaging units from the numerator of the ratio.

Extrapolation Analysis: Estimation of Total Cost of Unused Medicare Part D Medications and Impact of Shorter Fill Times

Utilizing calculated return rates of the number and value of Part D prescriptions from the 5-company sample, the study extrapolates these rates to the entire Part D population in SNFs to estimate:

- 1) The current value (at the price charged to payers) of unused medication.
- 2) The potential savings due to moving from a 30-day to a 7-day fill.
- 3) The increase in dispensing fees due to the shorter fill time.
- 4) The net change in cost to payers due to the shorter fill time.

The sensitivity of the net change in cost to payers to various estimates of return rates was also calculated.

Prescription Subset Analysis: Distribution of Dispensed and Returned Prescriptions by Original Prescription Cost and Medication Unit Cost

As shown in Table 3, dispensed and returned Part D prescriptions were categorized in two ways to identify the subset of prescriptions that accounted for a high proportion of returned (unused) medication value. They were first categorized by dispensed value (cost) of the prescription and then by the unit cost of the medication.

Table 3: Categories Used to Determine Primary Sources of Part D Unused Medications

Dispensed Rx Cost Range	Unit Cost Range
\$0 - \$10	\$0 - \$0.10
\$10 - \$20	\$0.10 - \$0.20
\$20 - \$50	\$0.20 - \$0.50
\$50 - \$100	\$0.50 - \$1.00
\$100 - \$200	\$1.00 - \$2.00
\$200 - \$300	\$2.00 - \$3.00
\$300 - \$400	\$3.00 - \$5.00
\$400+	\$5.00 - \$10.00
	\$10.00 - \$50.00
	\$50.00+

Breakeven Analysis

The net change in costs to Part D payers due to a shorter prescription fill time (30- vs. 7-day) was calculated based on savings from the potential reduction in unused medications and incremental costs from additional dispensing fees. This was done across all prescriptions and within each Table 3 category to determine which cost ranges could yield potential savings to Part D payers.

Results |

Medicare Part D Return Rates for Unused Medications

Table 4 shows the analysis of unused (returned) Part D prescriptions from the 5-company sample. Due to the confidential nature of the data, only aggregate values for number and value (amount paid by plan) of prescriptions are shown. Return rates are shown per company and in aggregate.

Table 4: Medicare Part D Returns for Five LTC Pharmacy Companies

	LTC Pharmacy Company					Total
	A	B	C	D	E	
1 Number of Rxs dispensed						834,407
2 Amount paid for dispensed Rxs including dispensing fee						\$47,012,469
3 Average dispensing fee						\$4.74
4 Amount paid for dispensed Rxs not including dispensing fee						\$43,060,323
5 Number of Rxs returned (with part of Rx unused)						56,833
6 Percentage of returned Rxs	7.5%	8.3%	5.3%	9.7%	3.4%	6.8%
7 Amount paid for unused medication units not including dispensing fee						\$1,631,686
8 Percentage of returned Rx cost	4.0%	4.0%	1.8%	5.5%	2.3%	3.5%
9 Number of Rxs dispensed - solid oral dosage forms						630,409
10 Amount paid for dispensed Rxs including dispensing fee - solid oral dosage forms						\$33,414,089
11 Amount paid for dispensed Rxs not including dispensing fee - solid oral dosage forms						\$30,419,718
12 Number of Rxs returned - solid oral dosage forms						51,265
13 Percentage of returned Rxs - solid oral dosage forms	9.2%	9.2%	6.4%	11.1%	4.0%	8.1%
14 Amount paid for unused medication units not including dispensing fee - solid oral dosage forms						1,343,002
15 Percentage of returned Rx cost - solid oral dosage forms	4.5%	4.7%	2.4%	6.6%	2.7%	4.0%
16 Percentage of solid oral returned Rxs based on all dispensed Rxs	6.8%	7.2%	4.9%	8.8%	3.1%	6.1%
17 Percentage of returned Rx cost - solid oral dosage forms based on amount paid for all dispensed Rxs	3.2%	3.3%	1.7%	4.4%	1.9%	2.9%

The sample consisted of 834,407 dispensed Part D prescriptions with a total cost to Part D plans of just over \$47 million. The average cost per prescription was \$56.34, including dispensing fees. Within this sample were:

- **630,409 (75.6%) dispensed solid oral prescription with a value, including dispensing fees, of \$33.4 million (71.1% of dispensed value).**
- **56,833 (6.8%) prescriptions returned with partially used medications accounting for 3.5% of dispensed cost. Of these, 51,265 (6.1%) were solid oral dosage forms accounting for 2.9% of dispensed cost.**

Key Finding: The number of all returned solid oral prescriptions containing unused medications is 6.1% of all dispensed prescriptions.

The weighted mean value is 6.1% ± 1.9% with a range of 3.1% to 8.8% across the five companies. The standard error of 1.9% is based on a 95% confidence limit.

Key Finding: The value of all returned solid oral prescriptions is 2.9% of the value of all dispensed prescriptions.

The weighted mean value is 2.9% ± 1.0%, with a range of 1.7% to 4.4% across the five companies. The standard error of 1% is based on a 95% confidence limit.

This value is calculated by dividing the value of solid dosage form returned medication (line 14) by total dispensing including the dispensing fee (Line 2). The numerator of this ratio represents the amount of unused Part D medications that could potentially be reduced by shorter fill times. Dosage forms other than oral solids, such as liquids, creams, ointments and powders are typically dispensed in manufacturer containers and would not be practical to split into smaller units. As stated above, oral solid dosage forms account for 75.6% of prescriptions in the sample.

The difference between the 6.1% (Line 16) and the 2.9% (Line 17) is due to the finding that, on average, roughly half of the dispensed units are returned in each prescription. Therefore the ratio for returned value of prescriptions is roughly half the ratio of returned number of prescriptions.

- The number of all returned prescriptions - for all dosages - is 6.8% of all dispensed prescriptions (Line 6).
- The value of all returned prescriptions - for all dosages - is 3.5% of the value of all dispensed prescriptions (Line 8).

Again, on average, about half of the units in returned prescriptions are unused.

Estimation of Total Cost of Unused Part D Medications and Impact of Shorter Fill Times

Table 5A estimates the total Part D prescriptions dispensed over the course of a year to residents in SNFs at 78 million (Medicare Part D symposium, March 2010). Utilizing the calculated average cost per prescription of \$56.34, total charges to Part D plans fall just under \$4.4 billion. Utilizing the 2.9% return rate from Table 4, total annual estimate of unused Part D oral solids is \$125 million or \$1.0 billion over an eight-year period.

Table 5A: Estimate of Annual Value of Returned Oral Solid Medications

1. Annual SNF Medicare Part D Rxs	78,000,000
2. Mean Rx cost with dispensing fee	\$56.34
3. Total annual charges to Medicare Part D plans	\$4,394,704,961
4. Percentage of returned Rx cost--solid oral dosage forms	2.9%
Annual cost of destroyed oral solids	\$125,543,283

➤ Key Finding: \$125 million in unused oral solid medications represents the available annual potential savings in skilled nursing residents covered by Part D plans.

Table 5B shows the impact of reducing the average fill time from 30 to 7 days. The distribution of returned days supply was essentially flat between 1 and 30 days. Therefore, on average, a returned 30-day fill will contain a 15-day supply and a returned 7-day fill will contain a 3.5 day supply.

Moving to a 7-day fill should reduce unused medication by a factor of 3.5/15 (or 7/30). Based on this “reduction factor” (Line 6), there are potential savings of \$96.2 million each year in unused medication (Line 7).

The shorter fill time will apply to about 58.9 million oral solid prescriptions (75.6% x 78 million total Part D prescriptions dispensed over the course of a year). These will increase to 252.6 million prescriptions (30/7 x 58.9) - an additional 193.6 million prescriptions annually.

➤ **Key Finding: Applying an average dispensing fee of \$4.74 to each incremental prescription results in an additional dispensing fee cost of \$917.1 million to Part D plans – resulting in net additional costs of \$820.9 million (Line 12, Table 5B)**

The net additional cost to Part D plans is estimated at \$820.9 million if the dispensing fee of \$4.74 is applied to 193.6 million additional prescriptions. Only a relatively small number of prescriptions (4.8 million = 78 million x 6.1%) will be returned with an average value of about \$26.20. To reduce the \$821 million additional cost figure to zero, the average prescription cost would have to rise to \$537 (Line 13).

Note: This study utilizes \$4.74 as the dispensing fee. However, the average direct cost to dispense is \$7.34.

We also examined the sensitivity of these net additional costs to higher return rates. Raising the return rate from 2.9% to:

- 4% - Results in a net additional cost to Part D plans of nearly \$782 million
- 5% - Results in net additional costs in excess of \$749 million

➤ **Key Finding: The percentage of unused medication value - calculated at 2.9% by this study - would have to exceed 27% to outweigh the additional dispensing fees.**

Table 5B: Impact of Shorter Fill Time (7-day vs. 30-day)

Potential Waste Reduction	Value
5. Annual value of destroyed oral solids	\$125,543,283
6. "Reduction Factor" of 7-day vs. 30-day fill (3.5/15)	0.233
7. Potential waste reduction (30-day value x (1-.233))	\$96,249,850
Increase in Dispensing Fees	Value
8. Annual LTC Medicare Part D oral solid Rx (75.6% of all Rx)	58,930,379
9. Additional oral solid Rx due to 7-day vs. 30-day fill	193,628,387
10. Dispensing fee per Rx	\$4.74
11. Additional dispensing fees	\$917,115,665
12. Net additional cost to payer	\$820,865,815
13. Mean Rx cost required to "break even"	\$537

The focus must be placed on high cost prescription where there is a much higher potential for savings to be achieved through reduced fill times. The next two sections identify the subset of Part D prescriptions that may generate savings by dispensing shorter fill times.

Distribution of Medicare Part D Returned Prescriptions by Cost

Three of the five LTC pharmacy companies provided data on individual returned prescriptions by providing the originally dispensed quantity. Based on data from 47,841 returned prescriptions, we calculated the breakout of returned prescriptions into ranges of dispensed prescription ingredient cost and medication unit cost, based on actual charges to Medicare Part D plans, as described in Table 3.

Table 6 shows the number and cumulative **percentage** of returned prescriptions containing unused medication for all dosage forms and oral solids for each range of dispensed prescription value (cost). The bulk of returned prescriptions are in the lowest cost ranges. These findings were consistent across the three companies.

➤ **Key Finding: ~ 76% of all returned oral solid prescriptions had a dispensed value (cost) of \$50 or less.**

Table 6: Number of Returned Prescriptions by Dispensed Value (3-Company Sample)

Dispensed Value	Number of Returned Prescriptions			
	All Returns	Cum %	Oral Solid Returns	Oral Solid Cum %
\$0 - \$10	15,035	31.4%	14,471	33.1%
\$10 - \$20	12,696	58.0%	11,959	60.5%
\$20 - \$50	7,727	74.1%	6,757	75.9%
\$50 - \$100	4,239	83.0%	3,606	84.2%
\$100 - \$200	4,582	92.6%	4,040	93.4%
\$200 - \$300	1,883	96.5%	1,489	96.8%
\$300 - \$400	455	97.4%	348	97.6%
\$400+	1,224	100.0%	1,043	100.0%
Total	47,841		43,713	

Table 7 shows the breakout of returned prescription **value** for the same prescription cost ranges. The return value was calculated as the number of units returned multiplied by the medication unit cost.

➤ **Key Finding: Prescriptions with dispensed value under \$50 account for less than 16% of the value of returned medications.**

The distribution of returned prescription value in Table 7 demonstrates an inverse relationship to the distribution of returned prescription **numbers** in Table 6. Again, these findings are consistent among the three companies.

Table 7: Value of Returned Prescriptions by Dispensed Value (3-Company Sample)

Dispensed Value	Number of Returned Prescriptions			
	All Returns	Cum %	Oral Solid Returns	Oral Solid Cum %
\$0 - \$10	24,805	1.9%	23,495	2.2%
\$10 - \$20	67,401	7.0%	62,536	7.9%
\$20 - \$50	102,098	14.7%	85,658	15.7%
\$50 - \$100	150,754	26.1%	123,182	27.0%
\$100 - \$200	320,643	50.3%	275,385	52.2%
\$200 - \$300	222,375	67.1%	173,679	68.1%
\$300 - \$400	72,869	72.6%	54,352	73.1%
\$400+	362,332	100.0%	294,073	100.0%
Total	1,323,276		1,092,360	

Table 8 shows the **number** of returned prescriptions containing unused medication for all dosage forms and the number of oral solid returned prescriptions for each category of unit cost. The bulk of returned prescriptions are in the lower unit cost ranges. These findings were consistent across the five companies.

➤ **Key Finding: ~74% of all returned oral solid prescriptions had a medication unit cost of \$1 or less.**

Table 8: Number of Returned Prescriptions by Unit Cost (5-Company Sample)

Unit Cost	Number of Returned Prescriptions			
	All Returns	Cum %	Oral Solid Returns	Oral Solid Cum %
\$0 - \$0.10	9,312	17.6%	8,640	17.8%
\$0.10 - \$0.20	8,240	33.3%	7,784	33.8%
\$0.20 - \$0.50	13,592	59.0%	13,174	60.9%
\$0.50 - \$1.00	6,544	71.4%	6,284	73.9%
\$1 - \$2	3,387	77.8%	2,999	80.0%
\$2 - \$3	3,130	83.8%	3,050	86.3%
\$3 - \$5	3,113	89.7%	2,866	92.2%
\$5 - \$10	2,951	95.3%	2,201	96.8%
\$10 - \$50	2,161	99.4%	1,541	99.9%
\$50+	341	100.0%	37	100.0%
Total	52,771		48,576	

Table 9 shows the breakout of returned prescription **value** into the same unit cost ranges and again demonstrates an inverse relationship to the **number** of prescriptions in Table 8. These findings were consistent among the five companies.

➤ **Key Finding: Prescriptions with unit costs under \$1 account for only 17.4% of the value of returned medications.**

Table 9: Value of Returned Prescriptions by Unit Cost (5-Company Sample)

Unit Cost	Cost of Returned Prescriptions			
	All Returns	Cum %	Oral Solid Returns	Oral Solid Cum %
\$0 - \$0.10	13,717	0.9%	10,358	0.8%
\$0.10 - \$0.20	28,783	2.8%	24,345	2.8%
\$0.20 - \$0.50	92,557	9.0%	84,576	9.5%
\$0.50 - \$1.00	104,931	16.1%	100,139	17.4%
\$1 - \$2	107,327	23.2%	98,228	25.2%
\$2 - \$3	175,036	34.9%	171,097	38.8%
\$3 - \$5	230,907	50.4%	214,510	55.9%
\$5 - \$10	334,758	72.8%	275,835	77.8%
\$10 - \$50	315,911	93.9%	266,109	98.9%
\$50+	90,778	100.0%	13,488	100.0%
Total	1,494,707		1,258,686	

Breakeven Analysis

In Tables 10A and 10B, a net incremental cost analysis was performed based on transitioning from a 30-day to a 7-day fill - similar to Table 5A/B - for each range of **dispensed prescription value**. The last column in Table 10B shows the potential annual net savings to Part D plans resulting from the reduction in unused medication cost and the increase in dispensing fees. A negative number in this column indicates that the Part D plans will see an increase in costs.

➤ **Key Finding: Moving to a 7-day fill results in an increase in costs to Part D plans for all cost ranges except “\$400+”. The annual savings in this cost range are about \$12 million and account for less than 2% of dispensed prescriptions. For all other prescription cost ranges, there are significant additional costs to Part D plans due to reductions in unused medication being exceeded by additional dispensing fees.**

Table 10A: Breakeven analysis based on Prescription Dispensed Value (Part 1)

Prescription Ingredient Cost	Mix of Rx's Dispensed (1)	Mix of Oral Solid Rx's Returned (2)	% of Dispensed Oral Solid Rx's Returned (3)	Rx's Dispensed (4)	Ingredient Cost per Dispensed Rx (5)	Dispensed Value (6)
\$0 - \$10	42.9%	33.1%	4.7%	33,462,000	\$4.66	\$155,922,968
\$10 - \$20	15.4%	27.4%	10.9%	12,012,000	\$14.07	\$168,970,199
\$20 - \$50	13.5%	15.5%	7.0%	10,530,000	\$32.54	\$342,680,091
\$50 - \$100	9.5%	8.2%	5.3%	7,410,000	\$76.47	\$566,647,996
\$100 - \$200	11.0%	9.2%	5.2%	8,580,000	\$149.27	\$1,280,725,897
\$200 - \$300	5.6%	3.4%	3.7%	4,368,000	\$227.38	\$993,187,534
\$300 - \$400	0.6%	0.8%	8.2%	468,000	\$346.48	\$162,152,521
\$400+	1.5%	2.4%	9.8%	1,170,000	\$610.74	\$714,571,192
Total	100.0%	100.0%	6.1%	78,000,000	\$56.34	\$4,394,704,961

Table 10B: Breakeven analysis based on Prescription Dispensed Value (Part 2)

Prescription Ingredient Cost	Oral Solid Rx's Returned (7)	Ingredient Cost per Returned OS Rx (8)	Total Ingredient Cost of Returned OS Rx's (9)	Potential Savings from 7-day Fill (10)	Additional Oral Solid Rx's (11)	Additional Dispensing Fees (12)	Net Savings (Cost) (13)
\$0 - \$10	1,586,450	\$1.70	\$2,700,274	\$2,070,210	83,066,578	\$393,442,620	(\$391,372,410)
\$10 - \$20	1,311,060	\$5.48	\$7,187,128	\$5,510,131	29,818,772	\$141,235,812	(\$135,725,681)
\$20 - \$50	740,767	\$13.29	\$9,844,569	\$7,547,503	26,139,832	\$123,810,615	(\$116,263,112)
\$50 - \$100	395,324	\$35.81	\$14,157,163	\$10,853,825	18,394,697	\$87,125,988	(\$76,272,163)
\$100 - \$200	442,903	\$71.46	\$31,649,533	\$24,264,642	21,299,123	\$100,882,723	(\$76,618,081)
\$200 - \$300	163,238	\$122.28	\$19,960,669	\$15,303,180	10,843,190	\$51,358,477	(\$36,055,298)
\$300 - \$400	38,151	\$163.73	\$6,246,600	\$4,789,060	1,161,770	\$5,502,694	(\$713,634)
\$400+	114,344	\$295.58	\$33,797,346	\$25,911,299	2,904,426	\$13,756,735	\$12,154,564
Total	4,792,237	\$26.20	\$125,543,283	\$96,249,850	193,628,387	\$917,115,665	(\$820,865,815)

(1) Source: Based on 8 million dispensed Part D scripts (LTCPA, 2010)
 (2) Source: Aggregate returns analysis, Table 7
 (3) Overall oral solid Rx return rate from Table 4, Line 16 x (2) / (1)
 (4) Estimated annual Medicare Part D Rx's in skilled nursing facilities from CMS March 2010 Medicare Part D Symposium x (1)
 (5) Source: Same as (1)
 (6) (4) x (5)

(7) (3) x (4)
 (8) Source: Table 7 and 8 [Divide Oral Solid Value by Number of Rx's]
 (9) (7) x (8)
 (10) (9) x [1 - (7/30)]
 (11) (4) x 75.6% x (30/7 - 1)
 (12) (11) x \$4.74
 (13) (10) - (12)

In Tables 11A and 11B, the breakeven analysis was repeated for each range of **dispensed medication unit cost (e.g., cost per tablet)**. This analysis provides a finer breakout between \$10 and \$50 unit cost, as compared with Tables 8 and 9. The last column in Table 11B shows the potential annual net savings to Part D plans resulting from the reduction in unused medication cost **and** the increase in dispensing fees. A negative number in this column indicates that the Part D plans will see an increase in costs.

➤ **Key Finding: Costs to Medicare Part D plans will increase for all unit cost (cost per tablet) ranges, except \$10 to \$20 and \$30 to \$50. Moving to a 7-day fill for prescriptions in these ranges results in savings of only \$1.5 million annually. Less than 2% of dispensed prescriptions are in this cost range. For all other unit cost ranges, there are significant additional costs to Part D plans due to reductions in unused medication being exceeded by additional dispensing fees.**

Although it may appear that unit costs over \$50 should also yield savings, this is not the case because medications in this range have lower costs per prescription due to lower days supply.

Table 11A: Breakeven analysis based on Medication Unit Cost (Part 1)

Unit Cost	Mix of Rx's Dispensed (1)	Mix of Oral Solid Rx's Returned (2)	% of Dispensed Oral Solid Rx's Returned (3)	Rx's Dispensed (4)	Ingredient Cost per Dispensed Rx (5)	Dispensed Value (6)
\$0 - \$0.10	13.9%	17.8%	7.9%	10,851,068	\$2.78	\$30,209,946
\$0.10 - \$0.20	15.7%	16.0%	6.3%	12,274,775	\$6.27	\$76,901,675
\$0.20 - \$0.50	25.8%	27.1%	6.5%	20,149,188	\$12.26	\$246,976,603
\$0.50 - \$1.00	11.9%	12.9%	6.7%	9,315,327	\$30.75	\$286,400,815
\$1 - \$2	6.6%	6.2%	5.7%	5,150,231	\$58.34	\$300,443,952
\$2 - \$3	6.6%	6.3%	5.8%	5,185,033	\$107.38	\$556,784,242
\$3 - \$5	8.7%	5.9%	4.2%	6,776,297	\$134.10	\$908,672,771
\$5 - \$10	8.1%	4.5%	3.4%	6,346,570	\$202.15	\$1,282,938,890
\$10 - \$20	1.6%	2.6%	10.2%	1,229,138	\$356.69	\$438,423,987
\$20 - \$30	0.7%	0.4%	3.5%	526,411	\$387.55	\$204,009,715
\$30 - \$40	0.0%	0.1%	12.2%	33,951	\$646.72	\$21,956,515
\$40 - \$50	0.0%	0.1%	14.5%	26,528	\$244.94	\$6,497,784
\$50+	0.2%	0.1%	2.7%	135,484	\$254.56	\$34,488,066
Total	100.0%	100.0%	6.1%	78,000,000	\$56.34	\$4,394,704,961

Table 11B: Breakeven analysis based on Medication Unit Cost (Part 2)

Dispensed Value	Oral Solid Rxs Returned (7)	Ingredient Cost per Returned OS Rx (8)	Total Ingredient Cost of Returned OS Rxs (9)	Potential Savings from 7-day Fill (10)	Additional Oral Solid Rxs (11)	Additional Dispensing Fees Based on Average Fee (12)	Net Savings (Cost) Based on Average Fee (13)
\$0 - \$0.10	852,374	\$1.21	\$1,033,112	\$792,053	26,936,856	\$127,585,697	(\$126,793,644)
\$0.10 - \$0.20	767,926	\$3.16	\$2,428,246	\$1,861,655	30,471,087	\$144,325,489	(\$142,463,834)
\$0.20 - \$0.50	1,299,673	\$6.49	\$8,435,735	\$6,467,397	50,018,650	\$236,911,996	(\$230,444,599)
\$0.50 - \$1.00	619,944	\$16.11	\$9,988,007	\$7,657,472	23,124,511	\$109,528,625	(\$101,871,153)
\$1 - \$2	295,865	\$33.11	\$9,797,418	\$7,511,354	12,785,011	\$60,555,862	(\$53,044,508)
\$2 - \$3	300,896	\$56.72	\$17,065,484	\$13,083,538	12,871,405	\$60,965,066	(\$47,881,528)
\$3 - \$5	282,744	\$75.67	\$21,395,589	\$16,403,285	16,821,582	\$79,674,975	(\$63,271,690)
\$5 - \$10	217,138	\$126.70	\$27,512,254	\$21,092,728	15,754,822	\$74,622,290	(\$53,529,562)
\$10 - \$20	125,686	\$151.97	\$19,099,886	\$14,643,246	3,051,231	\$14,452,076	\$191,170
\$20 - \$30	18,350	\$263.49	\$4,834,966	\$3,706,808	1,306,771	\$6,189,488	(\$2,482,680)
\$30 - \$40	4,143	\$363.80	\$1,507,412	\$1,155,683	84,280	\$399,190	\$756,493
\$40 - \$50	3,848	\$285.85	\$1,099,812	\$843,189	65,853	\$311,910	\$531,280
\$50+	3,650	\$368.57	\$1,345,361	\$1,031,444	336,327	\$1,593,003	(\$561,560)
Total	4,792,237	\$26.20	\$125,543,283	\$96,249,850	193,628,387	\$917,115,665	(\$820,865,815)

(1) Source: Based on 8 million dispensed Medicare Part D prescriptions
 (2) Source: Aggregate returns analysis, Table 9
 (3) Overall oral solid Rx return rate from Table 4, Line 16 x (2) / (1)
 (4) Estimated annual Medicare Part D Rxs in skilled nursing facilities from CMS March 2010 Medicare Part D Symposium x (1)
 (5) Source: Same as (1)
 (6) (4) x (5)

(7) (3) x (4)
 (8) Source: Table 9 and 10 [Divide Oral Solid Value by Number of Rxs]
 (9) (7) x (8)
 (10) (9) x [1 - (7/30)]
 (11) (4) x 75.6% x (30/7 -1)
 (12) (11) x \$4.74
 (13) (10) - (12)

Note: The \$10 to \$50 range was further broken out to explore potential areas of savings. The individual returned prescription database that was used to create Tables 8 and 9 was used for this further breakout.

Conclusions |

An analysis was performed based on information received from eight LTC pharmacies (five LTC pharmacy companies) to estimate the amount of unconsumed medication among Medicare Part D residents in skilled nursing facilities and the potential cost reductions that could be achieved through shorter fill times.

The primary Key Findings of this study are as follows:

- “Wasteful dispensing” to nursing home residents covered by Medicare Part D, defined as prescriptions that could feasibly be reduced to shorter fill times, amounts to about 2.9% of total dispensed value or about \$125 million annually.
- In moving to shorter fill times, there is a tradeoff between reducing waste and paying additional dispensing fees. Moving all Part D prescriptions to a 7-day fill would result in a new increase in costs to Part D payers of about \$820 million. The Part D return rate (unused medication value) which we estimate at 2.9% would have to exceed 27% in order to outweigh the additional dispensing fees.
- The value of returned prescriptions containing unused medication to LTC pharmacies is heavily skewed toward higher cost prescriptions. Prescriptions of oral solid medications with an **original ingredient cost** of over \$50 account for just 24% of returned prescriptions but over 84% of total returned ingredient value.
- The tradeoff between reduced waste and incremental dispensing fees only becomes favorable for prescriptions with **original dispensed value** of over \$400 and unit costs of over \$10. This will impact less than 2% of prescriptions.

The intent of Section 3310 of PPACA is to decrease financial waste associated with unused medications dispensed to Medicare Part D beneficiaries that reside in LTC facilities. As the costs associated with the implementation of this statute are ultimately paid by the American tax payer it is critical that calculations such as those provided in this study be considered when drafting regulations.

It may appear that implementing a shortened-cycle dispensing regimen will necessarily generate savings in the Medicare Part D program. However, any savings achieved by reducing unused medications are overwhelmingly eliminated by the additional dispensing fees resulting from the far greater number of prescriptions required.

The unique needs of LTC facility residents dictate that the implementation of short cycle dispensing must be carefully considered. As the average length of stay of a nursing home resident is 835 days (CDC, 2009), it is critical to closely examine the complex nature of the delivery of care and financing of prescription drugs for this population to both meet the needs of the resident and pass on meaningful savings to the Medicare program and ultimately tax payers.

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Addendum |

A breakeven analysis based on prescription ingredient cost was carried out for brand and generic products separately. A sample of 10.3 million Medicare Part D dispensed prescriptions was used to establish proportions of brand vs. generic products, oral solid vs. other dosage forms and the breakout by prescription ingredient cost. The sample for this analysis came from one of the national LTC pharmacy companies utilized in the primary study.

The breakout of unused (returned) prescriptions into brand and generic products (Line 4) was established using the sample of 47,841 returned prescriptions from Table 6.

Table 12 shows the estimated value of unused product (Line 5), potential reduction in waste (Line 7), additional dispensing fees (Line 13) and annual savings or additional cost due to shorter fill times (Line 14). Within this sample of 10.3 million, 78.0% of all dispensed prescriptions were solid oral medications. This varies slightly from the sample in the primary study used to calculate return rates where 75.6% of all dispensed prescriptions were solid oral medications, leading to a higher estimate of dispensing fees and higher additional costs to Medicare Part D plans compared to Table 5B. The method used in Table 12 to calculate the annual value of destroyed oral solids (Line 5) is based on the return rate for the number of prescriptions (Line 2) and the mean ingredient cost of returned prescriptions (Line 4). This results in a slightly smaller estimate in Line 5 than the value in Table 5. Table 12 reflects the same algorithm that is used in Tables 13 and 14 to calculate savings.

Key Finding: Of the \$856 million in additional costs to Medicare Part D plans resulting from the 7-day fill, \$154 million is due to brand drugs and \$702 million due to generic drugs. Limiting the 7-day fill to brand products will still increase Medicare Part D costs.

Table 12: Estimate of Annual Value of Returned Oral Solid Medications and Impact of Shorter Fill Time (7-day vs. 30-day): Brand vs. Generics

	All Products	Brand Only	Generic Only
1. Annual SNF Medicare Part D Rxs	78,000,000	19,359,972	58,640,028
2. Percentage of returned Rxs (based on number, not cost)	6.14%	4.29%	6.76%
3. Number of returned Rxs with partially used medication	4,792,237	830,391	3,961,846
4. Mean ingredient cost of each returned Rx	\$24.84	\$103.28	\$8.40
5. Annual value of destroyed oral solids	\$119,044,495	\$85,764,687	\$33,279,807
6. Waste reduction factor of 7-day vs. 30-day fill	76.7%	76.7%	76.7%
7. Potential savings from waste reduction (\$ millions)	\$91,267,446	\$65,752,927	\$25,514,519
8. Percentage of Rxs that are oral solids	78.0%	73.0%	79.7%
9. Total number of oral solid Rxs	60,864,474	14,133,557	46,730,916
10. Incremental Rx factor	3.29	3.29	3.29
11. Additional solid oral prescriptions required by 7-day fill	199,983,271	46,438,832	153,544,439
12. Dispensing fee	\$4.74	\$4.74	\$4.74
13. Additional dispensing fees (\$ millions)	(\$947,215,405)	(\$219,956,282)	(\$727,259,123)
14. Annual savings A - B (\$ millions) (Negative number indicates additional costs to Part D plans)	(\$855,947,959)	(\$154,203,355)	(\$701,744,604)

13A/13B and 14A/14B show the results of the breakeven analysis for brand products and generic products respectively, broken out by prescription cost. The final columns in Table 13B and 14B shows the potential annual **net savings** to Part D plans for brand and generic products respectively calculated from the reduction in unused medication cost **and** the increase in dispensing fees.

Brand Product Analysis (Tables 13A/13B)

The Brand Product Analysis in Tables 13A and 13B shows that costs to Part D plans will increase by an estimated \$154 million annually if all brand products are required to be dispensed in 7-day fills. Modest potential savings might be obtained for prescriptions with ingredient costs over \$400.

Key Finding: Requiring a 7-day fill for oral solid brand products will result in annual additional costs to Part D plans of \$154 million. Limiting shorter fills to high cost oral solid brand products with prescription ingredient costs of over \$400 may result in modest savings to Part D plans.

Note that the number of returned brand prescriptions with partially used medication is 4.3%, which is lower than the 6.1% figure for brands and generics combined.

Table 13A: Breakeven Analysis for BRAND PRODUCTS based on Prescription Ingredient Cost (Part 1)

Prescription Ingredient Cost	Mix of Rxs Dispensed (1)	Mix of Oral Solid Rxs Returned (2)	% of Dispensed Oral Solid Rxs Returned (3)	Rxs Dispensed (4)	Oral Solid Rxs Returned (5)
\$0 - \$10	1.3%	1.0%	3.29%	250,095	8,239
\$10 - \$20	1.6%	1.3%	3.59%	302,897	10,876
\$20 - \$50	6.2%	4.9%	3.36%	1,203,465	40,427
\$50 - \$100	25.7%	17.0%	2.83%	4,985,092	141,053
\$100 - \$150	21.9%	21.2%	4.16%	4,239,801	176,317
\$150 - \$200	16.6%	19.8%	5.11%	3,221,295	164,672
\$200 - \$300	17.9%	17.3%	4.14%	3,461,516	143,470
\$300 - \$400	2.4%	4.2%	7.39%	469,693	34,714
\$400+	6.3%	13.3%	9.02%	1,226,118	110,624
Total	100.0%	100.0%	4.29%	19,359,972	830,391

Table 13B: Breakeven Analysis for BRAND PRODUCTS based on Prescription Ingredient Cost (Part 2)

Prescription Ingredient Cost	Ingredient Cost per Returned OS Rx (6)	Ingredient Cost of Returned OS Rxs (7)	Potential Savings from 7-day Fill (8)	Additional Oral Solid Rxs (9)	Additional Dispensing Fees (10)	Net Savings (Cost) Based on Average Fee (11)
\$0 - \$10	\$2.23	\$18,337	\$14,058	537,806	\$2,547,302	(\$2,533,244)
\$10 - \$20	\$6.94	\$75,436	\$57,834	683,094	\$3,235,457	(\$3,177,623)
\$20 - \$50	\$19.12	\$773,105	\$592,714	2,493,947	\$11,812,513	(\$11,219,799)
\$50 - \$100	\$42.88	\$6,048,517	\$4,637,196	9,103,536	\$43,118,654	(\$38,481,458)
\$100 - \$150	\$62.20	\$10,966,515	\$8,407,662	9,044,251	\$42,837,851	(\$34,430,189)
\$150 - \$200	\$86.56	\$14,254,734	\$10,928,630	9,890,305	\$46,845,164	(\$35,916,535)
\$200 - \$300	\$120.38	\$17,270,699	\$13,240,869	10,618,185	\$50,292,750	(\$37,051,881)
\$300 - \$400	\$161.20	\$5,595,815	\$4,290,125	1,114,276	\$5,277,736	(\$987,611)
\$400+	\$285.88	\$31,624,950	\$24,245,795	2,953,433	\$13,988,854	\$10,256,941
Total	\$103.28	\$85,764,687	\$65,752,927	46,438,832	\$219,956,282	(\$154,203,355)

Generic Product Analysis (Tables 14A/14B)

The Generic Product Analysis in Tables 14A and 14B shows that costs to Part D plans are likely to increase by over \$702 million annually if all generic products are required to be dispensed in 7-day fills. Again, very modest savings may result from limiting 7-day fills to prescriptions with ingredient costs over \$400.

Key Finding: Requiring a 7-day fill for oral solid generic products will result in annual additional costs to Part D plans of nearly \$702 million. There are no significant savings opportunities for oral solid generic products at any level of medication cost.

Table 14A: Breakeven Analysis for GENERIC PRODUCTS based on Prescription Ingredient Cost (Part 1)

Prescription Ingredient Cost	Mix of Rxs Dispensed (1)	Mix of Oral Solid Rxs Returned (2)	% of Dispensed Oral Solid Rxs Returned (3)	Rxs Dispensed (4)	Oral Solid Rxs Returned (5)
\$0 - \$10	54.4%	39.8%	4.94%	31,917,294	1,577,593
\$10 - \$20	20.0%	32.8%	11.06%	11,755,525	1,299,685
\$20 - \$50	16.0%	17.7%	7.44%	9,406,292	700,142
\$50 - \$100	6.6%	6.4%	6.57%	3,875,675	254,458
\$100 - \$150	1.6%	1.8%	7.61%	934,973	71,121
\$150 - \$200	0.7%	0.8%	8.21%	381,565	31,341
\$200 - \$300	0.5%	0.5%	7.47%	268,591	20,054
\$300 - \$400	0.1%	0.1%	5.84%	60,082	3,507
\$400+	0.1%	0.1%	9.85%	40,032	3,945
Total	100.0%	100.0%	6.76%	58,640,028	3,961,846

Table 14B: Breakeven Analysis for GENERIC PRODUCTS based on Prescription Ingredient Cost (Part 2)

Prescription Ingredient Cost	Ingredient Cost per Returned OS Rx (6)	Ingredient Cost of Returned OS Rxs (7)	Potential Savings from 7-day Fill (8)	Additional Oral Solid Rxs (9)	Additional Dispensing Fees (10)	Net Savings (Cost) Based on Average Fee (11)
\$0 - \$10	\$1.62	\$2,556,449	\$1,959,944	85,274,575	\$403,900,740	(\$401,940,796)
\$10 - \$20	\$5.21	\$6,777,754	\$5,196,278	30,095,578	\$142,546,898	(\$137,350,620)
\$20 - \$50	\$12.31	\$8,615,694	\$6,605,365	24,421,293	\$115,670,801	(\$109,065,436)
\$50 - \$100	\$29.34	\$7,465,311	\$5,723,405	9,855,755	\$46,681,519	(\$40,958,114)
\$100 - \$150	\$44.58	\$3,170,531	\$2,430,741	2,277,873	\$10,789,084	(\$8,358,344)
\$150 - \$200	\$58.61	\$1,836,980	\$1,408,351	867,716	\$4,109,915	(\$2,701,563)
\$200 - \$300	\$89.97	\$1,804,328	\$1,383,318	575,949	\$2,727,969	(\$1,344,651)
\$300 - \$400	\$106.68	\$374,095	\$286,806	111,160	\$526,506	(\$239,700)
\$400+	\$172.03	\$678,665	\$520,310	64,540	\$305,690	\$214,620
Total	\$8.40	\$33,279,807	\$25,514,519	153,544,439	\$727,259,123	(\$701,744,604)

Notes to Tables 14A/B and 15A/B:

(1) The breakout of dispensed Rxs is based on a sample of 10.3 million Part D Rxs

(2) The breakout of returned oral solid Rxs is based on a sample of 47,841 individual returned Rx

(3) Oral solid Rx return rate from Table 12, Line 2 x (2) / (1)

(4) Annual Rxs (Table 12, Line 1) x (1)

(5) (3) x (4)

(6) Source: Same as (2)

(7) 5) x (6).

(8) (7) x [1 - (7/30)] (This factor accounts for expected returns under 7-day fill compared to 30-day fill)

(9) (4) x % of oral solid prescriptions* x [(30/7) - 1] *same source as (1)

(10) (9) x \$4.74. The dispensing fee of \$4.74 was based on the reported dispensing fees from 8 LTC pharmacy companies.

(11) (8) - (10)

Note: Tables 13 and 14 calculate the additional dispensed oral solid prescriptions using the proportion of oral solids in each prescription ingredient cost range, rather than using a constant proportion as was done in Tables 11 and 12. This provides a more accurate calculation of potential savings. This improved algorithm was made possible by the acquisition of the 10.3 million dispensed prescription database that included all dosage forms after the primary study was completed.

Conclusion

Performing this tradeoff separately for brand and generic products, we see that savings due to shorter fills for brand products are only feasible for prescriptions with ingredient costs over \$400. Even limiting shorter fills to this range is unlikely to yield savings of more than \$10 million annually and could very likely result in additional costs to Medicare Part D sponsors. Moving all **brand** products to a 7-day fill will add \$154 million annually to Part D plan costs based on current dispensing fees.