

# **Center for Sustainable Health Spending Data Brief**

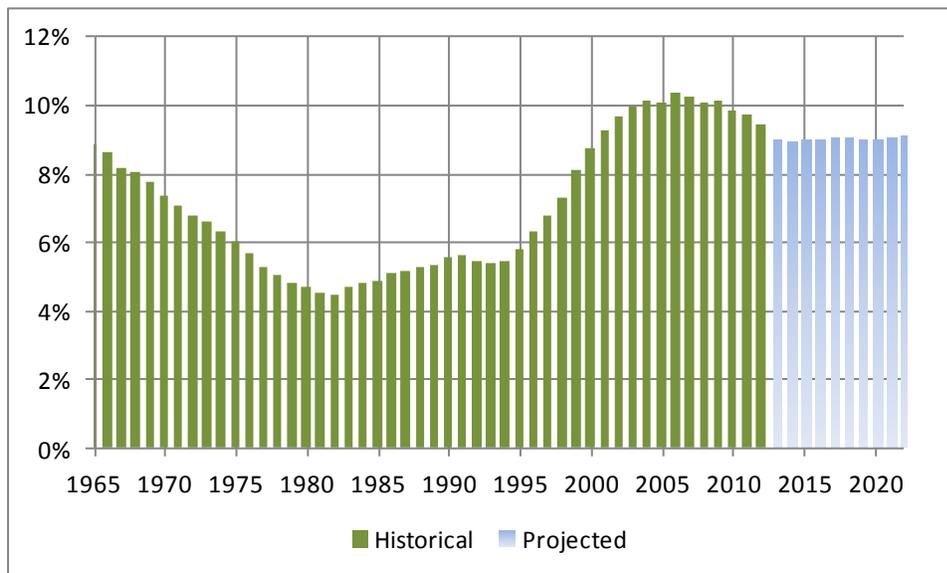
## **The Prescription Drug Share of National Health Expenditures**

June 2014

## Background

Each year, the Centers for Medicare & Medicaid Services (CMS) updates their [historical and projected estimates of national health expenditures](#) (NHE), including spending on prescription drugs. The chart below shows the prescription drug share of NHE for each year from 1965 to 2012 (historical) and 2013 to 2022 (projected).

**Exhibit 1: Retail Prescription Drug Share of NHE: Historical and Projected**



Source: CMS Office of the Actuary

CMS defines prescription drug spending to include “‘retail’ sales of human-use dosage-form drugs, biological drugs, and diagnostic products that are available only by a prescription.”

The prescription drug share of NHE peaked at 10.4% in 2006 (the first year of Medicare Part D prescription drug coverage) and has since fallen to 9.4% in 2012. CMS projects this share to stabilize at 9.0% starting in 2013.

A more complete picture of spending on pharmaceuticals would include the **nonretail** segment. This segment includes drugs that are purchased by providers such as hospitals, physician offices, nursing homes, and home health agencies and billed to patients as part of the provider bill. Drug spending for this nonretail segment is not separated out in the CMS health accounts. The objective of this study is to estimate the size of this nonretail segment and how it has trended in recent years.

## Primary Data Source: Purchases from Wholesalers by Retail and Nonretail Segments

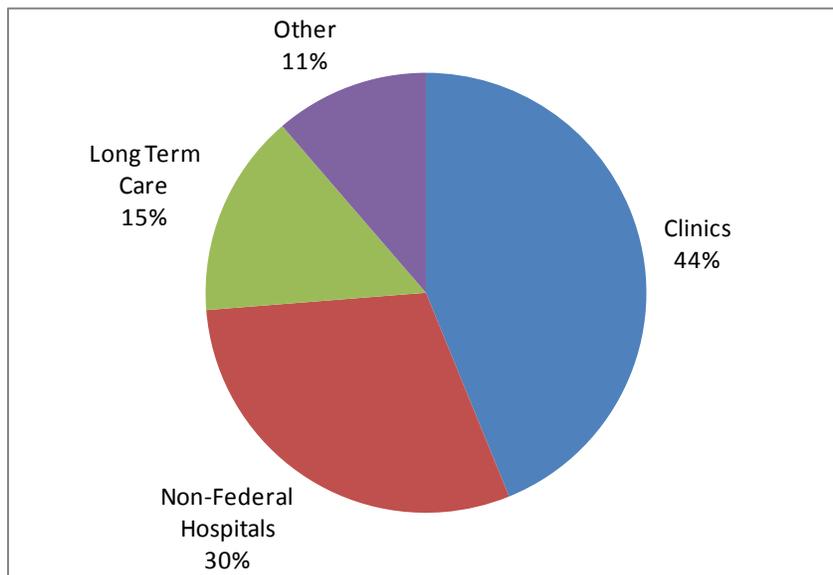
The IMS Institute for Healthcare Informatics collects and publishes data on wholesale purchases of prescription drugs by different “dispensing locations.” As shown in the table below, these dispensing locations are divided into retail and institutional “channels”, where the institutional channels represent nonretail. The largest retail channels are chain stores but mail service has been growing most rapidly. Among institutional channels, clinics and hospitals are dominant with long term care facilities also significant. In 2013, clinics accounted for about 44% of institutional spending, with nonfederal hospitals adding 30% and long-term care facilities adding 15% (see chart).

**Exhibit 2: Prescription Drug Spending by “Dispensing Location”: Wholesale (\$ billions)**

	2008	2009	2010	2011	2012	2013
Total Spending	285.5	300.2	315.7	328.5	326.2	336.4
Retail Channels	203.5	214.9	226.8	236.0	234.0	241.4
Chain Stores	99.7	105.3	108.0	112.3	110.3	113.8
Mail Service	46.5	51.0	59.4	63.8	65.9	68.0
Independent	36.9	37.4	38.1	38.3	36.2	37.4
Food Stores	20.4	21.2	21.3	21.6	21.6	22.3
Institutional Channels	82.0	85.3	88.9	92.5	92.2	94.9
Clinics	33.0	34.6	36.7	38.6	39.5	41.6
Non-Federal Hospitals	26.8	27.6	28.1	28.2	28.0	28.4
Long Term Care	13.7	13.8	14.7	15.2	14.0	14.2
Federal Facilities	3.8	4.1	3.9	4.2	4.4	4.1
Home Health Care	2.5	2.5	2.5	2.7	2.7	2.6
HMO	1.3	1.7	2.1	2.6	2.8	3.1
Misc	0.9	1.0	1.0	1.0	0.9	1.0
Ratio of Institutional to Retail	0.40	0.40	0.39	0.39	0.39	0.39

Source: IMS Institute for Healthcare Informatics with author's adjustments<sup>1</sup>

<sup>1</sup> This table is similar to that in appendix 6 of the April 2014 IMS Health report *Use of Medicines in the United States in 2013*. Unpublished data from IMS were used to adjust 2012 and 2013 estimates to improve trend accuracy. The ratio of institutional to retail was unaffected by these adjustments.

**Exhibit 3: Institutional Prescription Drug Spending in 2013: Wholesale**

Source: computed from preceding table

The ratio of institutional spending to retail spending has been surprisingly constant over this period, equal to 0.39 in each of the past 4 years. This ratio might seem to be all that is needed in order to estimate the nonretail prescription drug share of national health expenditures, since the retail component is already known. However, there are two potential complications.

First, the ratio computed from the IMS data refers to wholesale purchases by dispensing locations while the needed ratio is for payments by consumers. These ratios may be different if the markups by retailers differ from the markups by institutions. If retail markups were higher than institutional, the ratio of institutional to retail payments would be higher than the wholesale ratio and vice versa.

A second problem arises because retail prescription drug spending in the national health accounts does not include purchases from retail pharmacies owned by physician practices and hospitals. The health accounts, which are revenue based, include this spending in the physician, hospital, and long-term care sectors respectively. A recent government study estimated that about \$10.7 billion of retail pharmacy spending fell into this category in 2007, which is about 4.5% of the 236 billion in spending reported in the health accounts that year.<sup>2</sup> It is difficult to determine whether sales of drugs to institution-owned retail pharmacies are counted as institutional or retail in the IMS data, but there is likely a mixture of both.<sup>3</sup> Thus the IMS data may not match up perfectly with the definition of retail spending used in the national health accounts. This means that the ratio of institutional to retail in the health accounts should be a bit larger than in the IMS data.

<sup>2</sup> Bernard D, Cowan C, Selden T, Cai L, Catlin A, Heffler S. Reconciling medical expenditure estimates from the MEPS and NHEA, 2007. *Medicare & Medicaid Research Review*. 2012;2(4):E1–E20.

<sup>3</sup> Personal communication from Michael Kleinrock at IMS, May 16, 2014.

## Estimates of the “Nonretail” Prescription Drug Spending Share of NHE

Given these uncertainties, CSHS has generated high, low, and middle estimates of “nonretail” drug spending.<sup>4</sup> The middle estimates are based on the following assumptions (high and low will be discussed later):

1. Retail and institutional markups are the same.
2. Half of sales to institution-owned retail pharmacies in the IMS data are assigned to retail channels and the remainder to institutions.

The first assumption results in no adjustment to the .39 ratio of institutional to retail from IMS. Under the second assumption, the IMS ratio is adjusted upward (to about .40 for 2013 in order to be applicable to the national health accounts).<sup>5</sup>

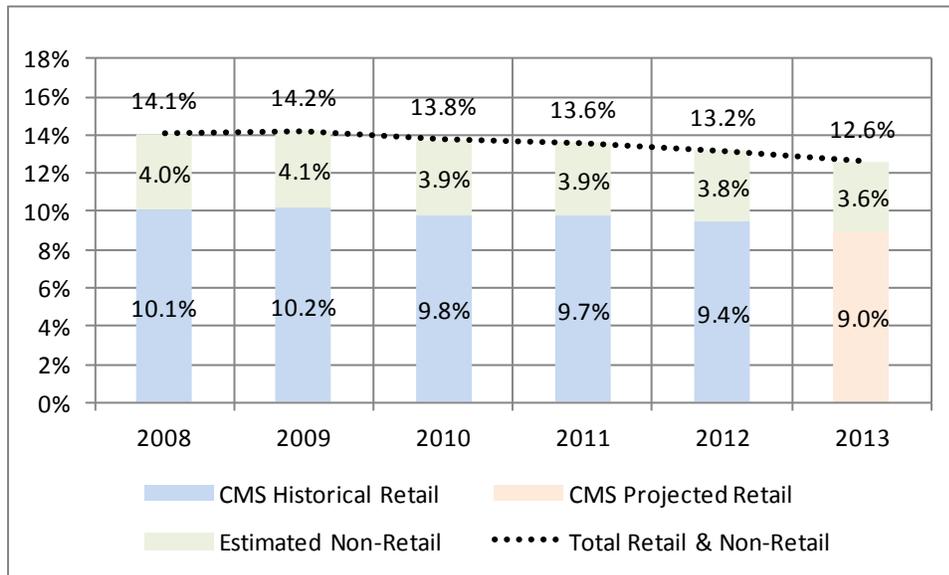
Resulting estimates of prescription drug shares of national health expenditures are shown in the chart below for 2008 through 2013. The nonretail component adds somewhat less than four percentage points to the share each year. The total share follows the same pattern as the retail share, reflecting the very stable ratio of nonretail to retail spending. Thus the total share rises slightly between 2008 and 2009 and then declines steadily, with the biggest declines in the last 2 years. Note that retail spending in 2013 is currently a “projected” number from CMS. The official estimate will be released in January 2015.

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<sup>4</sup> In this context, “nonretail” refers to spending not captured in the NHE retail category. As explained earlier, while the vast majority of drug spending not captured in the NHE is nonretail, there is a small retail component. The quotation marks are used to emphasize that there is small retail component to what we are terming “nonretail” spending.

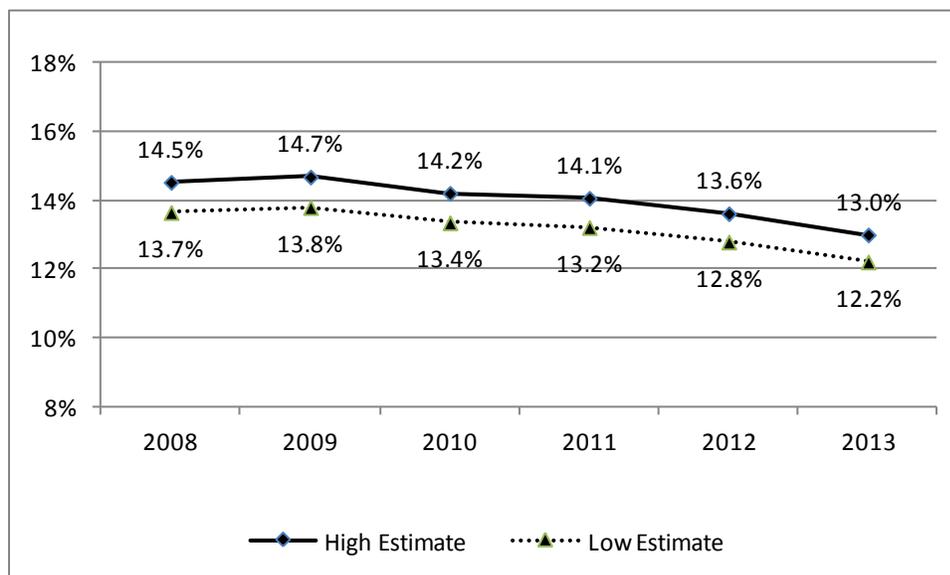
<sup>5</sup> As noted earlier, retail drug spending in the health accounts is understated by about 4.5%. Under our “middle” assumption, IMS undercounts by about half this amount. This would mean that the ratio of institutional to retail in the health accounts would be somewhat larger than in the IMS data. Specifically, the health account ratio would equal the IMS ratio divided by .775 (i.e.,  $1 - .225$ ).

**Exhibit 4: Estimated Prescription Drug Share of NHE, Including Nonretail**



Source: Author's calculations based on CMS and IMS data and stated assumptions

The next chart compares the total prescription share of NHE under high and low estimates for the nonretail components. The high estimate assumes that the markup on wholesale is 10 percentage points higher for institutional outlets compared to retail and that the sales to institution-owned retail outlets are counted under the retail segment by IMS. The low estimate assumes that the markup on wholesale is 10 percentage points higher for retail outlets compared to institutional and that sales to institution-owned retail outlets are counted under the institution segment by IMS. The gap between the high and low estimates is within a percentage point in every year. Furthermore, the overall pattern of a slight increase in 2009 followed by 3 years of decline is the same in each.

**Exhibit 5: Prescription Drug Share of NHE: High and Low Estimates**

Source: Author's calculations based on CMS and IMS data and stated assumptions

## The Role of Specialty Drugs

The shrinking nonretail drug share of NHE is somewhat surprising in view of [the rapid reported growth in spending on specialty drugs](#) and their relative importance in the nonretail segment.<sup>6</sup> However, a closer look reveals that spending on specialty drugs has grown quite slowly in the nonretail segment. As illustrated in the chart below, specialty drug spending growth rates in this segment were about 5% or less for 2010 through 2013. Furthermore, the shrinking nonretail drug share of NHE is due to the fact that traditional drugs, with their very low spending growth, are also an important component of nonretail sales. In 2012, spending on traditional drugs actually declined in both sectors.

<sup>6</sup> Specialty drugs are defined as “being typically high-cost, scientifically engineered drugs used to treat complex chronic conditions that require special storage, handling, and administration, and involve a significant degree of patient education, monitoring, and management.”

[http://www.imshealth.com/imshealth/Global/Content/Corporate/Press%20Room/IMS Health in the News/PharmaVOICE\\_2\\_2014\\_SpecialtyDrugs.PDF](http://www.imshealth.com/imshealth/Global/Content/Corporate/Press%20Room/IMS_Health_in_the_News/PharmaVOICE_2_2014_SpecialtyDrugs.PDF)

**Exhibit 6: Annual Spending Growth for Traditional and Specialty Drugs by Retail/Nonretail**



Source: Unpublished data from the IMS Institute for Healthcare Informatics

## Conclusions

The main finding of this study is that the growth in drug sales in the nonretail sector has been essentially identical to the growth rate in the retail sector. As a result, the downward trend in retail drug sales as a share of NHE is matched by a downward trend in the total drug sale share of NHE. Between 2009 and 2013, retail drug sales fell from 10.2% of NHE to 9.0%. Over this same period, total drug sales, including nonretail, fell from 14.2% of NHE to 12.6%. The rapid growth in spending on specialty drugs has been more than offset by slow growth in traditional drugs resulting in the shrinking overall share of NHE.

NOTES: The primary author of this report was Charles Roehrig, Altarum Center for Sustainable Health Spending. Thanks to Michael Kleinrock of the IMS Institute for Healthcare Informatics for helpful discussions of the data. Funding was provided by the Pharmaceutical Research and Manufacturers of America.