

Center for Sustainable Health Spending Data Brief

A 10-Year Projection of the Prescription Drug Share of National Health Expenditures, Including Nonretail

October 2014

Background

The [latest forecast](#) of national health expenditures (NHE) by the Centers for Medicare & Medicaid Services (CMS) has prescription drug spending making up roughly 9.5% of total health spending each year from 2013 through 2023. In these data, spending on prescription drugs is limited to retail purchases from various outlets, including chain stores, food stores, independent pharmacies, and mail service. A more complete picture of spending on pharmaceuticals would include drugs that are administered during encounters with health care providers (e.g., hospitals, physicians, nursing homes, home health visits) and charged to patients as part of the provider bill. This nonretail segment is included in the CMS forecast of NHE but counted as spending on the provider administering the drugs. Thus, it is not directly visible as spending on prescription drugs.

By using data from the IMS Institute for Healthcare Informatics, Altarum Institute showed in a [previous study](#) a remarkably stable relationship between retail and nonretail drug spending between 2008 and 2013. In each year, the share of NHE that was accounted for by nonretail drugs was about 0.40 times the share accounted for by retail drugs. If this pattern were to continue and be applied to the CMS 10-year forecast of retail drug spending, the share of NHE accounted for by nonretail prescription drugs would be roughly constant at about 3.8 percent, bringing the total prescription drug share to about 13.3 percent.

In this study, Altarum seeks to determine whether this pattern is likely to continue and, if not, how it is likely to change. Results are summarized in a 10-year forecast of nonretail prescription drug spending as a share of NHE that can be combined with the CMS forecast to produce total prescription drug spending as a share of NHE.

Data and Approach

Altarum's approach to developing a 10-year forecast of total prescription spending starts with the CMS forecast of the retail component, which we take as a given. We then project the ratio of nonretail to retail spending and apply it to the CMS forecast. In order to project this ratio, we examine the relationship between nonretail and retail spending separately for traditional drugs, which are mainly retail and for which spending has grown slowly; and specialty drugs, which are mainly nonretail and for which spending has grown rapidly.¹ In conducting this analysis, we employ the IMS data described in the previous study.

Trends in the Nonretail Share of Spending on Traditional and Specialty Drugs

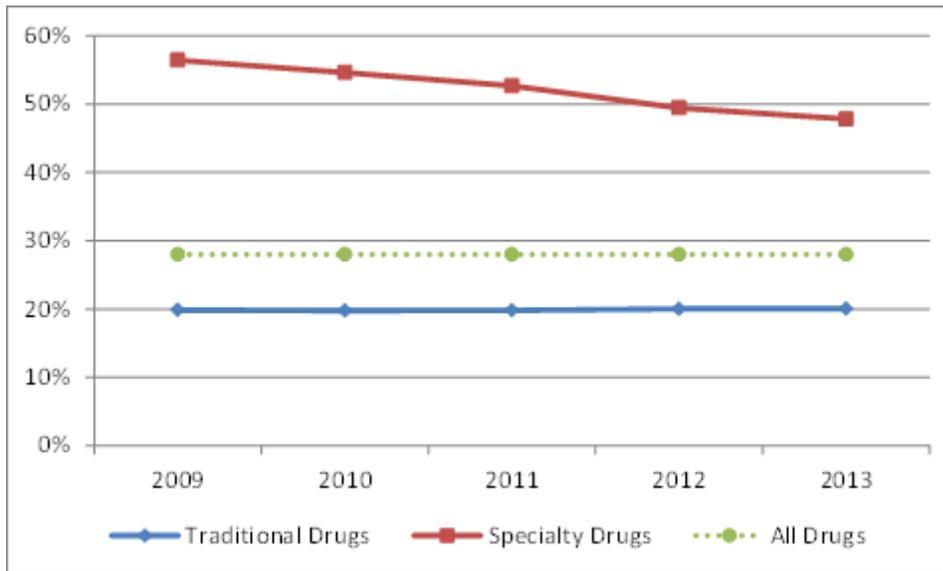
As noted above, the ratio of nonretail to retail spending on prescription drugs was roughly 0.40 each year between 2008 and 2013.² This ratio is equivalent to a nonretail share of total prescription drug

¹ Altarum employs the IMS definition of specialty drugs, which characterizes them 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).

² The ratio actually declined slightly from 0.40 in 2009 to 0.39 in 2013. Data from before 2008 were not available, so Altarum could not determine how long this stability has existed.

spending of 28%.³ The chart below plots this nonretail share from 2009 through 2013 and provides a breakdown for traditional drugs and specialty drugs. For traditional drugs, the nonretail share of spending has remained essentially constant at 20%.⁴ However, for specialty drugs, this share has declined steadily over time, falling from 56% in 2009 to 48% in 2013.

Exhibit 1: Nonretail Shares of Drug Spending



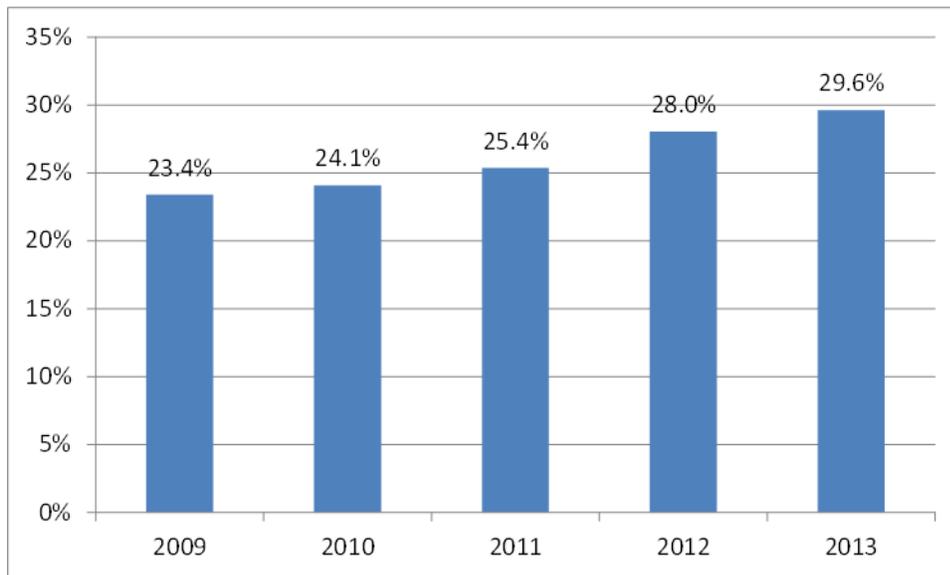
Source: Author's calculations from unpublished IMS data

One of the puzzling aspects of the data in Exhibit 1 is that the nonretail share of overall drug spending has remained constant, despite the fact that it is a weighted average of one component that is falling (specialty) and one that is constant (traditional). If the weights did not change over time, the nonretail share of overall drug spending would also be declining. However, between 2009 and 2013, the average annual rate of growth in spending on specialty drugs (9.2%) has far exceeded that on traditional drugs (0.7%). As a result, the specialty drug share of total drug spending has increased from 23% to 30% over this period (Exhibit 2). Since the weights in the weighted average are the shares of total drug spending, the weights assigned to the specialty drug component have increased, and this is what has kept the weighted average from falling.

Because the growth in spending on traditional drugs has been slow and the nonretail share has been quite steady, it is useful to focus attention initially on specialty drugs. The most important question is whether the recent historical decline in the nonretail share of spending on specialty drugs is likely to continue.

³ Altarum uses the 2013 ratio of 0.39 to compute this percentage.

⁴ There is actually a small upward trend from 19.9% in 2009 to 20.1% in 2013.

Exhibit 2: Specialty Drug Shares of Total Drug Spending

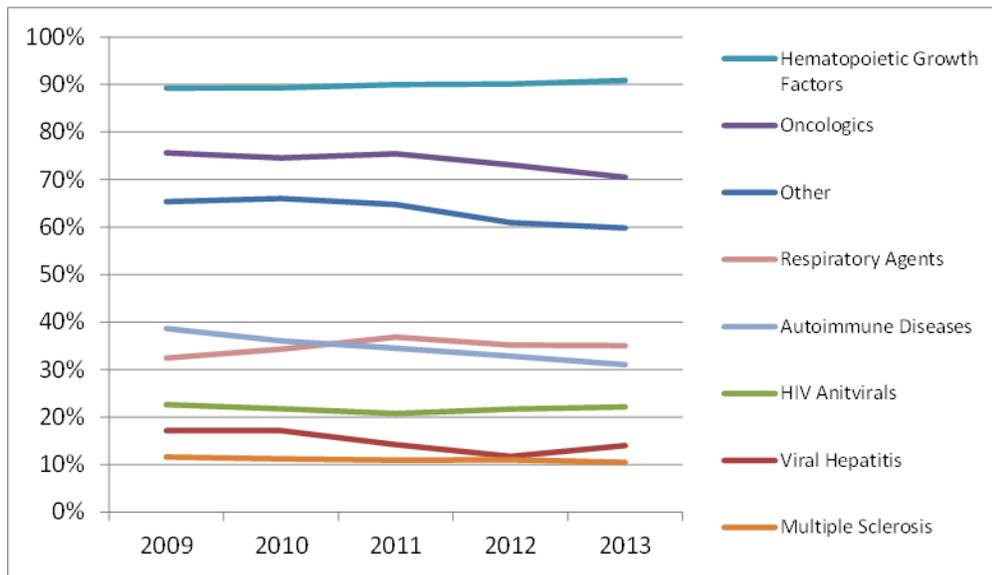
Source: Author's calculations from unpublished IMS data

Historical Patterns in the Nonretail Share of Specialty Drug Spending by Therapeutic Class

Exhibit 1 shows a steady decline in the nonretail share of specialty drug spending. In order to determine whether this pattern is likely to continue, it is first useful to look more closely at what has been driving this recent decline. Exhibit 3 displays the nonretail shares of specialty drug spending by therapeutic class for each year from 2009 through 2013. There is wide variation, ranging from hematopoietic growth factor drugs, which are more than 90% nonretail; to multiple sclerosis drugs, which are only 10% nonretail. The nonretail percentages show some decline over time for oncologics, autoimmune diseases, and "other." These three therapeutic classes account for nearly 70% of all specialty drug spending, so they help explain some of the decline in the nonretail share of specialty drug spending over this period.⁵

⁵ In 2013, oncologics accounted for 29% of specialty drug spending, while "other" and autoimmune diseases accounted for 22% and 18%, respectively.

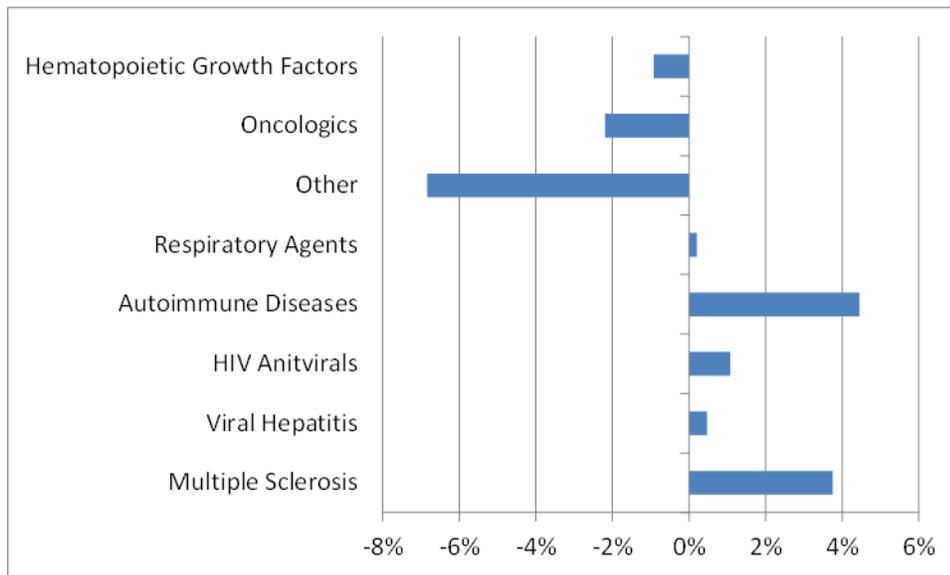
Exhibit 3: Nonretail Shares of Specialty Drug Spending by Therapeutic Class



Source: Author’s calculations from unpublished IMS data

A second reason that the nonretail share has been falling over time is that most growth has occurred in those therapeutic classes that have smaller nonretail spending shares. This is shown in Exhibit 4, where the therapeutic classes are presented in the same order as Exhibit 3 and thus ranked in descending order in terms of the nonretail percentage. The bars show the change between 2009 and 2013 in the share of specialty drug spending attributable to each therapeutic class. It is striking that the top three therapeutic classes (in terms of nonretail concentration) show a declining share of specialty drug spending while the bottom five show an increasing share.

In summary, the downward trend in the nonretail share of spending on specialty drugs shown in Exhibit 1 can be attributed to both a downward trend within some of the larger therapeutic classes (oncologics and other) and a shift in spending toward therapeutic classes for which nonretail spending is relatively low (autoimmune diseases and multiple sclerosis).

Exhibit 4: Change in Share of Specialty Drug Spending, 2009–2013

Source: Author's calculations from unpublished IMS data

The Nonretail Share of the Increase in Specialty Drug Spending

Another potentially useful statistic is the nonretail share of the increase in prescription drug spending. In this section, Altarum examines this statistic for specialty drugs. Between 2009 and 2013, the average annual increase in total (retail and nonretail) specialty drug spending was about \$7.4 billion. Nonretail spending accounted for only \$2.0 billion, or 27%, of this growth. The problem of forecasting the future nonretail share of specialty drug spending can be reduced to forecasting the nonretail share of future increases in such spending. A simple approach is to start with the historical average of 27% and then see whether any information suggests that this trend is likely to be higher or lower over the next 10 years.

Over the 2009–2013 period, the annual nonretail share of the increase in specialty drug spending was about 30%, except for 2012, when it was only 17%. If 2012 was an anomaly, then perhaps the 27% figure is too low. However, the introduction of the hepatitis C drug Sovaldi in December 2013 suggests that, at least in the near term, 27% could be too high. Spending on this specialty drug has been reported to be \$5.1 billion for the first half of 2014 and could reach \$10 billion for the year.⁶ While spending on other hepatitis C drugs will decline in 2014, the offset should be relatively small.⁷ As a result, the increase in specialty drug spending in 2014 should be at more than twice its normal rate. Sovaldi is predominantly a retail drug with a nonretail share of about 12%, and therefore the nonretail share of the increase in specialty drug spending in 2014 is likely to be substantially smaller than 27%.⁸ For purposes of a 10-year forecast, it seems reasonable to use the 27% figure but characterize this as more likely to be biased upward than downward.⁹

⁶ http://www.nytimes.com/2014/07/24/business/sales-of-hepatitis-c-drug-sovaldi-soar.html?_r=0

⁷ For example, the hepatitis C drug Incivek is being taken off the market due to Sovaldi. However, its U.S. sales were less than \$250 million in 2013, according to unpublished IMS data.

⁸ The 12% figure is based on unpublished IMS data through July 2014.

⁹ It seems clear that the nonretail share of increased spending will be well below 27% in 2014, so even if it reverts to 27% in subsequent years, the 10-year average would be below 27%.

The Nonretail Share of the Increase in Traditional Drug Spending

The nonretail share of spending on traditional drugs has been relatively constant at about 20% over the 2009–2013 period. However, the nonretail share of the spending increase over this period was actually about 27%, the same as for specialty drugs. Because the increase in spending was so small over this period, it did little to raise the overall average.¹⁰ The volatility in the historical pattern makes it particularly difficult to predict whether this 27% share is likely to apply to future increases in traditional drug spending. First, spending on traditional drugs actually declined in 2012 by more than \$10 billion, and this was highly concentrated in the retail sector.¹¹ In the remaining years when spending increased, the nonretail share of the increase ran between 18% and 23%. Given this uncertainty, Altarum’s forecast uses the historical average of 27%, the same figure as with specialty drugs. Also, as with specialty drugs, it could be viewed as a somewhat high estimate.

Adjusting the CMS 10-Year Forecast to Include Nonretail Spending

Under the assumptions outlined above, Altarum’s forecast specifies that 27% of the increase in total prescription drug spending (retail plus nonretail) will be nonretail. An equivalent specification is that the ratio of the increase in nonretail spending to the increase in retail spending is equal to 0.37.¹²

Altarum begins with the CMS forecast of retail prescription drug spending released in September 2014. In 2013, this forecast shows \$272 billion, which is 9.4% of NHE.¹³ The ratio of nonretail to retail spending appropriate for application to the CMS forecast for 2013 is 0.40.¹⁴ Thus, we estimate about \$109 billion in nonretail spending in 2013, about 3.7% of NHE. This brings total prescription drug spending in 2013 to \$381 billion or 13.1% of NHE. For subsequent years, we use the CMS forecast for retail prescription drug spending and estimate the year-to-year increase in nonretail to be 0.37 times the CMS-forecasted increase in retail.

Results are shown in Exhibit 5. Spending on prescription drugs, both retail and nonretail, rises from 13.1% of NHE in 2013 to 13.5% in 2015 and then slowly declines to 13.0% in 2023. The increase in this statistic in 2014 and 2015 is a direct reflection of the increase in the retail prescription drug spending share of NHE forecasted by CMS (rising from 9.4% in 2013 to 9.6% in 2015). CMS attributes high growth in prescription drug spending in 2014 and 2015 to expanded coverage under the Patient Protection and Affordable Care Act and also to spending on hepatitis C.

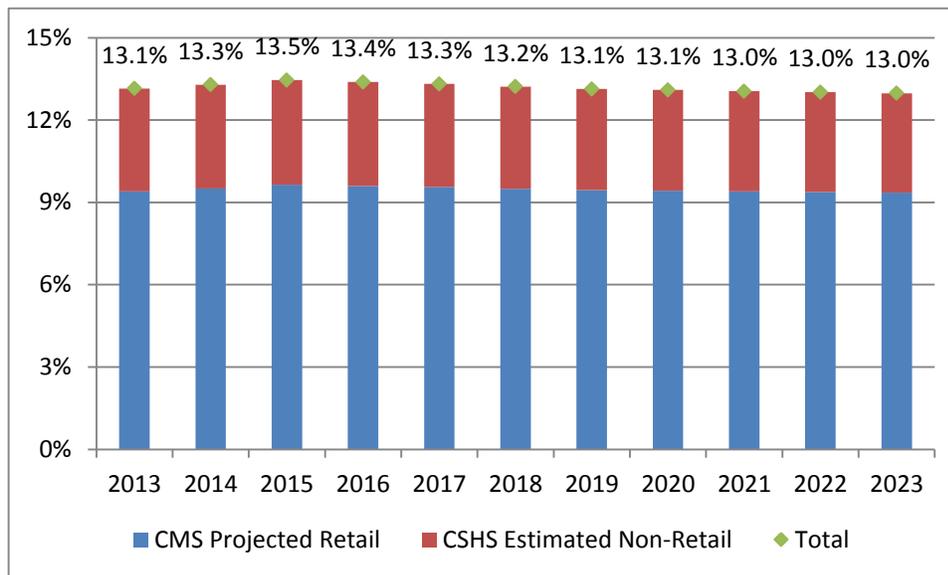
¹⁰ The increase was only about \$7 billion or 3% of traditional drug spending in 2009.

¹¹ About 85% of the decline was retail.

¹² Computed as $0.27/(1-0.27)$.

¹³ The previous CMS forecast for 2013 was \$10 billion lower, accounting for 9.0% of NHE. This is the forecast used in Altarum’s previous study and is the source of the differences in the 2013 estimates between that study and this one.

¹⁴ A small amount of retail drug spending is not recognized in the CMS data. Altarum adjusts the nonretail-to-retail ratio up a small amount, so this unrecognized retail spending is captured in our nonretail figure. Thus, to be precise, our nonretail estimate actually includes a bit of retail to reach an accurate total amount. This is explained in our earlier study.

Exhibit 5: Prescription Drug Share of National Health Expenditures, 2013–2023

Source: Retail share is from CMS Office of the Actuary forecast. Non-retail share is CSHS projection.

Summary and Conclusions

Given the CMS 10-year forecast of NHE and its retail prescription drug component, Altarum’s research suggests that the total prescription drug spending share of NHE will remain around 13% over the next 10 years. Perhaps the most interesting detailed finding is that the nonretail share of the growth in spending on prescription drugs between 2009 and 2013 has been the same (27%) for both traditional and specialty drugs. This is surprising because overall spending for specialty drugs has a much higher retail share (around 50%) while overall spending for traditional drugs has a significantly lower nonretail share (20%). We assume that this 27% share will continue throughout the 10-year period, though we suspect that it could be smaller in the very near term. It should be emphasized that we have adopted the CMS forecast for retail prescription drug spending. The accuracy of our forecast of these overall percentages will tie closely into the accuracy of the CMS forecast.

NOTES: The primary author of this report was Charles Roehrig, Altarum Center for Sustainable Health Spending. Funding was provided by the Pharmaceutical Research and Manufacturers of America.