

Premise #1

*If prices aren't linked to quality or quantity; or subjected to other constraints (e.g. caps, closely-matched substitutes), they do just what they want to: run free**

** Assumes profit-maximizing producers who are free to nominate prices, i.e. to set 'list' prices*

Premise #2

Far more often than not, individuals in industry and the capital markets are moral actors; however as a group, the capital markets are morally agnostic

Stated differently: The capital markets function primarily as a means of allocating capital to its most economically efficient uses, largely independent of whether these allocations are the most socially efficient uses

I.e. all else equal, two stocks with comparable earnings power will also have comparable share prices, largely independent of the social impacts of their activities*

** Assumes the companies' activities are legal, and are not likely to soon be illegal*

In US healthcare price : quality and in particular price : quantity links are weak at best;

price caps generally do not even exist; and,

the relevance of substitutes is diminished by our insistence on best available technologies, somewhat independent of new technologies' marginal advantage

Therefore prices for new innovations grow rapidly for a very simple reason: because they want to (incentive is to maximize economic gain), and nothing is stopping them (weak links to quality / quantity; no caps)

Essential Context: Affordability

Exh 1: 2010 US Rx OOP spending relative to other categories of personal consumption

Personal consumption category	% of household spending	% of total drug spending
Housing Utilities and Fuels	19%	
OOP Rx spending (top 1%)	18	21%
Transportation	9	
Recreation	9	
Food*	7	
OOP Rx spending (top 10%)	5	70
OOP Rx spending (top 25%)	3	95
Education	2	
Communication	2	

* Specifically: Food and non-alcoholic beverages purchased for off-premises
Sources: US Bureau of Economic Analysis; IMS Health & Milliman USA data; SSR Health analysis & assumptions

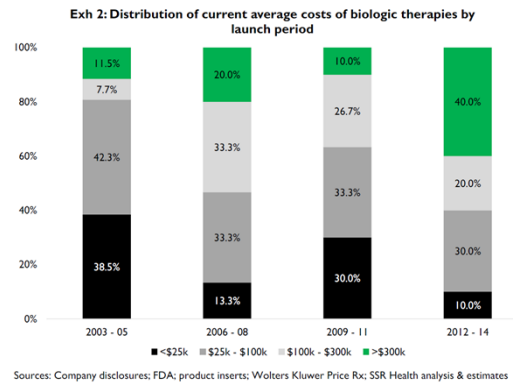
A fifth of US drug spending goes to households whose out-of-pocket costs are on par with their housing costs

70 percent of US drug spending goes to households whose out-of-pocket costs are on par with what they spend on food

Brand Rx Inflation (new product pricing)

It is reasonably clear that elasticity effects (shown here as intensity of need) and the availability of substitutes have at least a modest influence on *relative* specialty drug prices (lower table);

However there is no evidence of any elasticity effect on the inflationary march toward higher *absolute* prices (chart at right)

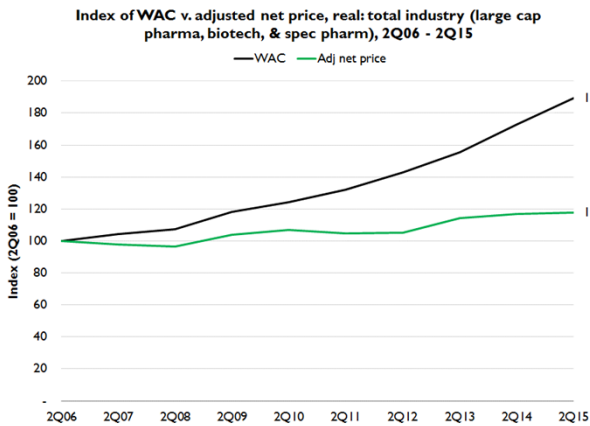


Exh 3: Specialty regimen costs (US) as a function of disease severity and presence or absence of alternatives

	Acute, life threatening		Chronic, life threatening		Debilitating		Disease of mgmt.	
	\$	n	\$	n	\$	n	\$	n
Single option	\$ 174,757	23	\$ 248,833	3	\$ 158,268	17	\$ 66,150	2
Multiple options	-	-	62,420	10	135,392	13	20,891	11

Sources: Company disclosures; FDA; product inserts; Wolters Kluwer Price Rx; SSR Health analysis & estimates

Brand Rx Inflation (existing product pricing, aka 'same basket' inflation)



List (WAC) price inflation is running at a +/- 10% pace; however ...

Net price inflation is running MUCH more slowly, because average discounts are growing. In 2Q15, net prices grew at an average 0.7% annual rate

Sources: Bloomberg; BLS; company filings; SSR Health analysis & estimates

Brand Rx Inflation (existing product pricing, aka 'same basket' inflation)

Exh 3b: Bottom 10 drug class contributors to total adj net price growth

Drug class	Contribution to total adj net price growth		Real y/y sales-wtd avg chg adj net price		Sum of brand net sales (\$M)		
	2Q14	2Q15	2Q14	2Q15	2Q14	2Q15	Real % chg
HCV Tx	-0.4%	-270.0%	-4.2%	-25.3%	3,854	3,732	-3.1%
Long-acting insulins	15.7%	-91.2%	18.1%	-17.8%	1,841	1,672	-9.1%
COPD combo Tx	-3.1%	-48.8%	-6.0%	-12.8%	1,370	1,284	-6.2%
Rapid-acting / mix insulins	1.8%	-20.0%	1.7%	-7.2%	1,001	993	-0.7%
Wet AMD Tx	-1.8%	-10.8%	-9.2%	-8.6%	869	1,065	22.5%
Contraceptives	4.3%	-10.0%	21.0%	-6.8%	525	565	7.7%
COPD bronchodilators	1.4%	-5.7%	5.6%	-5.6%	364	372	2.4%
PAH Tx	0.3%	-5.2%	-0.6%	-4.2%	754	792	5.1%
COPD glucocorticoids	-0.8%	-4.8%	-6.8%	-6.0%	290	284	-2.3%
Short-acting insulins	3.2%	-4.3%	22.7%	-5.6%	277	258	-6.7%

Contribution is calculated as the class's y/y adj net price growth divided by total industry y/y adj net price growth, multiplied by the class's sales weighting.
Sources: Bloomberg; company filings; SSR Health analysis & estimates

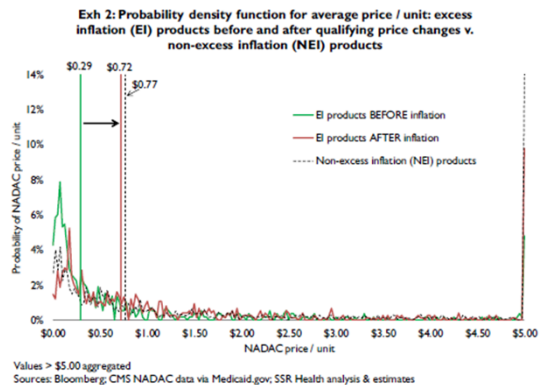
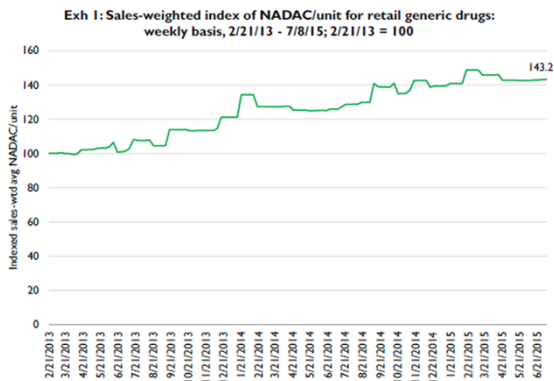
There is a recent trend (1Q14) toward excluding major brands from coverage; which has dramatically intensified price competition within affected categories

The four largest contributors to 2Q15 net pricing losses overwhelmingly account for net price deceleration; and, all are driven by decisions to exclude major brands – something that before 1Q14 rarely if ever occurred

Generic Rx inflation

The fact that generic prices have grown is in and of itself highly remarkable – the usual pattern is for generic prices to steadily fall

Generic inflation is almost entirely explained by median-reversion of products whose prices were very low to begin with



Generic Rx inflation

US wholesalers gain from generic price inflation; and, as the result of recent alliances with pharmacy chains, wholesalers now account for most (+/- 75%) US generic purchases

The spread between AMP (the price at which mfg's sell) and NADAC (the price at which pharmacies purchase) is a proxy for wholesale gross margins

This spread has expanded, particularly on generic products whose prices have inflated

Exh 3: Sales-weighted dollar growth in AMP, NADAC, and AMP - NADAC spread

Dollar prices / spreads	AMP _{t=0}	AMP _{t=1}	\$ chg AMP	NADAC _{t=0}	NADAC _{t=1}	\$ chg NADAC	\$ spread _{t=0}	\$ spread _{t=1}	\$ chg spread
Total	\$ 1.14	\$ 0.73	\$ (0.41)	\$ 1.39	\$ 1.22	\$ (0.17)	\$ 0.25	\$ 0.49	\$ 0.24
Inflation sample*	0.27	0.40	0.13	0.46	0.81	0.35	0.19	0.41	0.22
Non-inflation sample	1.34	0.81	(0.53)	1.60	1.32	(0.29)	0.26	0.51	0.25

% chg in \$ values, t=1 v. t=0	AMP	NADAC	\$ spread
Total	-35.9%	-12.1%	96.6%
Inflation sample	48.5%	76.1%	114.3%
Non-inflation sample	-39.7%	-17.9%	93.6%

* 'Inflation sample' includes products that exhibited cumulative inflation $\geq 10\%$ over the total period March 2013 - April 2015 (or the earliest and latest months where both AMP & NADAC were available, which represent t=0 and t=1). 'Non-inflation sample' then contains remainder of eligible population, i.e. products with cumulative inflation < 10%. Eligible population contains 49% of retail generic universe, as restricted by presence of beginning and ending AMP and NADAC data in matching months

Sources: Bloomberg; CMS AMP and NADAC data; SSR Health analysis & estimates