Perspective on Prescription Drug Costs
Medicare Technical Review Panel
December 20, 2016
Murray Aitken, Executive Director
Medicine Use and Spending in the U.S. Report by the IMS Institute for Healthcare Informatics
Spending Growth Drivers US$Bn

Source: IMS Health, National Sales Perspectives, Jan 2016
New Brand Spending Growth US$Bn

Source: IMS Health, National Sales Perspectives, Jan 2016
Decline in Brand Spending from Loss of Exclusivity
US$Bn

<table>
<thead>
<tr>
<th>Year</th>
<th>Older Expiries</th>
<th>2012 Expiries</th>
<th>2013 Expiries</th>
<th>2014 Expiries</th>
<th>2015 Expiries</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>-15.0</td>
<td>-16.4</td>
<td>-2.2</td>
<td>-12.1</td>
<td>-14.2</td>
</tr>
<tr>
<td>2013</td>
<td>-32.6</td>
<td></td>
<td>-20.5</td>
<td></td>
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</tr>
</tbody>
</table>

Source: IMS Health, National Sales Perspectives, Jan 2016

Brands with $500Mn in post-expiry losses

2015 Expiries:
- Abilify
- Nexium
- Namenda
- Copaxone 20mg

2014 Expiries:
- Celebrex
- Diovan
- Lunesta
- Evista
- Xeloda

2013 Expiries:
- Cymbalta
- Aciphex
- Zometa
- Trilipix
- Detrol LA

2012 Expiries:
- Plavix
- Singular
- Seroquel
- Lexapro
- Actos
- Diovan HCT
- Geodon
- Provigil
- Boniva

Medicine Use and Spending in the U.S. Report by the IMS Institute for Healthcare Informatics
Protected Brand Invoice and Net Price Growth

Source: IMS Health, National Sales Perspectives, IMS Institute for Healthcare Informatics, Mar 2016

Estimated Net Price Growth

Brands Invoice Price Growth

Medicine Use and Spending in the U.S. Report by the IMS Institute for Healthcare Informatics
Contribution to Generic Spending Growth US$Bn

Source: IMS Health, National Sales Perspectives, Dec 2015
U.S. Medicines Spending and Growth 2007–2021 US$Bn

Source: QuintilesIMS Market Prognosis, Sept 2016; QuintilesIMS Institute, Oct 2016

Outlook for Global Medicines through 2021. Report by the Quintiles IMS Institute
U.S. Spending Growth 2010-2020 US$Bn

Source: IMS Health, Market Prognosis, National Prescription Audit, IMS Institute for Healthcare Informatics, Jan 2016
## Outlook for U.S. Medicine Pricing through 2021

<table>
<thead>
<tr>
<th>Component</th>
<th>Expectation</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price levels for new brands launched</td>
<td>Specialty brands are on average 15–20x more expensive than traditional new brands and more than half of new brand spending to 2021 will be specialty</td>
<td>Pricing levels for new brands will have premium or discount from existing treatment options based on clinical profile and benefit.</td>
</tr>
<tr>
<td>Price increases for protected brands (invoice)</td>
<td>8–11% brand increases expected to 2021</td>
<td>Reflects lower than the average 10–12% over past 5 years due to increased transparency, and competition</td>
</tr>
<tr>
<td>Pricing for protected brands on net basis</td>
<td>2–5% net price increases expected to 2021</td>
<td>Slightly higher than in 2015 net price growth of 2.8% which was affected by specific large competition-driven increases in rebates in Diabetes, Respiratory and HCV</td>
</tr>
<tr>
<td>Generic prices</td>
<td>Average generic is 60–70% below brand price upon introduction, reaching 80–90% after 2–3 years</td>
<td>Assumes continued generic pricing dynamics relative to pre-expiry branded price as observed over the past five years i.e. 60–70% below brand in first 6 months and 80–90% reduction after 24 months of generic availability</td>
</tr>
<tr>
<td></td>
<td>Older generic medicines pricing will have no impact on the growth forecast</td>
<td>Pricing of older generics is under scrutiny from payers and policy makers, the FDA is clearing a backlog of generic approvals and these pricing dynamics are unlikely to be a driver in the future</td>
</tr>
</tbody>
</table>

Source: QuintilesIMS Institute, Oct 2016
Price Concessions for Branded Products 2011-2016

Source: QuintilesIMS National Sales Perspectives, QuintilesIMS Institute, Oct 2016
Impact of U.S. Losses of Exclusivity on Brand Spending

US$Bn


-29.8 -17.1 -12.8 -14.6 -16.9 -27.4 -37.3 -30.6 -26.9 -21.2

-$91.1Bn

-$143.5Bn

Source: IMS Market Prognosis, Sept 2016; QuintilesIMS Institute, Oct 2016

Outlook for Global Medicines through 2021. Report by the Quintiles IMS Institute
Global Medicines in Late Stage Development in 2016

Percent of Pipeline

- Oncologics: 35% (N=259)
- CNS: 30% (N=1981)
- Arthritis/Pain: 6%
- Immune System: 6%
- Anti-infectives & Antivirals: 5%
- Cardiovascular: 5%
- Genito-urinary & Hormones: 5%
- Cardiovascular: 5%
- Others: 6%
- Cardiovascular: 8%
- Cardiovascular: 12%
- Cardiovascular: 15%
- Cardiovascular: 28%

Source: QuintilesIMS R&D Focus, Sept 2016; QuintilesIMS Institute, Oct 2016
U.S. Market Growth 1957-2021

Source: QuintilesIMS Institute