Trends in the pharmaceutical industry and potential impact on future innovation and access to medicines

Setting the scene

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### Expected patent expiries 2012 (first half)

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>Brand Name</th>
<th>Generic name</th>
<th>Common use(s)</th>
<th>2010 US Retail Sales: (in millions)$^\text{a}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>1Q (Jan)</td>
<td>Symbax$^\circledR$</td>
<td>olanzapine/fluoxetine</td>
<td>Treatment-resistant depression, depression in Bipolar I Disorder</td>
<td>$89$</td>
</tr>
<tr>
<td>2012</td>
<td>1Q (Mar)</td>
<td>Geodon$^\circledR$</td>
<td>ziprasidone</td>
<td>Schizophrenia, bipolar disorder</td>
<td>$1,059$</td>
</tr>
<tr>
<td>2012</td>
<td>1Q (Mar)</td>
<td>Lexapro$^\circledR$^1</td>
<td>escitalopram</td>
<td>Depression, anxiety</td>
<td>$2,591$</td>
</tr>
<tr>
<td>2012</td>
<td>1Q (Mar)</td>
<td>Seroquel$^\circledR$</td>
<td>quetiapine</td>
<td>Schizophrenia, bipolar disorder</td>
<td>$3,549$</td>
</tr>
<tr>
<td>2012</td>
<td>1Q (Mar)</td>
<td>Avandia$^\circledR$</td>
<td>rosiglitazone</td>
<td>Type 2 diabetes</td>
<td>$286$</td>
</tr>
<tr>
<td>2012</td>
<td>1Q (Mar)</td>
<td>Avandamet$^\circledR$</td>
<td>rosiglitazone/ metformin</td>
<td>Type 2 diabetes</td>
<td>$161$</td>
</tr>
<tr>
<td>2012</td>
<td>1Q (Mar)</td>
<td>Avandaryl$^\circledR$</td>
<td>glimepiride/ rosiglitazone</td>
<td>Type 2 diabetes</td>
<td>$35$</td>
</tr>
<tr>
<td>2012</td>
<td>1Q (Mar)</td>
<td>Avapro$^\circledR$</td>
<td>irbesartan</td>
<td>High blood pressure</td>
<td>$398$</td>
</tr>
<tr>
<td>2012</td>
<td>1Q (Mar)</td>
<td>Avalide$^\circledR$</td>
<td>irbesartan/hydrochlorothiazide</td>
<td>High blood pressure</td>
<td>$341$</td>
</tr>
<tr>
<td>2012</td>
<td>2Q (Apr)</td>
<td>Provigil$^\circledR$</td>
<td>modafinil</td>
<td>Excessive sleepiness</td>
<td>$1,014$</td>
</tr>
<tr>
<td>2012</td>
<td>2Q (May)</td>
<td>Flavix$^\circledR$ (approved 1/06 and briefly launched 8/06)</td>
<td></td>
<td>Prevent blood clots</td>
<td>$5,020$</td>
</tr>
<tr>
<td>2012</td>
<td>2Q (May)</td>
<td>Viramune$^\circledR$</td>
<td>nevirapine</td>
<td>HIV infection</td>
<td>$108$</td>
</tr>
<tr>
<td>2012</td>
<td>2Q (Jun)</td>
<td>Lescol$^\circledR$ and Lescol$^\circledR$ XL</td>
<td>fluvastatin</td>
<td>High cholesterol</td>
<td>Lescol: $26$ Lescol XL: $67$</td>
</tr>
</tbody>
</table>

Source: Medco Health Solutions 2012

Panel discussion 25 April 2012
Global medicines spending

Spending by Geography

2005

- US: 36%
- Canada: 12%
- EU5: 11%
- Rest of Europe: 7%
- Japan: 2%
- South Korea: 2%
- Pharmerging: 2%
- ROW: 6%

$605Bn

2010

- US: 31%
- Canada: 28%
- EU5: 11%
- Rest of Europe: 7%
- Japan: 2%
- South Korea: 2%
- Pharmerging: 2%
- ROW: 6%

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2015

- US: 28%
- Canada: 28%
- EU5: 11%
- Rest of Europe: 7%
- Japan: 2%
- South Korea: 2%
- Pharmerging: 2%
- ROW: 6%

$1,065-1,095Bn

Source: IMS Market Prognosis, Apr 2011

Panel discussion 25 April 2012
Changing IP management strategies

• Increasing number of license agreements in the area of HIV/AIDS

Expanding into non-communicable diseases?

• Intra-country differential pricing

"... we predict that, by 2020, most pharmaceutical companies will use differential pricing, based on variations in income, ..." PwC Pharma 2020

• Acquisitions/partnerships between research-based pharmaceutical and generic companies

Impact on launches of new generics?
Questions

• What will be the impact of these changes and of the greater focus on emerging markets for access to medicines?
• Can such changing IP management and business strategies lead to greater access to medicines?
• How should these policies be shaped to provide for greater access?
• How will these changes impact innovation in the pharmaceutical sector?