Life Sciences in Toronto: The Way Forward

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GlaxoSmithKline: World Facts

- 7% of the global pharmaceutical market
- Invests over $5 billion annually in R&D
- Employs over 100,000 people in over 140 countries
- Global leader in four major therapeutic areas:
  - Respiratory
  - Central Nervous System
  - Anti-infectives (incl. HIV/AIDS)
  - Gastrointestinal
GSK Canada
Commitment to R&D

• $130 million invested in 2003
• $22 million *Pathfinders Fund*
• 400 highly skilled GSK R&D staff
• 6th Largest GSK R&D site worldwide
• 10 per cent of the GSK global clinical trials. (2% of GSK market)
• 100+ clinical trials in Canada (17,000 patients @ 2200 centers)
The Challenge

“Up to 10,000 Canadians with university degrees emigrate to the United States each year”

Daniel Schwanen, CD Howe Institute
The R&D-based Pharmaceutical Industry in Canada

- Employs 23,000 people across the country in 60 companies
- Second highest industry contributor to R&D in Canada
- 25 of the top 100 R&D companies represented

<table>
<thead>
<tr>
<th>Sector</th>
<th>R&amp;D Exp. (2001)</th>
<th>Research Intensity (R&amp;D as a % of Revenue)</th>
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</thead>
<tbody>
<tr>
<td>1. Telecommunications</td>
<td>$6.4B</td>
<td>17.3%</td>
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<tr>
<td>2. Pharma/biotech</td>
<td>$1.27</td>
<td>14.1%</td>
</tr>
<tr>
<td>3. Software/computers</td>
<td>$955M</td>
<td>9.7%</td>
</tr>
<tr>
<td>4. Aerospace</td>
<td>$686M</td>
<td>~6%</td>
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<tr>
<td>5. Energy</td>
<td>$410.5</td>
<td>~5%</td>
</tr>
</tbody>
</table>

Source: Canada’s Innovation Leaders. Research Infosource Inc.; July 2002
Conflicting Government Policies

Federal
- Patents
- Drug Approvals
- Pricing
- Investment

Discourage

Innovation

Encourage

Provincial
- Health Policy
- Listings
- Pricing
- Investment
- Health / Drug management
Domestic Policy in a Global Market

Canadian policy conflicts

Health / Pharma Policy
- Cost containment
- Market access restrictions
- Prescribing restrictions
- Price controls

Innovation & Economy
- Attract knowledge-based industries
- Creating skilled jobs
- Encouraging research investment
- World-leading innovation

Global Balance:
investment, patents, intellectual property
clinical trials, R&D
The Value of New Medicines in Canada

**Decreased mortality**

- AIDS*: -56%
- Bronchitis, Asthma, Emphysema: -56%
- Influenza & Pneumonia: -48%
- AMI (Heart Attack): -40%
- Cerbrovascular Disease: -26%

**Decreased burden on hospitals**

- Avoided Costs from Reduced Bed Days: -$23.5 billion
- Increased Drug Spending: $5.1 billion
- Increased Outpatient Care Spending: $8.6 billion

$4.6:$1 savings ratio

Increase Demand on Health Care

Growth in Incidence of Selected Chronic Conditions Among Canadians Aged 12+: 2001 to 2003

- High Blood Pressure: 17.4%
- Diabetes: 15.0%
- COPD/Emphysema: 13.9%
- Arthritis: 13.3%
- Canadian Aged 12+ Population Growth: 2.8%
Canada’s Health Challenge

Most Important Issue Facing Canada

Unaided Response

Percent Respondents

Health Care

0% 10% 20% 30% 40%

Deficit
War
Social Issues
Environment
Politicians/Government
Economy

Canada’s Health Challenge

GlaxoSmithKline
Complex Issue

- Reducing Wait times
- Improving access to medication
- Integrating Health systems
- Increasing number of MDs / allied health
- Lack of system / info integration
- Shortages of trained health workers
- Political issues
- Information and education (clinicians, patients)
- Increasing Health funding
- Socio-economic issues
- Funding
Brand vs. Generic Drugs

Health Expenditures in Canada (2003f)

- Physicians: 12.9%
- Other Health Professionals: 11.9%
- Hospitals/Other Institutions*: 39.5%
- Rx Non-Patented: 3.2%
- Rx Patented: 6.5%
- OTC**: 1.5%
- Capital: 4.6%
- Retail Distribution: 5.0%
- Other Expenditures: 14.9%
- Total Drugs and their use: 16.2%

Source: CIHI
Patient Access on Public Drug Plans

Provincial Listings of Innovative Medicines
(Launched - September 1, 2001 – August 31, 2003)

Note: These statistics are based on the introduction of 107 products.
The Way Forward

A comprehensive “innovative” agreement between government and industry
Thank You

Questions??