

## HEALTH SYSTEM PERFORMANCE INDICATORS – WHERE DO PHARMACEUTICALS FIT?

<p><b>Pharmaceutical Performance Reporting</b></p> <p>How pharmaceuticals are reported to the public influences public perception and hence public policy. The public is concerned about increasing costs of pharmaceutical care. They often view drugs as expensive and over-used. Issues that do not hit their radar screen are the slow approval rate of new therapies in the Canadian marketplace; the underutilization of certain effective therapies; the drop-off in compliance rates resulting in poor health outcomes and utilization of more expensive health resources.</p> <p>Merck Frosst has supported the development of a paper looking at current practices in pharmaceutical performance indicators (an update from a 2002 document) to provide assistance to governments and agencies to develop regular reporting of pharmaceutical performance indicators.</p>	<p><b>Some of the key observations from the report include:</b></p> <ul style="list-style-type: none"> <li>• The performance measurement system must be linked to health strategies and take a systems approach</li> <li>• Broad consultation is required in developing indicators</li> <li>• There is a need for process indicators that demonstrate how decisions are made and priorities are determined</li> <li>• Pharmaceutical indicators must include some consideration of the impact of health system policies in providing incentives for ongoing innovation</li> <li>• Performance reporting can be a positive tool for reform</li> <li>• The field of pharmaceutical performance measures is underdeveloped</li> <li>• Resources are required to create the necessary measurement infrastructure</li> <li>• There is a role for best practices and benchmarking measurement even when comprehensive information is not available</li> </ul> <p><i>Below are some examples of suggested indicators grouped around objectives outlined in the First Ministers Health Accord 2003.</i></p>
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Objectives	Some Suggested Indicators
<p><b>Timely Access</b> – <i>measurement of access to essential services as well as waiting times</i></p>	<ul style="list-style-type: none"> <li>• Overall % of drugs reimbursed in each province out of those approved for use in Canada, % reimbursed with restrictions, % not reimbursed</li> <li>• Average time to decision for reimbursement of new drugs, from date of submission</li> <li>• Average annual personal cost for average and high needs consumer of pharmaceutical therapy who rely on public plan</li> <li>• % of population having access to funding support through provincial drug plan</li> <li>• Time from application to regulatory body to approval for use in jurisdiction (mean, median, range)</li> <li>• Time from application to regulatory body to approval of clinical trials (mean, median, range)</li> <li>• Processing time for applications for special authorization</li> <li>• % of requests for special authorization that are approved (including repeat requests following denial)</li> <li>• Benchmarking of benefits provided by each province, territory, federal government, and in other countries</li> <li>• Comparisons of approvals of new drug therapies (including the content) in Canada and elsewhere (need to account for differences in criteria used in processing approvals)</li> <li>• Assessment of affordability and willingness to pay through patient survey tools</li> <li>• Assessment of satisfaction with formulary within patient survey tools</li> <li>• Number of cognitive services/health management services provided in relation to Daily Defined Dose</li> <li>• Access to therapeutic guidelines that are currently being developed</li> </ul>
<p><b>Quality</b> – <i>measurement of quality of health care services, including health outcomes, and patient safety and satisfaction</i></p>	<ul style="list-style-type: none"> <li>• % of Canadians who are taking prescription medication as prescribed, as a way of assessing “compliance”</li> <li>• Underutilization/overutilization of therapies based on guidelines (e.g., rate of hospital-based antibiotic use, % of post-MI patients discharged on appropriate cardiac medication)</li> <li>• Drop-off rates in patient use of therapy (6 months and 1 year after initiation of therapy)</li> <li>• Defined Daily Doses used in concert with disease prevalence estimates to come up with an indication of expected versus actual use</li> <li>• Standardized hospitalization rates for patients with disease conditions that are generally manageable in a community setting with pharmacotherapy (e.g., diabetes, asthma, otitis, GERD, arthritis)</li> <li>• Patient satisfaction with access to new therapies and cost-sharing requirements</li> <li>• Prescriber and pharmacist satisfaction with access to new therapies for their patients’ medical conditions, and with administrative tasks required</li> <li>• Hospitalizations for adverse reactions to drug therapy</li> <li>• Reduction in the use of other health services (e.g., hospitalization) with drug therapy</li> <li>• Changes in prescriptions</li> <li>• Incidence of adverse drug reactions or treatment failure due to inappropriate prescribing, etc.</li> <li>• % of emergency room visits and/or hospital admissions attributable to adverse drug reactions or treatment failure</li> <li>• Medication error incidence rate/an active CQI system for dealing with medication errors</li> <li>• Preventable drug related morbidity incidence rate</li> <li>• Adverse drug reaction/event incidence rate</li> <li>• % of patients with a documented therapeutic plan and objective</li> </ul>

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<p><b>Sustainability</b> – <i>measurements of the state of health human resources, equipment, information systems and value for money from the system</i></p>	<ul style="list-style-type: none"> <li>• Report on individual disease-management programs or best practices programs in prescribing and monitoring</li> <li>• Relationship between % growth in provincial per capita hospital expenditure and drug expenditure</li> <li>• Comparison of renal transplantation vs. renal dialysis service (i.e. patient and graft survival analysis, health care service utilization, patient quality of life)</li> <li>• Evaluations of patient/caregiver knowledge of indications, side effects and appropriate use of medications</li> <li>• % of time a drug is prescribed for the right indication</li> <li>• Relationship/correlation between utilization and guidelines/care maps</li> <li>• Practice profiling/drug utilization review measures to evaluate under/over use of medications</li> <li>• Utilization of certain proven therapies in specific patient groups</li> <li>• Counseling offered on prescription renewal</li> <li>• Evidence of ongoing monitoring and counseling</li> <li>• Availability of seamless care programs</li> <li>• Pharmacoeconomic evaluations</li> <li>• Measures that demonstrate cost-effective use of drugs</li> </ul>
<p><b>Health Status and Wellness</b></p>	<ul style="list-style-type: none"> <li>• Provincial adoption rates (time to adoption, criteria differences) of National Advisory Committee on Immunization (NACI) recommendations</li> <li>• Disability-free life expectancy due to chronic diseases</li> <li>• Health status/quality of life indicators</li> <li>• Changes in absenteeism and/or productivity</li> </ul>

Additional Principles to Consider	Suggested Indicators
<p>Innovation</p>	<ul style="list-style-type: none"> <li>• Annual R&amp;D investment by pharmaceutical companies (in dollars and as a % of industry sales)</li> <li>• R&amp;D expenditure by province and R&amp;D category</li> <li>• Government expenditure on R&amp;D in medical and biological sciences<sup>1</sup></li> <li>• Proportion of world first patents filed for marketed NMEs ÷ proportion of world R&amp;D spend<sup>12</sup></li> <li>• % of world pharmaceutical R&amp;D expenditure<sup>12</sup></li> <li>• Pharmaceutical R&amp;D spending to domestic sales ratio<sup>2</sup></li> <li>• Pharmaceutical R&amp;D spending per capita<sup>13</sup></li> </ul>
<p>Competitiveness</p>	<ul style="list-style-type: none"> <li>• Total Intramural R&amp;D Expenditure in Canada – 1999-2003: % Manufacturing Industry R&amp;D<sup>3</sup></li> <li>• GERD: Canada is positioned 13<sup>th</sup> in the OECD with regard to the principal innovation indicator, Gross Domestic Expenditure on R&amp;D (GERD), as a percentage of Gross Domestic Product, (GDP), at 1.91% in 2001<sup>4</sup></li> <li>• BERD: Canada is positioned 14<sup>th</sup> with regard to Business Enterprise Expenditure on R&amp;D (BERD), as a percentage of GDP. Given that the business sector accounts for 57% of the country's BERD, it is the key sector for moving the Government's <i>Innovation Strategy</i> forward.<sup>5</sup></li> <li>• Pharmaceutical industry intramural R&amp;D expenditure as a percentage of BERD<sup>6</sup></li> <li>• Pharmaceutical industry's intramural R&amp;D expenditure as a percentage of GDP<sup>7</sup></li> </ul>

*A performance measure, or indicator, can be defined as an assessment tool used to monitor and evaluate important governance, management, clinical, and support functions that affect patient outcomes<sup>1</sup>. evaluate important governance, management, clinical, and support functions that affect patient outcomes<sup>1</sup>.*

<sup>1</sup> Pharmaceutical Industry Competitiveness Task Force (PICTF), Competitiveness & Performance Indicators 2003

<sup>2</sup> PMPRB, A Comparison of Pharmaceutical Research and Development Spending, S-0217, December 2002

<sup>3</sup> Industrial Research and Development 2003 Intentions, Statistics Canada; Cat. No. 88-202-XIE

<sup>4</sup> OECD Main Science and Technology indicators, Volume 2003/2 (November 2003)

<sup>5</sup> OECD Main Science and Technology indicators, Volume 2003/2 (November 2003)

<sup>6</sup> Basic Science and Technology Statistics 2003 (BERD by 1995 \$US and PPPs), OECD and OECD Basic Science and Technology Statistics, 2002, ISBN: 92-64-10154-3 (CD ROM); BERD by Industry, Constant 1995 USM \$ and PPPs)

<sup>7</sup> Basic Science and Technology Statistics 2003 (BERD by 1995 \$US and PPPs), OECD and OECD Basic Science and Technology Statistics, 2002, ISBN: 92-64-10154-3 (CD ROM); BERD by Industry, Constant 1995 USM \$ and PPPs)