The Canadian Physician Database (CPDB): A new approach to build data in support of physician workforce research, planning and decision-making

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Background

Self-report surveys are a long-standing source of workforce planning information. Launched in 2004, Canada’s National Physician Survey (NPS) was previously used as a vehicle to collect timely data on the practices, education and training, and familial contexts of current and future physicians in Canada. In 2015, the NPS was retired due to low responses rates and resulting data limitations. A novel approach to physician workforce research and decision making has been conceptualized called the Canadian Physician Database (CPDB). In partnership with Canadian Medical Regulatory Authorities (MRAs), the CPDB is a joint initiative of the Royal College of Physicians and Surgeons of Canada (Royal College), the College of Family Physicians of Canada (CFPC) and the Canadian Medical Association (CMA).

CPDB Feasibility Study

Objectives:
1. Determine if core NPS data elements are collected by Canadian Medical Regulatory Authorities (MRAs) as part of routine registration and license renewal processes.
2. Test the feasibility of collecting and pooling secondary data from MRAs.
3. Evaluate the comparability of MRA data across four pilot jurisdictions.
4. Lay the groundwork for future partnerships with all MRAs in Canada.

Figure 1 shows the stages of the CPDB feasibility study. Findings of the Data Mapping stage are presented, focusing on the suitability of MRA data for physician workforce research and comparability of data across regulatory jurisdictions.

Methods

• Convenience sample of MRAs (n=4) for the feasibility study, reflecting cross-jurisdictional variability in physician population size and MRA data systems
  - British Columbia, Alberta, Manitoba, and Ontario
  - Participating MRAs regulate approximately 65% of Canada’s total physician workforce
• Initial registration and annual license renewal forms were reviewed to identify relevant content for comparative analysis
• Core NPS tracking data was also identified using past questionnaires
• Data elements were mapped and evaluated on four main factors (Figure 2)

Results

• Review of MRA regulatory forms identified 36 data elements grouped within seven main content domains (see Figure 3 and Table 1)
  - In the NPS, 16 core elements were identified and 81% (13) of those fields were retained.
  - MRA data elements map closely to NPS information in several domains, including physician demographics, education, specialty and practice location.
  - MRA data is less comparable to NPS data on work hours, on-call activity, scope of practice and use of electronic health records.
  - None of the participating MRAs collect information on the type of payments physicians receive (e.g., fee-for-service, capitation, etc.)

Conclusions

• Almost all physicians comply with MRA data collection, thus the CPDB could potentially 1) achieve comprehensive workforce data collection and surveillance in participating jurisdictions; 2) removed barriers inherent in self-report survey methodologies/approaches
• While the CPDB covers most NPS tracking areas, a number of gaps remain, including physician workload, scope of practice, and remuneration.
• Future CPDB data development might focus on gaps that meet the information needs of MRAs, researchers, planners and decision-makers

Table 1 – Common information covered within the seven main content domains

<table>
<thead>
<tr>
<th>Work Settings</th>
<th>Demographics</th>
<th>Time Allocation</th>
<th>Patient Care Profile</th>
<th>Payment Method</th>
<th>Information Technology</th>
<th>Education (UGME/PGME)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 out of 4 jurisdictions</td>
<td>• Name (surname, given name, previous name)</td>
<td>• Provision of patient care (derived)</td>
<td>• Degree Date/Completion Date</td>
<td></td>
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<tr>
<td></td>
<td>• Sex</td>
<td>• Primary geographic population (e.g., urban, rural, remote) (derived)</td>
<td>• Medical School Name</td>
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<tr>
<td></td>
<td>• Year of Birth</td>
<td>• Practice description (e.g., cardiology, diagnostic imaging)</td>
<td>• Country/province of medical school</td>
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<td></td>
<td>• Practice location (i.e., mailing address)</td>
<td>• Electronic Medical Record (EMR) usage</td>
<td>• Specialty Designation (PGME only)</td>
<td></td>
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<tr>
<td></td>
<td>• MINC</td>
<td>• Electronic Medical Record (EMR) functionality</td>
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<tr>
<td></td>
<td>• Languages</td>
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<td></td>
<td>• Credentials/Certifications (e.g., RCPSC, CFPC)</td>
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<td></td>
<td>• Type of physician (family or specialist physician)</td>
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<tr>
<td>3 out of 4 jurisdictions</td>
<td>• Registration class (e.g., active, non-active, retired)</td>
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<td>• Type of license (e.g., independent practitioner)</td>
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<td>• Current registration with other MRAs</td>
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<tr>
<td>2 out of 4 jurisdictions</td>
<td>• Hospital privileges</td>
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<tr>
<td></td>
<td>• Change in scope of practice (e.g., types of patients, procedures)</td>
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<tr>
<td></td>
<td>• Activity hours (e.g., average numbers of hours per week spent on direct patient care)</td>
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<tr>
<td>1 out of 4 jurisdictions</td>
<td>• Practice setting (e.g., private office, community hospital)</td>
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<tr>
<td></td>
<td>• On-call hours</td>
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