National physician supply projections to the year 2030

Description of CMA Physician Resource Evaluation Template (PRET)
The CMA Physician Resource Evaluation Template is a spreadsheet-based stock and flow model that incorporates the key parameters in estimating physician supply to 2030 and enables planners to create various scenarios to test the effects on future supply.

A number of physicians are removed from the model each year to account for retirement, death, and emigration. New physicians are added each year based on the number of physicians completing postgraduate training, those that return from abroad to active practice and those that are actively recruited for permanent employment from overseas. Additions and deletions to supply are done on an age, sex and specialty specific basis. For each projection year, the model details the demographic characteristics of the physician pool such as the number of female physicians, age distribution, etc.  

Base Stock
CMA Masterfile licensed physician counts as of January 2013 were used to seed the model. There were 38,259 family physicians (including general practitioners) and 36,267 who were certified as specialists by either the Royal College of Physicians and Surgeons of Canada or the Collège des médecins du Québec. This makes a total of 74,526 physicians used in the base year of the model.

Assessment of trends
Moving Abroad: The number of physicians moving abroad, by age, sex and broad specialty was based on recent trend data purchased from the Canadian Institute for Health Information (CIHI).

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moving abroad</td>
<td>122</td>
<td>196</td>
<td>203</td>
<td>173</td>
<td>126</td>
</tr>
</tbody>
</table>

Retirement: Based on year over year comparisons of the CMA Masterfile of all licensed physicians in Canada.

Death: Based on year over year comparisons of the CMA Masterfile of all licensed physicians in Canada.

No valid address: A certain number of physicians each year are identified as no longer having a valid Canadian address but with no additional status like retired, deceased, or abroad. A disproportionate number are IMGs and it is suspected that many have returned to their home country without leaving a forwarding address (note these are not visa trainees).
**Postgraduate Exits**: Postgraduate exits are estimated based on recent output (excluding re-entry) plus known increases to both undergraduate and postgraduate positions that will affect future output. The numbers include ministry funded IMGs. The estimated number is distributed by age and sex based on recent trend data purchased from the Canadian Post-MD Education Registry.

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postgraduate exits</td>
<td>1877</td>
<td>2084</td>
<td>2140</td>
<td>2289</td>
<td>2484</td>
<td>2771</td>
</tr>
</tbody>
</table>

**Returns from abroad**: The number of physicians returning from abroad to active practice, by age and sex, is based on recent trend data purchased from the Canadian Institute for Health Information (CIHI).

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Returning from abroad</td>
<td>142</td>
<td>240</td>
<td>295</td>
<td>202</td>
<td>226</td>
</tr>
</tbody>
</table>

**New IMGs**: This variable estimates the number of new international medical graduates setting up practice in Canada each year. It is based on year over year comparisons of physicians who are new to the CMA data file and who have received their MD degree outside of Canada and have never been registered in a Canadian postgraduate program (these IMGs are included in the postgraduate exit variable).

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>New IMGs</td>
<td>547</td>
<td>580</td>
<td>383</td>
<td>393</td>
</tr>
</tbody>
</table>

**Full-time equivalents**: The model applies an average full-time equivalent (FTE) value to projected future supply headcounts to create future FTE counts, by age/sex/broad specialty. It is based on workload data from the 2010 National Physician Survey. The total hours worked per week by each respondent is divided by the overall average (51.4 hrs/wk) to create an FTE value for each physicians. Aggregate average FTE values are then calculated for age, sex and broad specialty groups.

**Population**: Used Statistics Canada medium growth projections that were released in May 2010.

“**Status Quo” scenario assumptions**
The status quo scenario assumes no major change in the parameters of the model. In the case of retirement the age/sex/broad specialty rates are kept constant although the volume of
physicians retiring increases since the rates are being applied to larger and larger numbers of senior physicians.

- Physicians emigrating from Canada set to **175** per year
- Age/sex/broad specialty specific retirement rates were calculated based on the period 2008 to 2011.
- Rates of death based on a compilation of the years between 2001 and 2011.
- Physicians with no valid address set to **265** per year
- Postgraduate exits (including IMGs) estimated to gradually increase from **2775 to 3249** between 2013 to 2020 based on known undergraduate enrolment. Then held steady at **3249** until 2030.
- Physicians returning from abroad set at **241** per year
- Newly licensed IMGs without Canadian postgraduate training set at **476**

**Results of status quo scenario**

The 2013 national projections show an ever increasing supply of physicians as well as an improving physician to population ratio. The status quo scenario estimates there will be 102,270 licensed physicians in Canada by 2030. Half of the physicians will be female compared to 37% today. The proportion of physicians over the age of 55 will increase from 39% in 2013 to 39.5% by 2015 but then gradually decrease to 36% by 2030. This assumes that male and female physicians will retire at the ages they do today (68 for males, 63 for females).

**Figure 1: Projected physician and FTE supply to 2030 – Status quo scenario**
The number of full-time equivalent physicians will also increase but at a slightly lower rate than physicians. Between 2013 and 2030 the number of physicians per 1000 population increases by 16% whereas FTEs increase by 14%. So while we know that older physicians tend to work fewer hours we also know their proportions of the practising pool start to decrease in 2020. Also the gap between the hours worked by females and males is narrowing \(^{ii}\) so the fact that the proportion of female physicians is increasing does not appear to have a huge effect on the number of FTEs.

With the status quo scenario, family physicians will comprise half of the physician population in 2030 similar to today (51%). The number of FPs per 1000 population will increase at 1 percent per year until about 2024 and then experience slower growth until 2030 (about 0.3% per year). Other specialists experience more steady growth averaging about 1% per year throughout the projection period. See Figure 2.

**Figure 2: Projected FP and Other specialist supply to 2030 – Status quo scenario**

![Graph showing projected FPs and other specialists per 1000 population from 2013 to 2030.](image)

**Conclusion**

The status quo projection scenario indicates there will be a steady increase in the number of family physicians and other specialists relative to the population between now and 2030. The percent of those 55 or older will reach its maximum in 2016 and decrease to 36% by 2030. Females will not comprise half the practising physician pool until 2030.

With an aging population and patient expectations for new treatments and new technologies higher than ever, the fact the growth in physicians is exceeding that of the population does not necessarily mean there will be a surplus of physicians across all disciplines. Depending on the demand for services and the availability of infrastructure such as operating or procedural
rooms, some specialties may however, experience underemployment in the future, especially in large urban centres.

Lynda Buske  
Canadian Collaborative Centre for Physician Resources  
Canadian Medical Association  
August 26, 2013
