The different outputs of this toolkit build on each other to provide a comprehensive overview of primary care workforce needs. The most granular information is at the neighbourhood level. It is recommended that users look at information in all three static dashboards to get a full picture of what is happening in a given neighbourhood.

Users can then further explore relevant primary care planning scenarios in a particular neighbourhood using the Interactive Population Growth and Retirement Scenario Dashboards.

For a Sub-Region or Ontario Health Team (OHT) level analysis, users can conduct an integrated analysis of all the neighbourhoods within a sub-region or OHT boundary to identify high needs neighbourhoods requiring additional attention and resources.

Users can supplement the information in this toolkit with additional local knowledge to build a fuller picture of community primary care needs.

Below are the steps to undertake when conducting this type of comprehensive analysis:

**Step 1: Understanding the Characteristics of the Neighbourhood**

First, look at the Neighbourhood Profile Dashboard to understand specific features of each neighbourhood:

- **Examples of population-related questions:** What is the population size? Prevalence of chronic conditions? Material deprivation? Ethnic concentration? Average primary care attachment rate? How do these compare to average City values?
- **Examples of workforce-related questions:** How many physicians practise in this neighbourhood? Do most residents receive their primary care services in the neighbourhood or elsewhere?
- **Examples of alignment-related questions:** Does the forward projection of the 2016 workforce result in an estimated surplus or deficit of visits in 2021 and 2026?

Once you have examined the overarching trends within a neighbourhood’s primary care landscape, you can proceed with examining service requirements and service capacity in greater detail to get a fuller picture of what is happening.

**Step 2: Understanding the Service Requirements of the Neighbourhood**

Patient mobility is high in the Toronto primary care landscape and how patients seek care influences the total number of services required in a neighbourhood. Hence, it is important to understand who accesses primary care services in a neighbourhood, and how many visits these populations require.

- Look at the visits we expect residents to access in their own neighbourhood, based on population need, baseline spatial patterns of utilization and estimated population growth. Is there a significant outflow?
- Look at the visits we expect residents of other City of Toronto neighbourhoods to access in the neighbourhood, based on population need, baseline spatial patterns of utilization and estimated population growth. Is there a significant inflow? Is the neighbourhood a Care Hub?
- Look at the visits we expect patients from outside the City to access in the neighbourhood, based on baseline spatial patterns of utilization. Is there a significant out-of-City inflow?
• Look the proportion of visits accessed within the home neighbourhood, the inflow of visits, and the service capacity available within the neighbourhood. Are current patterns of care seeking being influenced by a shortage or concentration of service capacity within the neighbourhood? Could residents be enabled to access a greater proportion of care closer to home if additional resources were available?

**Step 3: Understanding the Available Service Capacity in the Neighbourhood**

Primary care services are provided by different types of primary care physicians as well as by allied health professionals.

• How many visits are provided by comprehensive primary care physicians who are not expected to retire?
• How many comprehensive primary care physician visits are considered to be at risk of loss due to retirement?
• How many visits do non-comprehensive care physicians contribute to service capacity in the neighbourhood?
• What proportion of comprehensive primary care service capacity is at risk of loss due to retirement? Does this change over time?
• Will the neighbourhood be at risk of being underserved, even though at first glance it may look like there will be a surplus of capacity in the future?

Physicians who newly join the workforce are not accounted for in this analysis, but this can be addressed by doing scenario analyses that explore the impact of additions to the workforce. Users can use these scenarios to develop flexible and locally-relevant solutions to the gap between service requirements and service capacity. For example, if there is a gap of -3000 visits, this deficit could be met by 1 additional physician providing 3000 visits per year, 2 additional physicians providing 1500 visits per year, or 1 additional physician providing 2000 visits and 1 additional nurse practitioner providing 1000 visits per year, among many other possible workforce configurations.

The summary of the primary care service capacity available across 13 other health professions provides an overview of the allied health providers in the neighbourhood and helps to quantify the resources available beyond physician services.

**Step 4: Understanding Overall Requirements and Capacity in the Sub-Region or OHT (Integrated Analyses)**

Many factors can affect the primary care service profile of a neighbourhood. A projected gap of a given number of visits may be related to population growth, to physician retirement, to both of these, or to something else. Observations in one neighbourhood may be related to the situation in another. It is important, therefore, to take a holistic view of the various factors at play in a particular sub-region or OHT catchment area and do a stratification of risk so that focus and resources can be directed to communities in need.

• Compile all the relevant indicators for neighbourhoods in your Sub-region or OHT catchment including population characteristics, anticipated growth rates and retirement patterns.
• Identify those neighbourhoods that hit specific thresholds e.g. where 100% of the visits are at risk due to retirement, or where the population is expected to double in the course of the next 10 years, and target these for further investigation and targeted resources.
• Supplement the information in this toolkit with additional local knowledge, data, and information to build a fuller picture of primary care needs.
Step 5: Exploring Retirement Scenarios using the Interactive Dashboard

The interactive Retirement Scenario dashboard allows stakeholders to explore scenarios related to retirement, with respect to physician workforce characteristics, retirement probabilities, and service capacity at risk.

After selecting the neighbourhood of focus, users can find answers to key questions:

- How many physicians are working in the neighbourhood? Is the workforce approaching retirement age?
- How likely is it that no physicians will retire? How likely is it that one physician will retire? How likely is it that more than one physician will retire? If there is a reasonable chance that one physician will retire, how many visits are at risk? What proportion of the total comprehensive primary care visits in a particular year do these constitute?
- What happens to the number of visits at risk when the retirement probability threshold changes?
- Is the neighbourhood at risk of being underserviced under these different retirement scenarios?

Step 6: Exploring Population Growth Scenarios using the Interactive Dashboard

The interactive Population Growth dashboard can be used to explore 84 different scenarios related to population growth, population characteristics, and workforce characteristics.

Baseline Scenario:

Start by selecting a level of geography and a population growth scenario.

- What is the magnitude of population growth each year? How many visits will patients need per year?
- Does the scenario result in a gap between service requirements and service capacity? How significant is this gap? Does it grow over time?

Population Needs Scenario:

Next, explore what happens to alignment if population characteristics change (these scenarios are based on modelling that was done in the Service Requirements module).

- Add adjustments to see the impact of aging, diversity, and mental health visits. Look at the adjusted curve and the panel to understand how much change in service requirements to expect under these adjusted population characteristics.
- How do these adjusted population characteristics change the gap between service requirements and service capacity?

Workforce Scenario:

Next, explore workforce scenarios that might address the gap.

- Choose from Plus 10%, Plus 5% or Minus 5% workforce scenarios to see the impact of changing workforce factors on the gap between service requirements and service capacity.

Step 7: Pulling Everything Together

Engagement with Frontline Providers and Relevant Stakeholders to Validate Results:
It is important to examine the full breadth of evidence generated in this exercise to inform local-level workforce planning.

Leverage the strengths and opportunities identified in this exercise:

- Take all observations into consideration.
- Examine the evidence and contextualize the findings within local realities.
- Engage frontline providers and relevant stakeholders to validate results. You can ask:
  - Do the results resonate with your current observations of primary care in the neighbourhood/sub-region/OHT?
  - What factors influence the patterns that you are seeing?
  - Is a loss of physicians in the neighbourhood/subregion anticipated?
  - What other future changes do you anticipate? (e.g. new physicians, new building developments, immigration, aging population, etc.)
- Explore workforce and population-level solutions that can help to address gaps and threats.
- Local decision-makers can exercise flexibility and ingenuity in the development of solutions to convert projected service requirements and capacity into FTEs. For example:
  - How many of these visits or services could be provided by the allied health workforce available within the area?
  - Is it reasonable to expect physicians to dedicate a full 1.0 FTE to primary care within this area, or should decision-makers prioritize bringing together a team of physicians and allied health providers with diverse practice patterns whose combined service capacity meets local needs?

**Additional Information**

**Technical Notes:**

If you require additional information on the data, indicators and limitations of information in the outputs, please check the Technical Notes that are included at the end of each package as well as separately in the Technical Notes section.

**Final Report:**

Users are also encouraged to read the Final Report that has details about the project process and important outputs.

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