

# Ontario's Approach to Evidence Based Health Human Resources Planning

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# Population & Health Care in Ontario

## Demographics & Geography

- Most populous jurisdiction in Canada: 38% of Canada's population at 13.5M in 2013.
- Number of Ontario seniors (65+ years) is expected to nearly double to 4.1 million by 2035.
- Majority of Ontario's population lives in the south with a large and sparsely populated northern area.
- The Ontario Ministry of Health and Long-Term Care establishes the overall strategic direction and provincial priorities for the health system.
- Ontario is also divided into 14 Local Health Integration Networks (LHINs) created in 2006 to plan, integrate and fund local services including: hospitals, community care access centres, community support services, long-term care, mental health and addiction services, and community health centres.



## Health System Costs

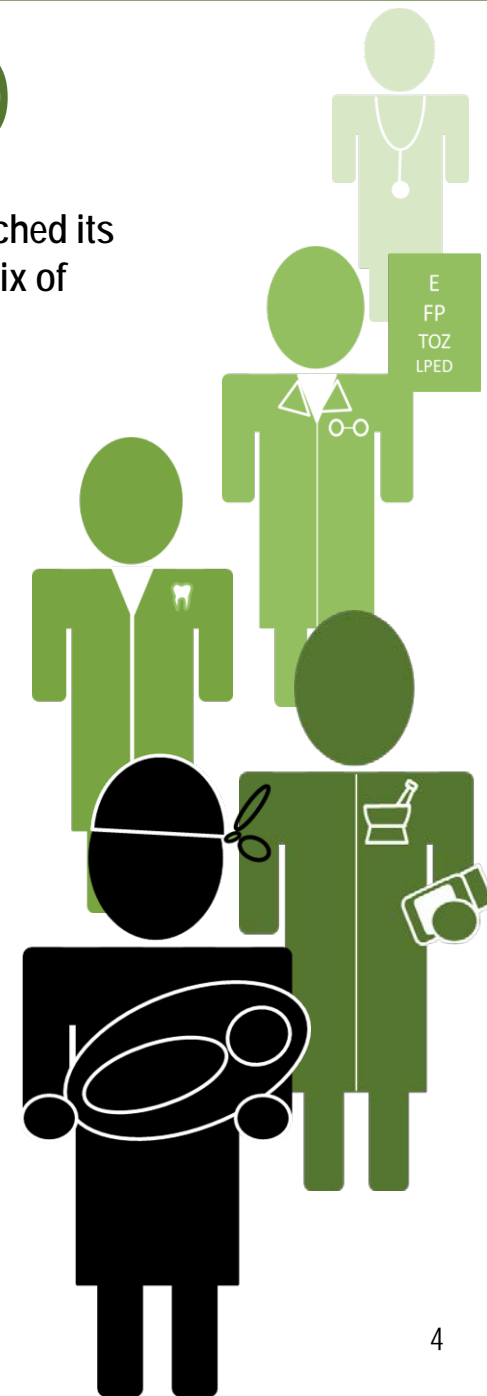
- In 2015-16 the government will be investing \$50.8 billion in health care – which means Ontario will spend 42 cents of every dollar on health care.
- Ontario Health Insurance Plan (OHIP) is Ontario's government run health care plan. OHIP pays for many health care services (e.g. payments to physicians for visits).
- Under the 2015-16 budget compensation for physicians will not increase. In 2014/15, 23% of the total health budget and 10% of government spending was spend on physician services (i.e. payments to doctors).

# Ontario's Health Human Resources (HHR)

In 2006, there was a critical shortage of health care providers. In response, Ontario launched its HHR strategy to ensure that the people of Ontario had access to the right number and mix of qualified health care providers, now and in the future.

The strategy has been very successful:

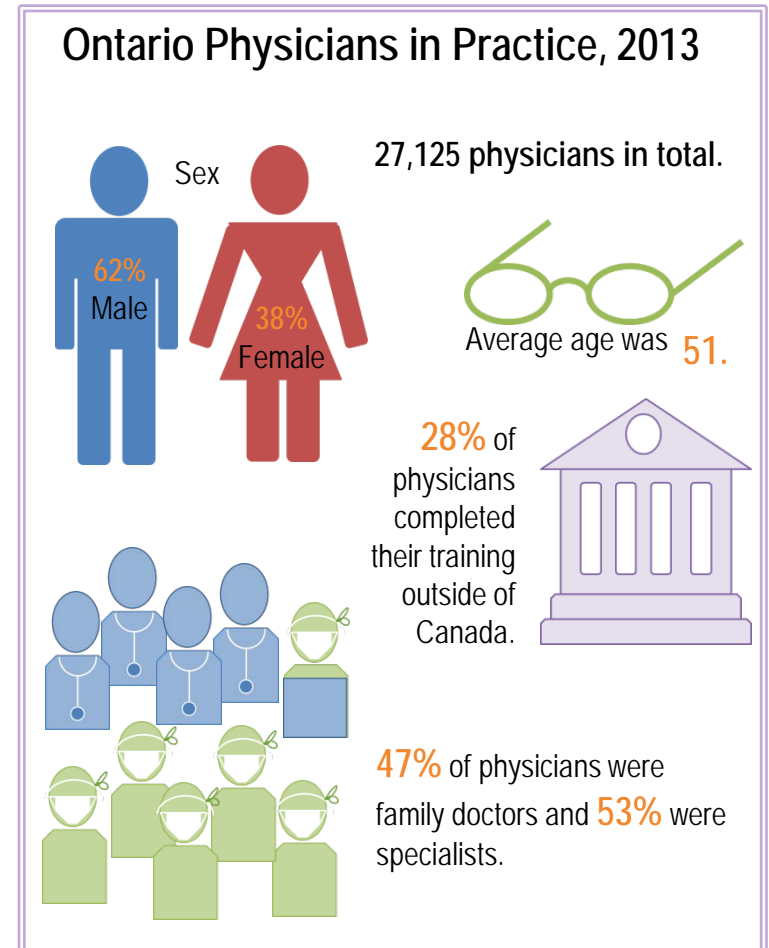
- **Increased the supply of health care providers in the province:**
  - ✓ **Example of Success:** Stabilized the supply of physicians in Ontario - Between 2003 to 2013, the number of physicians in Ontario increased by 26% (from 21,472 to 27,125) while the Ontario population grew by 12%.
- **Created supports to recruit and retain health care providers:**
  - ✓ **Example of Success:** Developed the HealthForceOntario Marketing and Recruitment Agency as a one-stop shop to market Ontario as the employer of choice for health professionals.
- **Improved access to care for Ontarians:**
  - ✓ **Example of Success:** Made targeted investments in primary care models, home-care agencies, public health units, long-term care settings and emergency departments utilizing nurse practitioners to increase access to care.
- **Enhanced evidence capacity to engage in better HHR planning:**
  - ✓ **Example of Success:** Focus of this presentation.....



# Ontario Physician Human Resources Data Centre

The Ontario Physician Human Resources Data Centre (OHPRDC) is funded by the Province and is a key resource for information on Ontario physicians in practice and in training.

- Since 1992, has maintained a registry of all licensed physicians practicing in Ontario, the Active Physician Registry:
  - Produces numerous reports and analyses, including an annual report, *Physicians in Ontario*, and special reports.
- Maintains the Ontario Postgraduate Medical Trainee Registry:
  - Ontario medical schools provide data on postgraduate trainees to this Registry for analysis and reporting.
  - Produces an annual report, *Postgraduate Medical Trainees in Ontario*, and a variety of special reports.

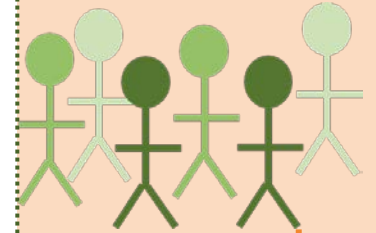


# Ontario's Health Professions Database (HPDB)

Since 2007, all health profession colleges regulated under the Regulated Health Professions Act, 1991 are mandated to collect data on their members and report it to the ministry for HHR planning purposes.\* The HPDB was developed to house this data.

- Province and health regulatory colleges collaborated to develop the HPDB:
  - Supply-side database that collects standard, consistent and comparable data across 24 regulated health professions in Ontario (excludes physicians as information on doctors is collected through OPHRDC).
  - Includes demographic, geographic, educational and employment data.
- Unique identifier assigned to each individual health professional across colleges:
  - Number is assigned at the point of registration.
  - Allows us to see whether individuals are practising in more than one profession simultaneously and whether individuals transition from one health care profession to another over the course of their career.

In 2013 there were over **250,000**



**nurses and allied health professionals** registered with their respective regulatory Colleges in Ontario.

# Assessing Doctor Inventories & Net-Flows (ADIN)

Since 2005, the Province has been using a physician supply-based model called ADIN.

- Stock-Flow model which tracks the progression of a physician from postgraduate training, to practice and then retirement.
- Used to project the provincial supply of physicians by specialty up to 19 years into the future.
- Uses multiple sources of data to project the future supply of physicians in the province (see side box):
  - For example: International and interprovincial physician-in-practice migration data supplied from the Canadian Institute for Health Information (CIHI).
- Was recently updated to project physician supply up to 2030.

## DATA INCLUDES:

### First Year Residency Allocations

Canadian Resident Matching Service (CaRMS)

First year postgraduate positions offered by specialty and location of medical degree

### Postgraduate Migration Data

Canadian Post M.D. Education Registry (CAPER)

Inter-provincial migration after completion of postgraduate studies by specialty and sex

### Migration Data

CIHI

Practice migration by age, sex and specialty

### Postgraduate Medical Trainees in ON

OPHRDC

Historical averages of sub specialization, level of training, specialty, sex, location of medical degree

### Retirement Data

OPHRDC

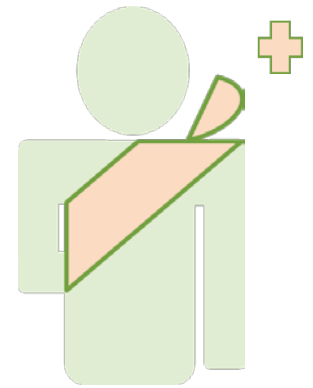
Retirement by age, sex and specialty

### Program Length

Royal College of Physicians and Surgeons of Canada/College of Family Physicians of Canada (RCPSC/CFPC)

Program length by specialty

# Utilization Based Physician Model (UM)



- Uses health insurance claims (OHIP) data to determine current utilization of physician services.
- Projected number of physicians needed is compared to the projected supply of physicians (using ADIN) to determine the projected gap/surplus of physicians.
- Assumes the current supply and utilization of physician services is in balance.
- Current utilization is then applied to future population forecasts to estimate future utilization
- Estimated future utilization is converted to project the number of physicians needed based on current patient/physician volumes.
- Was recently updated with claims data from 2012 to project gaps/reserve in physician supply up to 2030.



# Ontario Population Needs-Based Physician Simulation Model (NBM)



- In 2007, the Province in partnership with the Ontario Medical Association (OMA) hired the Conference Board of Canada to develop the NBM.
- NBM converts the future health needs of the population into need for physician services, compares it with the future supply of physician services and calculates a gap by specialty and LHIN.
- Survey results and information from expert panels were used to estimate physician productivity and future incidence and prevalence of certain disease groups.
- Multiple sources of data were used to project the future supply of physicians in the province:
  - CAPER, OPHRDC, CaRMS, Statistics Canada, Canadian Community Health Survey, Canadian Medical Education Statistics etc.
- Last updated in 2010:
  - In the process of updating this complex model and it is anticipated that these results will be available in 2016.

# Limitations of Physician Modelling



All models are planning tools. There are many important variables to consider in HHR planning, but each model cannot quantify them all. Each model should be used in conjunction with other evidence to develop a more comprehensive picture. Examples of modelling limitations include:

- **ADIN:** Like all supply models, ADIN does not tell us whether physician supply will be sufficient to meet population need.
- **Utilization Model:** Assumes that current utilization is appropriate and rates will remain consistent into the future. Does not provide information on population need.
- **Needs Based Model:** Was constructed at a 'macro' level to help identify areas which require more detailed examination and research. Any method to determine 'need' is an educated estimate as 'need' is a complex variable that is difficult to define and measure.

# Summary of Ontario's Physician Models

## Supply Model (ADIN)

Estimates physician supply by tracking physicians from postgraduate training, to practice and then retirement

Does not inform about whether supply is sufficient to meet the demands or needs of the Ontario population

Last updated in 2014 with most up-to-date data (2012 & onwards)



## Utilization Model

Estimates demand for future physician services using health insurance claims and population projections



Compares results to ADIN supply model projections to determine if supply meets demand

Assumes the current supply of physicians meets patient demand

Last updated in 2014 with 2012 claims data

## Needs-Based Model

Estimates future Ontario population need for physicians

Complex model; need is difficult to measure

Last updated in 2010; updated results anticipated in 2016



# Evidence: Work Underway



## Data Collection

- HPDB: Collecting 2014 data for ministry use.
- OPHRDC: Public reports will continue to be produced annually on physicians in-practice and in-training.

## Modelling

- Developed a standardized schedule to update physician models bi-annually.
- Working on a nurse forecasting model that will examine the relationship between supply, demand and need. The model is currently in the design stages.

## National Planning

- A federal/provincial/territorial Physician Resource Planning Task Force (Task Force) established in 2013 to facilitate the collaboration and coordination of pan-Canadian physician human resources planning in support of the Deputy Ministers of Health and the Deans of Medicine:
  - Developing guiding principles that would support a collaborative process to improve physician planning.
  - Finalizing concepts for a website to inform those pursuing medical education.
  - Creating a pan-Canadian planning tool (forecasting model).

# Using Evidence to Inform Policy & Planning



Evidence is used to support decision making with other areas of the provincial government, the federal government, and system stakeholders.

## Example:

- Provided data and analysis to the Ministry of Training Colleges and Universities (MTCU) to inform decisions related to possible new education programs.

## Example:

- Informed federal immigration policies (e.g. list of priority health professions for the Federal Skilled Worker Program).

## Example:

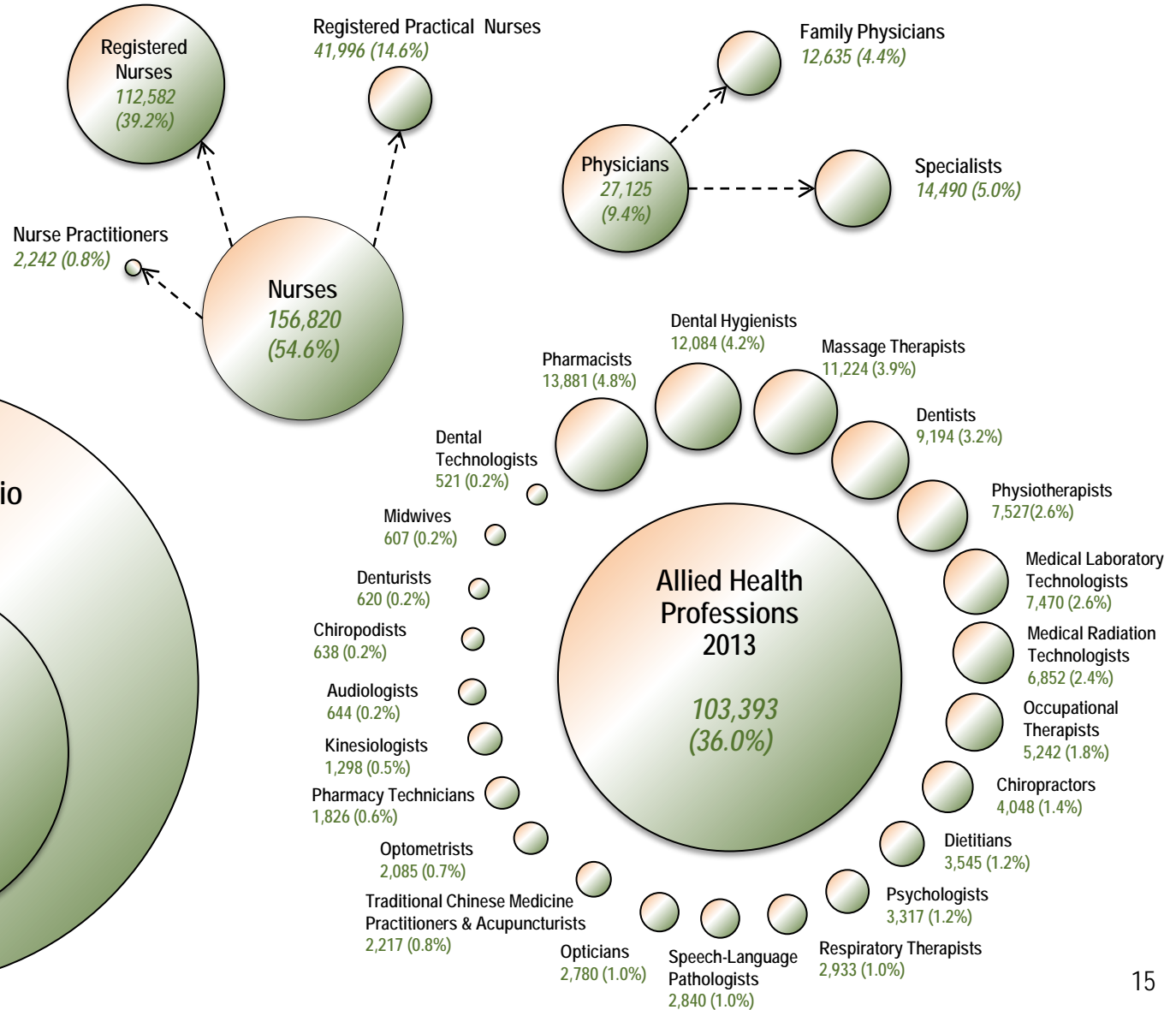
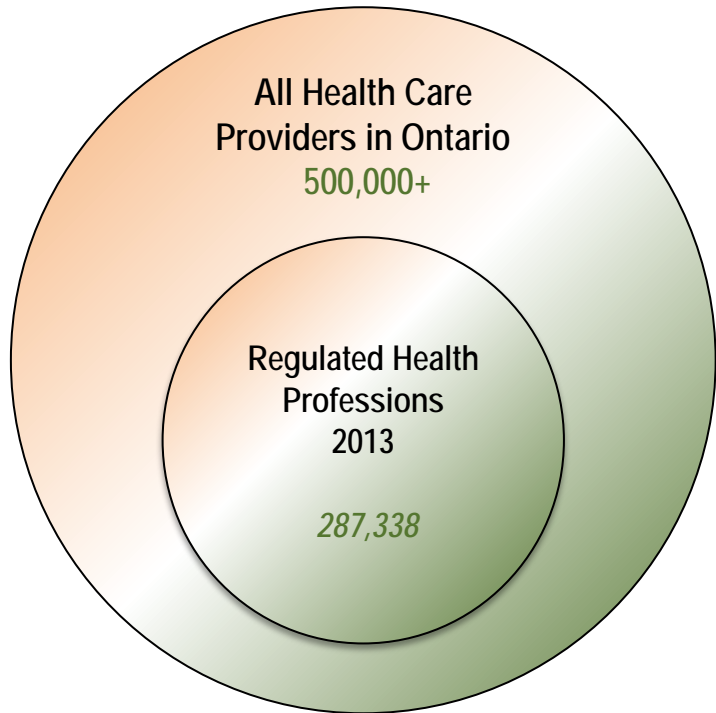
- Guided decisions on planning and allocation of physician residency positions for various specialties to meet societal needs.

# APPENDICES

# Overview of Ontario's Health Workforce, 2013

**Examples of Un-Regulated Health Professions**

- Personal Support Workers
- Physician Assistants
- Ultrasound Technologists
- Addiction Workers
- Rehabilitation Assistants
- Many, many more...



# Professions Participating in the HPDB

Health Professions Currently Included in the HPDB	
Audiologists	Midwives
Chiropodists/Podiatrists	Nurses – first submission in 2011
Chiropractors	Occupational Therapists
Dental Hygienists	Opticians
Dentists	Optometrists
Dental Technologists	Pharmacists
Denturists	Pharmacy Technicians – first submission in 2013
Dietitians	Physiotherapists
Kinesiologists – first submission in 2014	Psychologists
Massage Therapists	Respiratory Therapists
Medical Laboratory Technologists	Speech-Language Pathologists
Medical Radiation Technologists	Traditional Chinese Medicine Practitioners & Acupuncturists – first submission in 2014
Health Professions to be Included in the HPDB	
Homeopaths	Naturopaths
Psychotherapists	



# HPDB Minimum Data Set

## Identifiers, Registration and Demographics

1. Unique Identifier Number (de-identified)
2. Registration Status
3. Registration Inactive Status Reason
4. Class of Registration
5. Sex
6. Year of Birth
7. Languages of Care

## Geography and Related

8. Primary Postal Code of Residence
9. Primary Province or Territory or State of Residence
10. Primary Country of Residence
11. Province or Territory of Registration (Default Value)
12. Year of Initial Registration to Practise in Ontario
13. Concurrent Province or Territory or State of Registration
14. Concurrent Country of Registration
15. Most Recent Previous Province or Territory or State of Practice
16. Most Recent Previous Country of Practice
17. Last Year of Practice in Previous Province or Territory or State or Country
18. Specialty Certification
19. Year of Specialty Certification

## Education

20. Bridging Program Completion
21. Year of Completion Bridging Program
22. Level of Education in Profession
23. Year of Graduation from Education in Profession
24. Canadian Educational Institution of Education in Profession at Graduation
25. Province or Territory or State at Graduation from Education in Profession
26. Country of Graduation from Education in Profession
27. Highest Level of Education Outside of the Profession
28. Field of Study for Highest Education Outside of the Profession

29. Year of Graduation from Education Outside of the Profession
30. Province or Territory or State of Graduation from Education Outside of Profession
31. Country of Graduation from Education Outside of Profession

## Employment – Historical

32. Country of First Time Practising in Profession
33. Province or Territory or State of First Time Practising in Profession
34. First Year of Practising in Profession
35. First Canadian Location of Practice in Profession
36. Year of First Canadian Practice in Profession

## Current Employment – Individual Based

37. Practice Status
38. Full Time/Part Time/Casual Work Preference
39. Agency Nurse
40. Total Number of Practice Weeks in the Past 12 Months
41. Average Number of Weekly Practice Hours in the Past 12 Months
42. Average Number of Weekly On-Call Hours in the Past 12 Months
43. Proportion of Average Weekly Practice Hours on Direct Professional Services
44. Proportion of Average Weekly Practice Hours on Teaching
45. Proportion of Average Weekly Practice Hours on Clinical Education
46. Proportion of Average Weekly Practice Hours on Research
47. Proportion of Average Weekly Practice Hours on Administration
48. Proportion of Average Weekly Practice Hours on All Other Activities

## Current Employment – Site Based

49. More Than Three Practice Sites
50. Employment Category
51. Full-Time/Part-Time/Casual Status
52. Practice Setting
53. Postal Code of Practice Site
54. Province or Territory or State of Practice Site
55. Country of Practice Site
56. Primary Role
57. Area of Practice Activity
58. Practice Specialty
59. Client Age Range

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