



Diagnostic Radiology Profile

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General information

Diagnostic radiology is concerned with the use of imaging techniques in the study, diagnosis and treatment of disease. The radiologist's major role is as a consultant to other physicians. By interpreting medical images produced by X-rays (radiography & computed tomography), radioisotopes (nuclear medicine), ultrasound (sonography), and magnetic fields (magnetic resonance imaging), the radiologist along with the referring physician and patient plan, organize, integrate and interpret the imaging studies to form a diagnosis and determine the course of treatment.

Diagnostic radiology is an intellectually challenging and rapidly changing specialty. Therefore, radiologists must continue to study and attend educational courses to keep abreast of new information and techniques. To be effective, the radiologist must have considerable and detailed knowledge of anatomy and pathology, as well as sound knowledge of medicine and surgery. In order to use the sophisticated tools of radiology, they must also have a sound knowledge of physics and how images are formed.

General information

Radiology encompasses many subspecialties, including neuroradiology, ultrasound, MRI and CT, mammography and GI radiology.

Interventional radiology is becoming a rapidly growing area within this specialty. Trained radiologists can now perform minimally invasive procedures, such as biopsies, drain abscesses, dilate stenotic arteries (angioplasty), clot bleeding arteries, remove biliary or urinary tract stones and insert central lines.

Upon completion of medical school, it takes an additional 5 years of Royal College-approved residency training to become certified in diagnostic radiology. The 5 years of training require a closely supervised practice in the beginning, with the opportunity for increasing responsibility in the final years. This is to ensure that the resident can function near the end of training as a general radiology consultant, requesting help from staff radiologists when necessary. The residency may be followed by 1 or more years of fellowship training in a subspecialty discipline.

General information

The 5 years of training must include:

- 1 year of basic clinical training to give the resident a degree of independent responsibility for clinical decisions; an opportunity for further development of the skills required in making effective relationships with patients; the consolidation of competence in primary clinical/technical skills across a broad range of medical practice; and an understanding of the nature of the relationship between a referring physician & a clinical radiological consultant.
- 3 years of Royal College-approved resident training in "general diagnostic imaging"; this must include: respiratory, cardiovascular, gastro-intestinal and biliary, genito-urinary, musculoskeletal, mammography, neurological and pediatric radiology, as well as the following modalities: fluoroscopy, ultrasound, nuclear medicine, and CT, MR imaging.

General information

- 1 year of Royal College-approved residency that may consist of 1-12 month periods in any of the following: further training in diagnostic radiology; diagnostic ultrasound; CT; MR; nuclear medicine; cardiac and/or vascular radiology; interventional radiology; neuroradiology; pediatric radiology; pathology or other clinical specialty relevant to the practice of radiology (for up to 3 months) or a full-time research project, relevant to diagnostic imaging.

For further details on training requirements please go to:

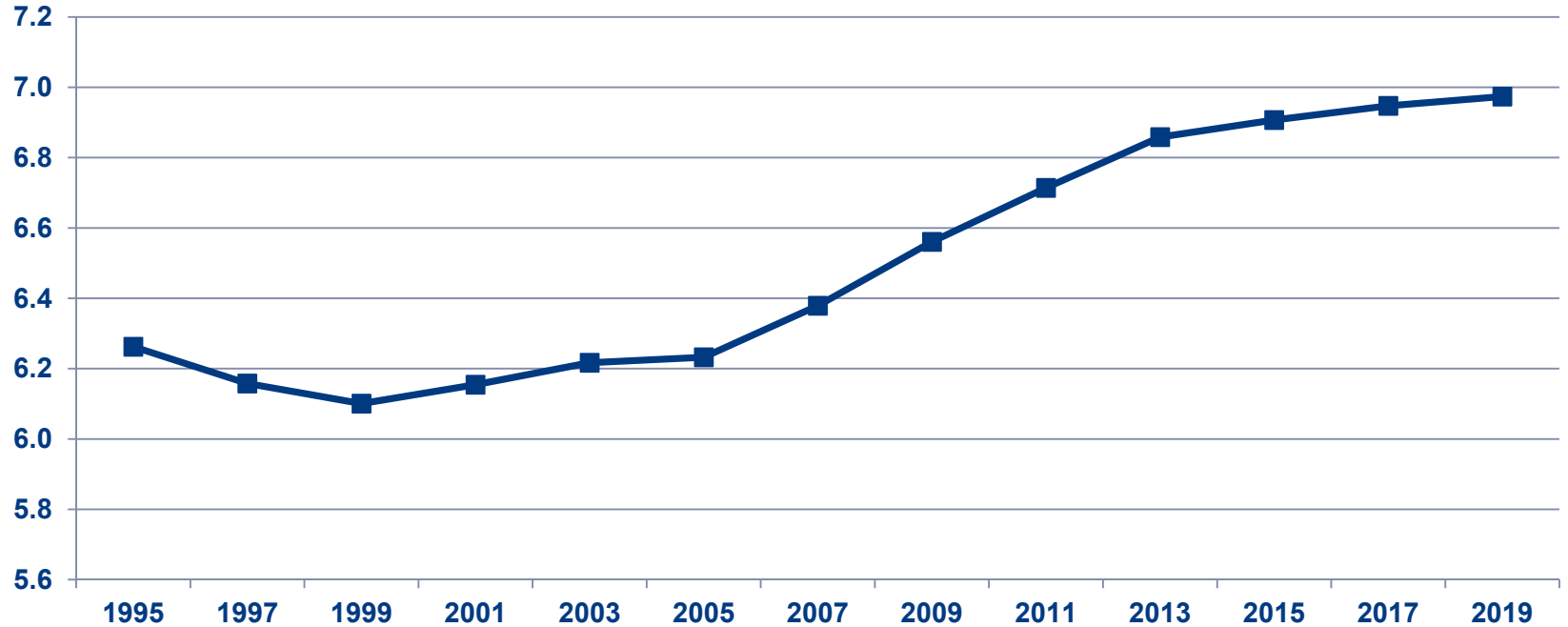
[Royal College of Physicians and Surgeons of Canada](#)

[Canadian Association of Radiologists](#)

Total number & number/100,000 population by province, 2019

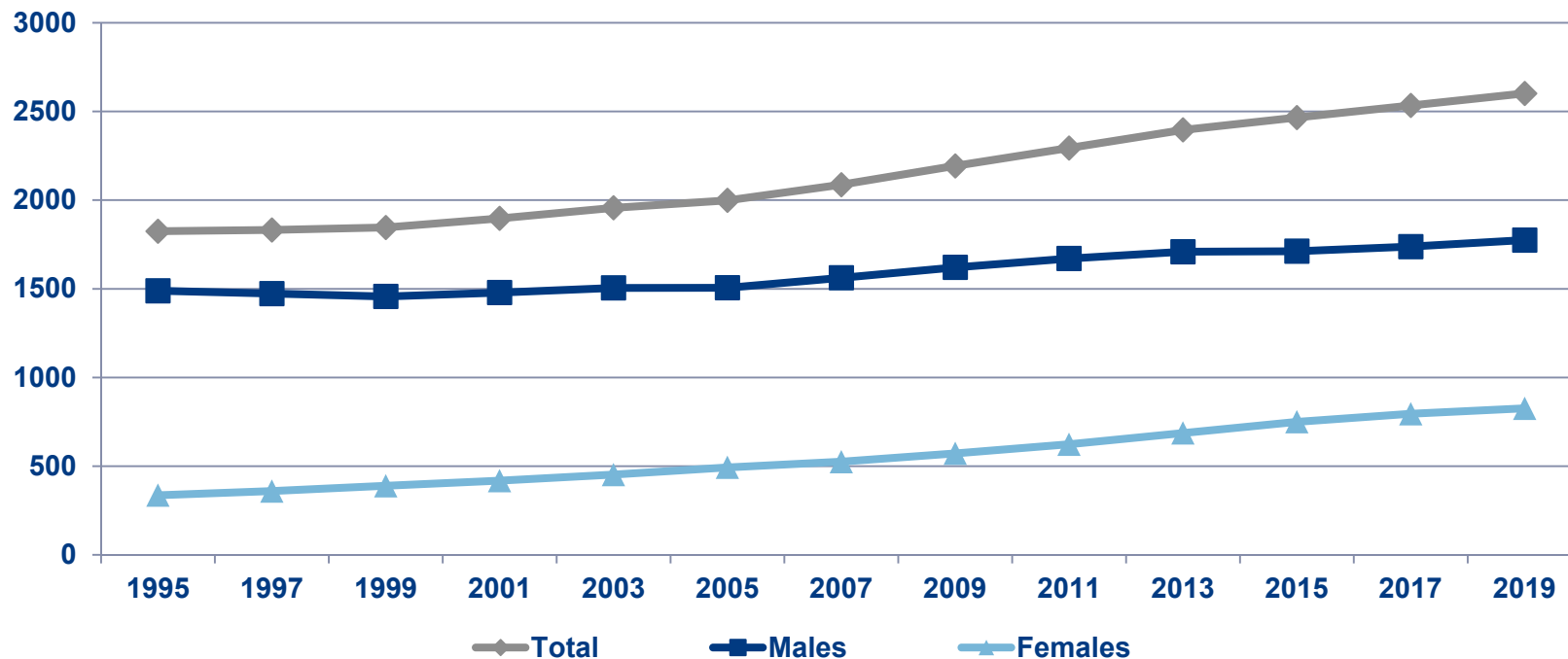
Province/Territory	Physicians	Phys/100k pop'n
Newfoundland/Labrador	55	10.5
Prince Edward Island	9	5.8
Nova Scotia	84	8.7
New Brunswick	56	7.2
Quebec	686	8.1
Ontario	933	6.5
Manitoba	90	6.6
Saskatchewan	79	6.8
Alberta	293	6.8
British Columbia	316	6.3
Territories	1	0.8
CANADA	2602	7.0

Number/100,000 population, 1995 to 2019



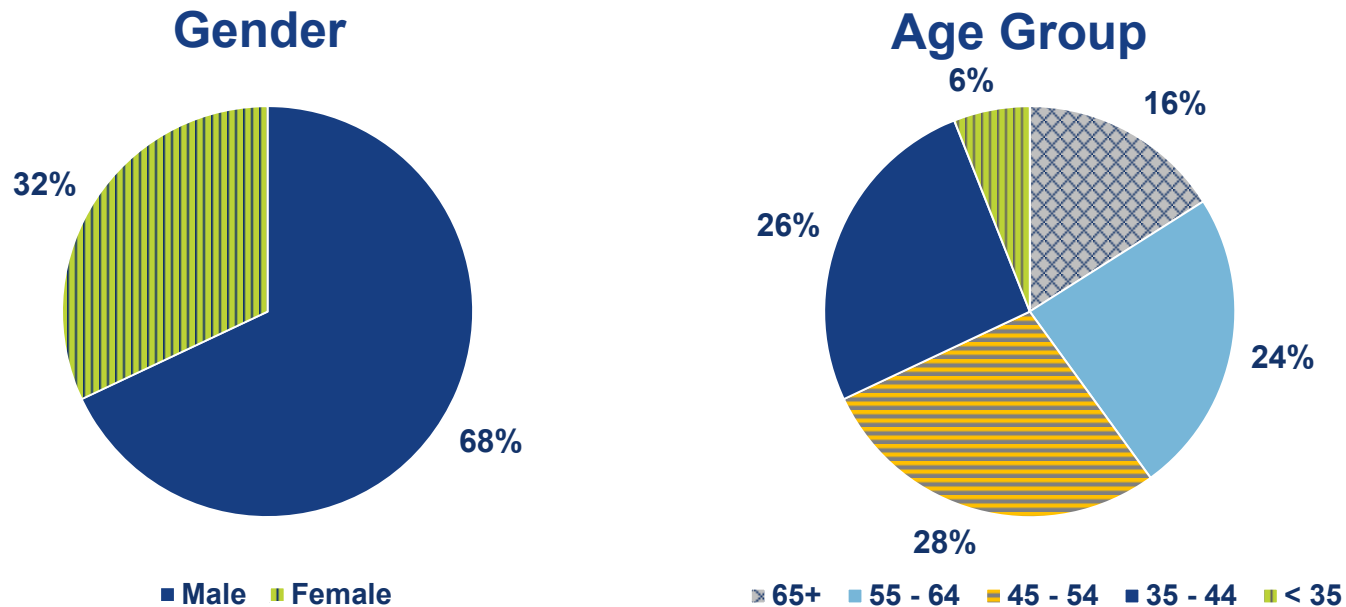
Source: 1995-2019 CMA Masterfiles

Number by gender & year, 1995 to 2019



Source: 1995-2019 CMA Masterfiles

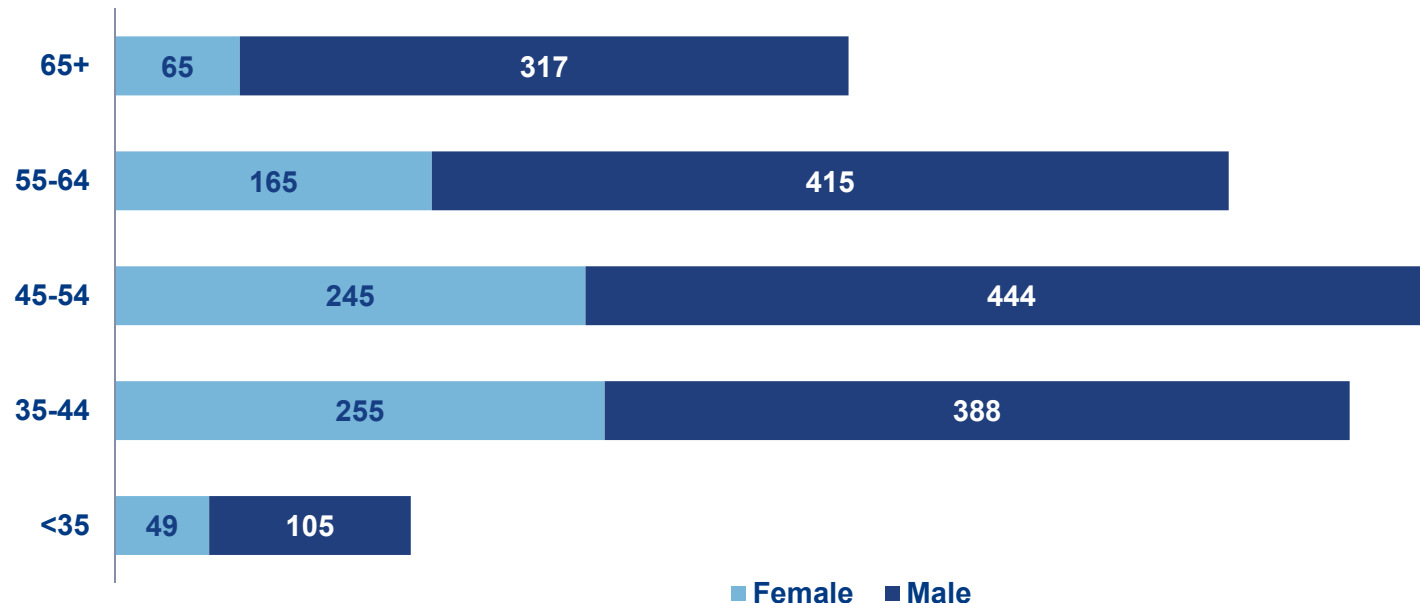
Percentage by gender & age, 2019



Excludes those where gender or age is unknown.

Source: 2019 CMA Masterfile

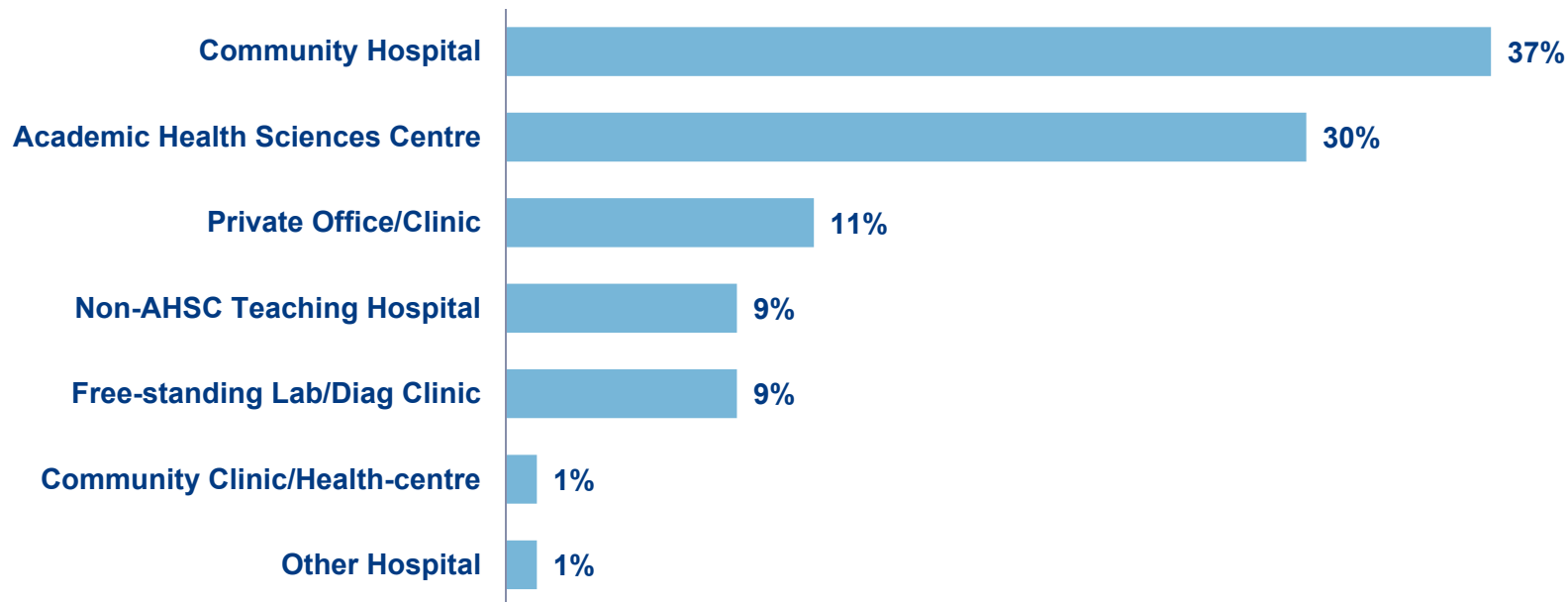
Number by gender & age, 2019



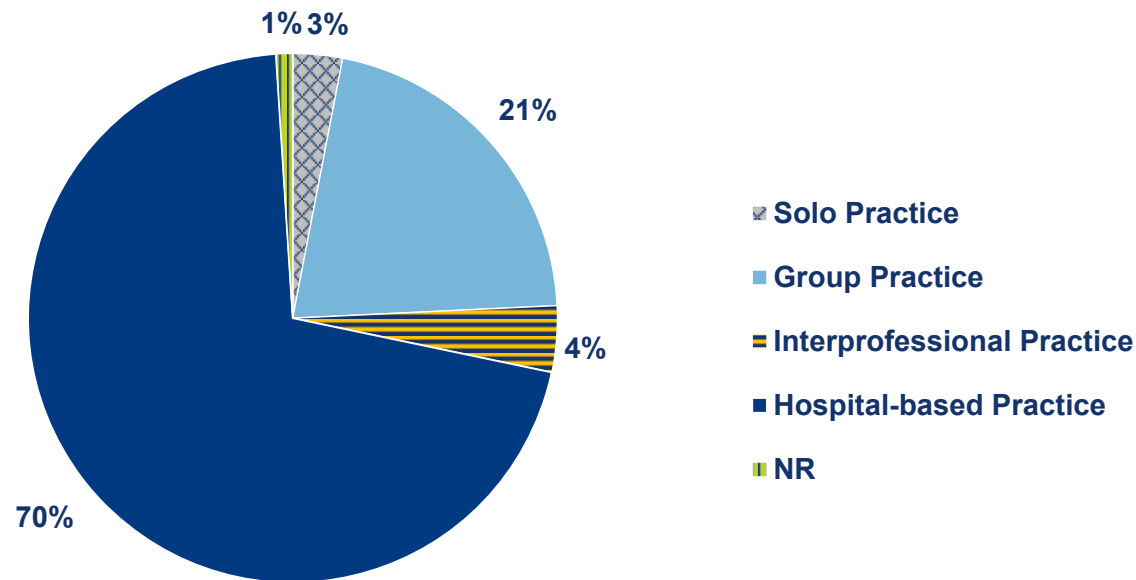
Excludes those where gender or age is unknown.

Source: 2019 CMA Masterfile

Percentage by main work setting, 2019



Percentage by practice organization, 2017*



*Most recent available data for this specialty

Source: 2017 CMA Workforce Survey. Canadian Medical Association

Hours worked per week (excluding on-call), 2019

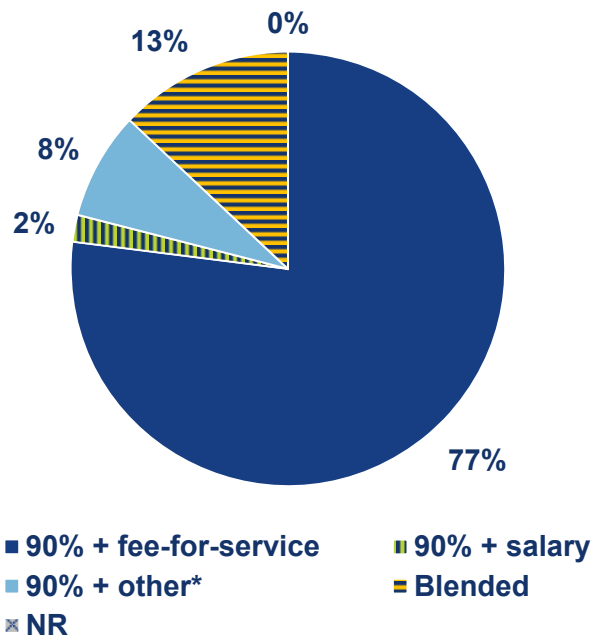
Activity	Hours worked per week
Direct patient care without teaching component	30.4
Direct patient care with teaching component	6.0
Teaching without patient care	1.5
Indirect patient care	4.3
Health facility committees	0.7
Administration	1.9
Research	0.8
Managing practice	1.2
Continued professional development	1.8
Other	1.1
TOTAL HOURS PER WEEK	49.8

On-call duty hours per month, 2019

- 76% provide on-call services
- On-call hours = 80 hours/month
- On-call hours spent in direct patient care = 33 hours/month

Percentage by remuneration method

Primary payment method¹ in 2017



Average gross payment per physician for all medical specialties in 2017/18 (those earning at least \$60,000) = \$390,195²

Average percent overhead reported by Diagnostic Radiologists in 2017 = 27%³

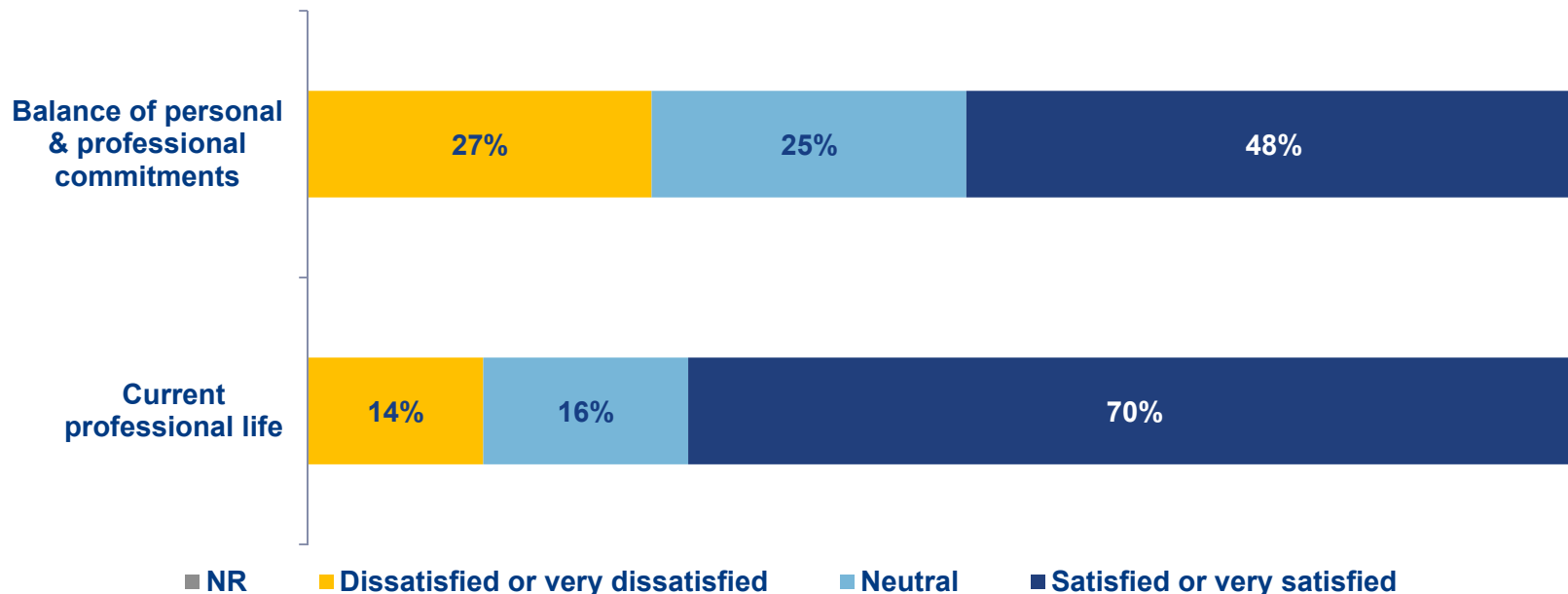
*Other includes capitation, sessional, contract and other methods

¹ Source: 2017 CMA Workforce Survey. Canadian Medical Association

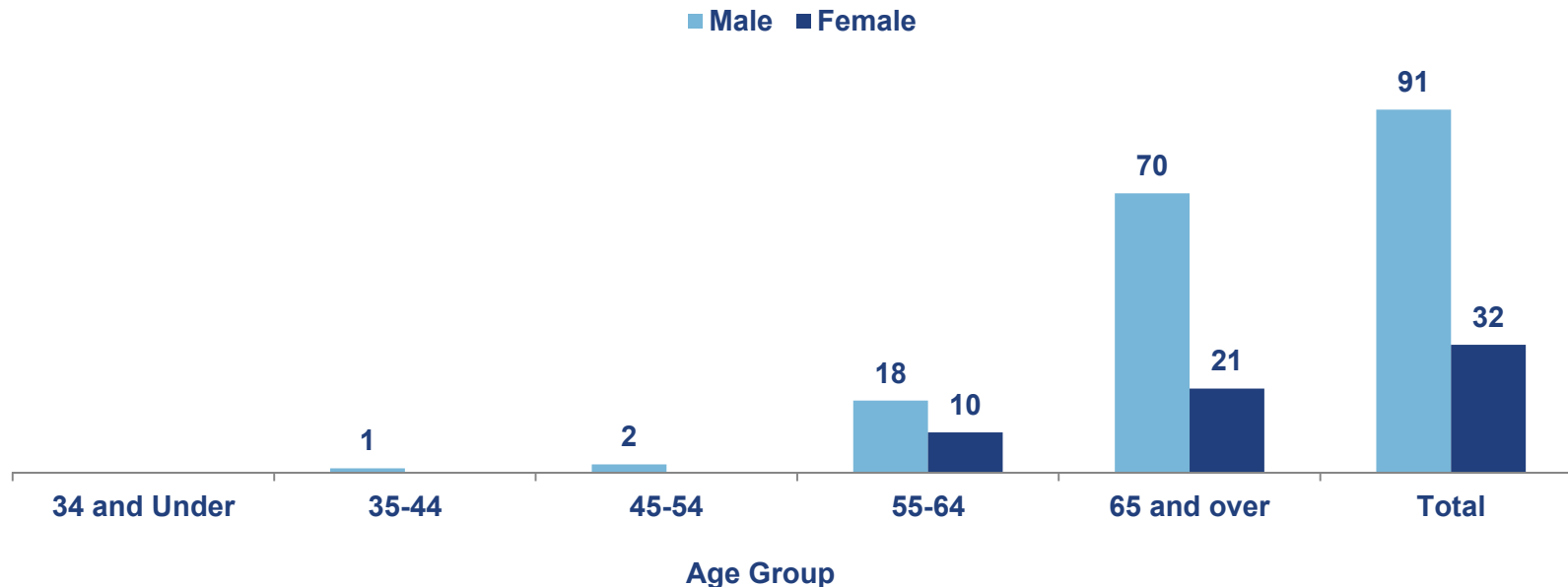
² National Physician Database, 2017/18, CIHI

³ Source: 2017 CMA Workforce Survey. Canadian Medical Association

Professional & work-life balance satisfaction, 2019



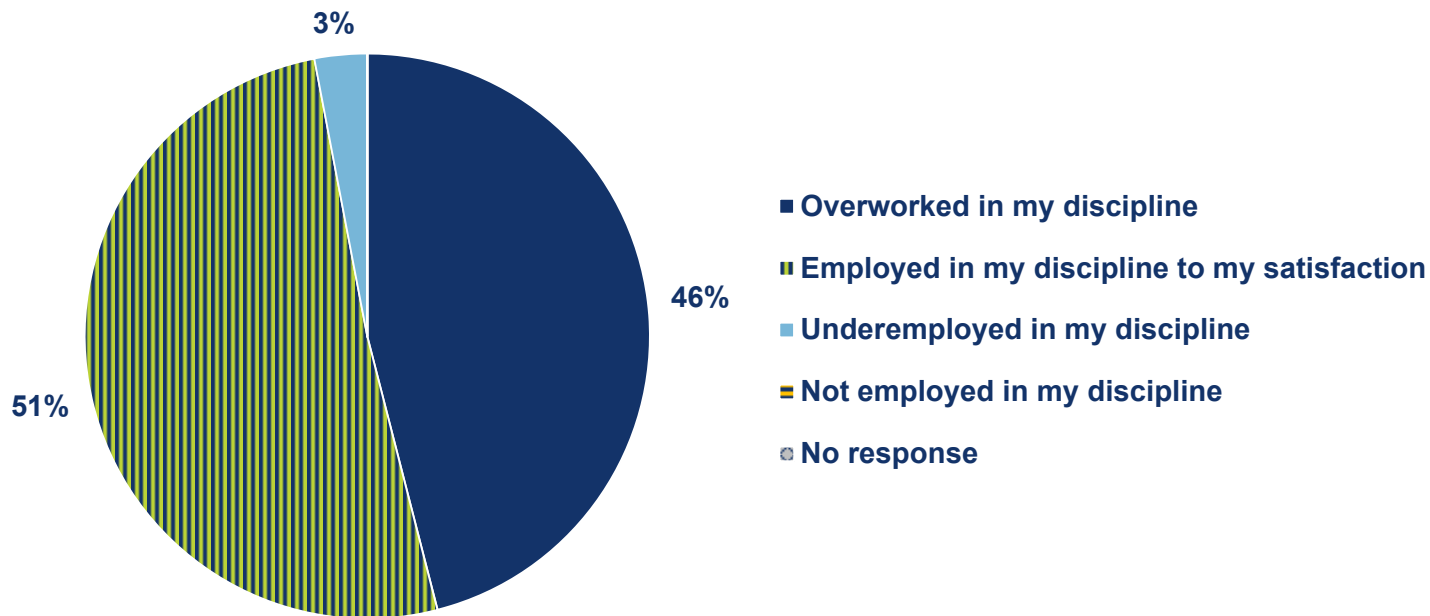
Number of retirees during the three year period of 2017-2018



Source: CMA Masterfile – year over year comparisons

Note: “Retired” is based on giving up licence and therefore excludes those who have retired from clinical practice but are still licensed; those younger than 45 may include physicians who have temporarily given up their licence but return to practice at a later date.

Employment situation, 2017



Source: 2017 CMA Workforce Survey. Canadian Medical Association

Links to additional resources

- [Association of Faculties of Medicine of Canada](#)
- [Canadian Institute for Health Information](#)
- [Canadian Medical Association's Physician Data Centre](#)
- [Canadian Post-MD Education Registry \(CAPER\)](#)
- [College of Family Physicians of Canada](#)
- [National Physician Survey \(2004-2014\)](#)
- [Royal College of Physicians and Surgeons of Canada](#)

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