

Nuclear Medicine Profile

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General information

Nuclear medicine is concerned primarily (although not exclusively) with the use of unsealed radioactive sources in the study, diagnosis and treatment of disease. Nuclear medicine combines medicine and basic biomedical science and has grown out of the fields of radiology, internal medicine and pathology. It is primarily a clinical, diagnostic discipline using radioactivity attached to pharmaceuticals.

Pathologic alteration of the normal distribution of the radio-pharmaceutical is the basis for disease detection in nuclear medicine. Image detection systems are computerized allowing manipulation of data and quantification of physiologic functions such as cerebral blood flow or renal function. Therefore, nuclear medicine requires a strong background in areas such as physiology, biochemistry, mathematics, physics, chemistry, computer science, and statistics and probability.

General information

Upon completion of training, a resident is expected to have the ability to advise on, supervise, perform and interpret imaging and non-imaging diagnostic procedures. They must also be able to perform therapy with unsealed radioactive sources to such a level of competence as to function as a consultant to referring physicians.

The nuclear medicine resident must establish a habit of life-long learning and a recognition of the importance of promoting a team approach to the use of nuclear medicine in diagnosis and therapy. At first, the resident will be closely supervised, with the opportunity for increasing responsibility, so that near the end of the residency he/she can function as a nuclear medicine consultant, recognizing his or her limitations.

Upon completion of medical school, it takes an additional 5 years of Royal College-approved training that must include:

- 1 year of basic clinical training in order to give the resident a degree of independent responsibility for clinical decisions;

General information

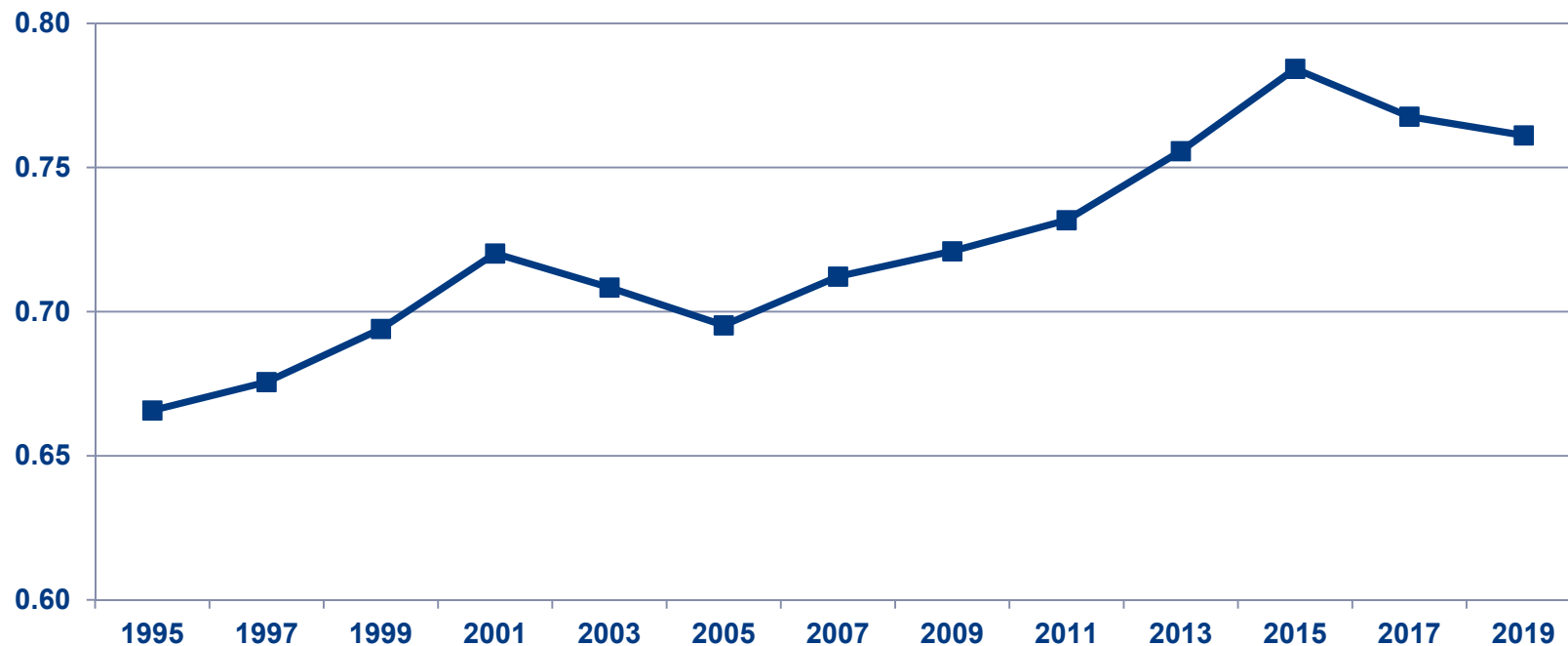
- an opportunity for further development of the skills required in establishing effective relationships with patients and other health professionals; the consolidation of competence in primary clinical and technical skills across a broad range of medical practice; and an understanding of the nature of the relationships between the referring physician and nuclear medicine consultant. This training may include surgical and pediatric blocks;
- 3 years of comprehensive residency in nuclear medicine including PET imaging performance and interpretation;
- 6 months of cross-sectional imaging relevant to nuclear medicine including head, chest, and body CT and MRI;
- 6 months of approved residency to promote and refine specific skills.

For further details on training requirements please go to:
[Royal College of Physicians and Surgeons of Canada](#)
[Canadian Association of Nuclear Medicine](#)

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

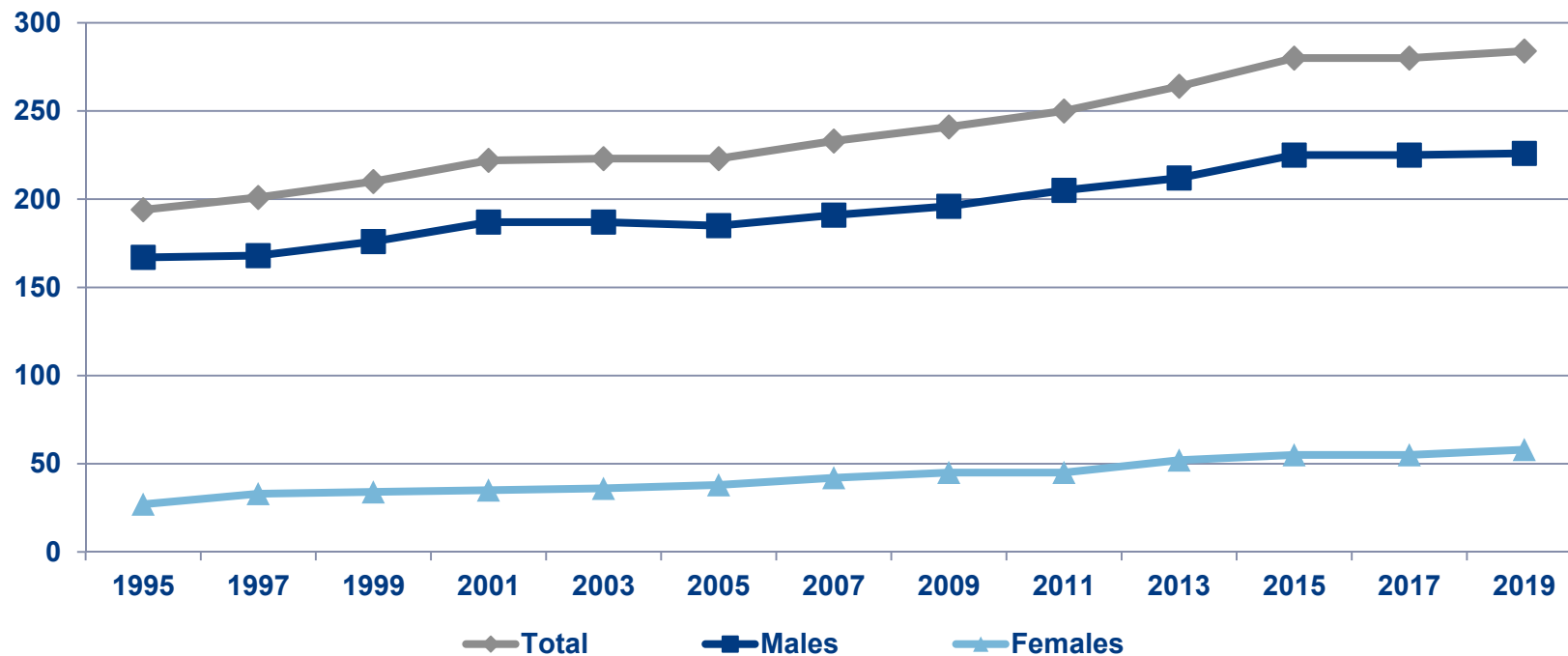
Province/Territory	Physicians	Phys/100k pop'n
Newfoundland/Labrador	4	0.8
Prince Edward Island	0	0.0
Nova Scotia	9	0.9
New Brunswick	3	0.4
Quebec	116	1.4
Ontario	82	0.6
Manitoba	7	0.5
Saskatchewan	6	0.5
Alberta	29	0.7
British Columbia	28	0.6
Territories	0	0.0
CANADA	284	0.8

Number/100,000 population, 1995 to 2019



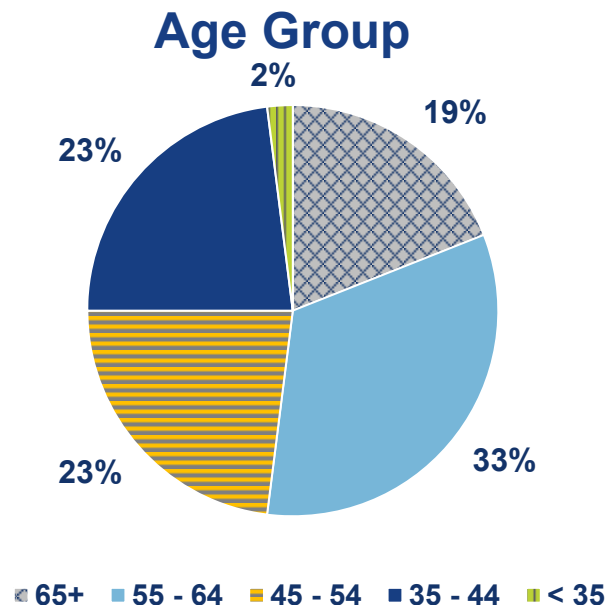
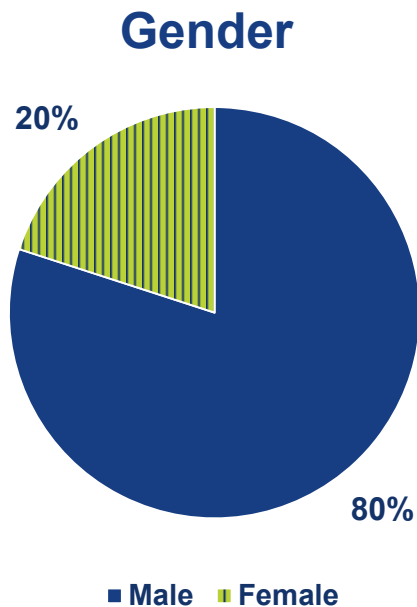
Source: 1995-2019 CMA Masterfiles

Number by gender & year, 1995 to 2019



Source: 1995-2019 CMA Masterfiles

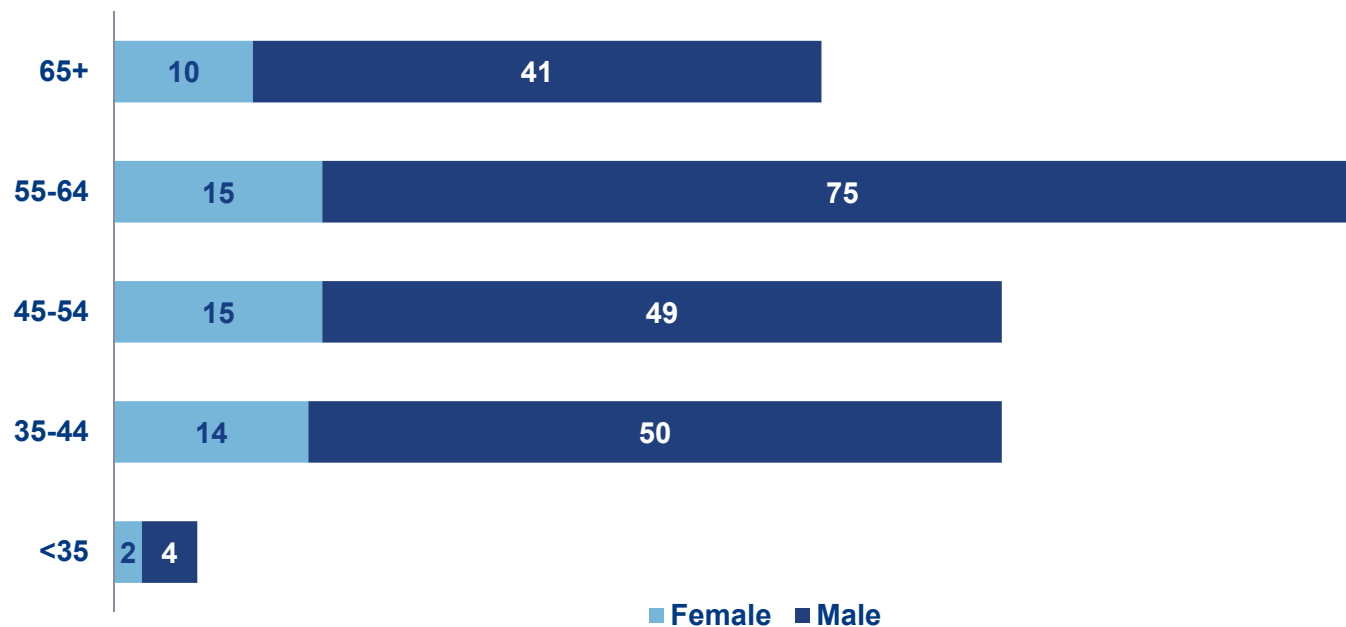
Percentage by gender & age, 2019



Excludes those where gender or age is unknown.

Source: 2019 CMA Masterfile

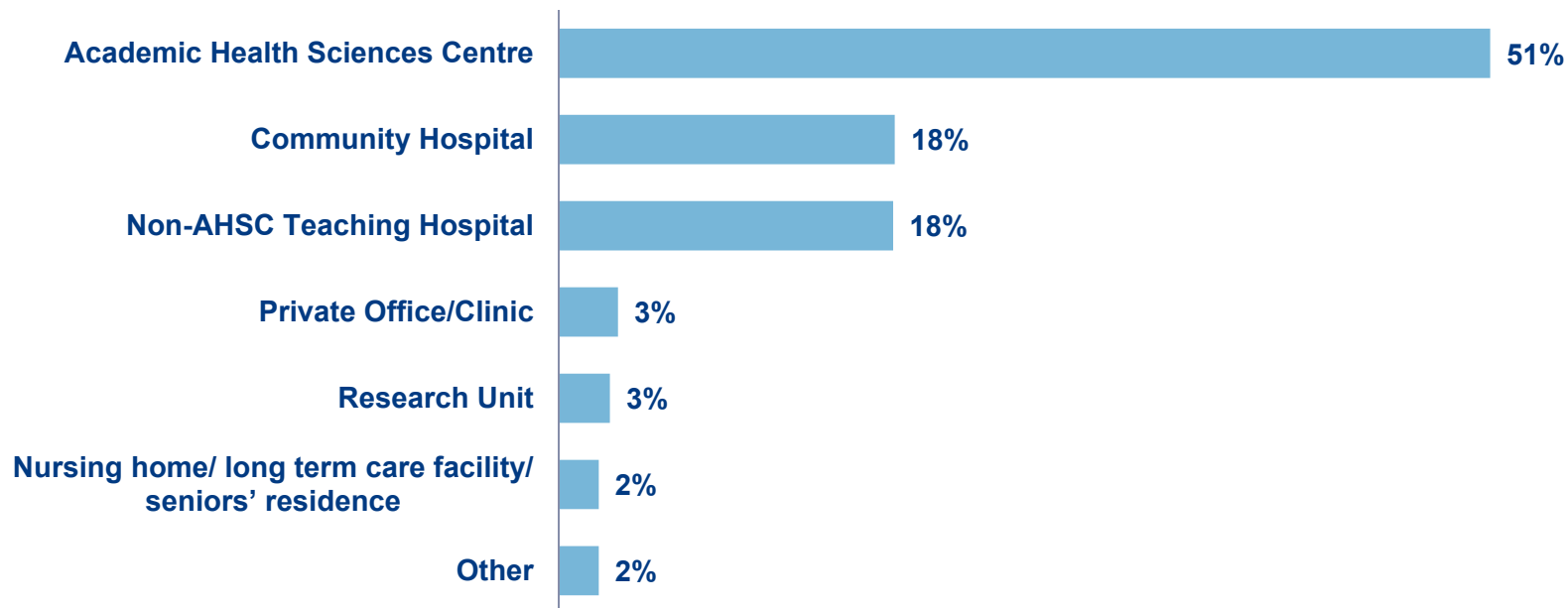
Number by gender & age, 2019



Excludes those where gender or age is unknown.

Source: 2019 CMA Masterfile

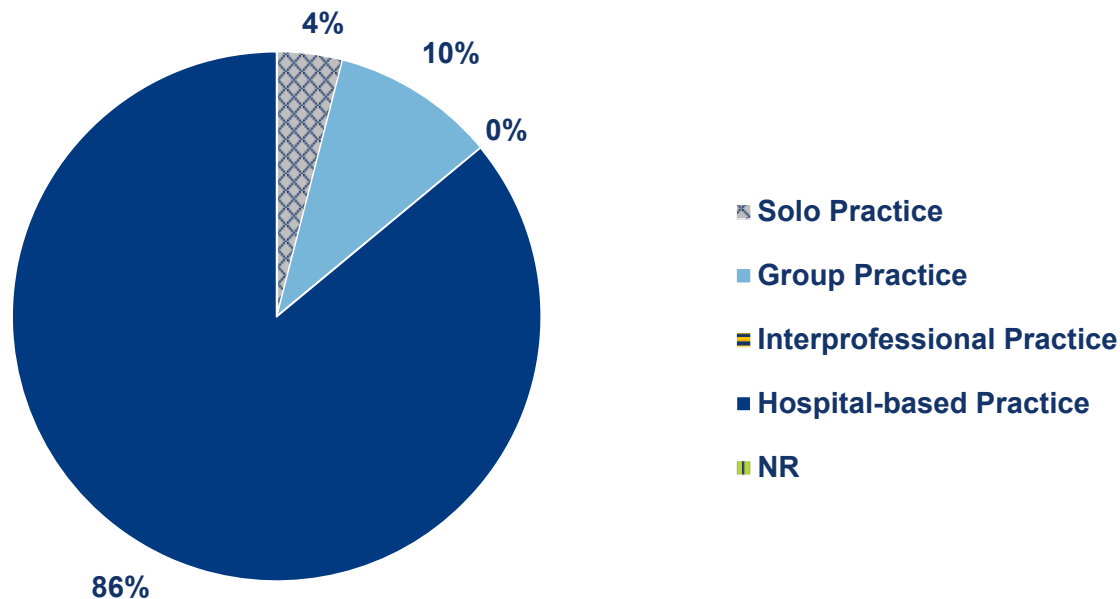
Percentage by main work setting, 2014*



*Most recent available data for this specialty

Source: 2014 National Physician Survey. CFPC, CMA, Royal College

Percentage by practice organization, 2014*



*Most recent available data for this specialty

Source: 2014 National Physician Survey. CFPC, CMA, Royal College

Hours worked per week (excluding on-call), 2014*

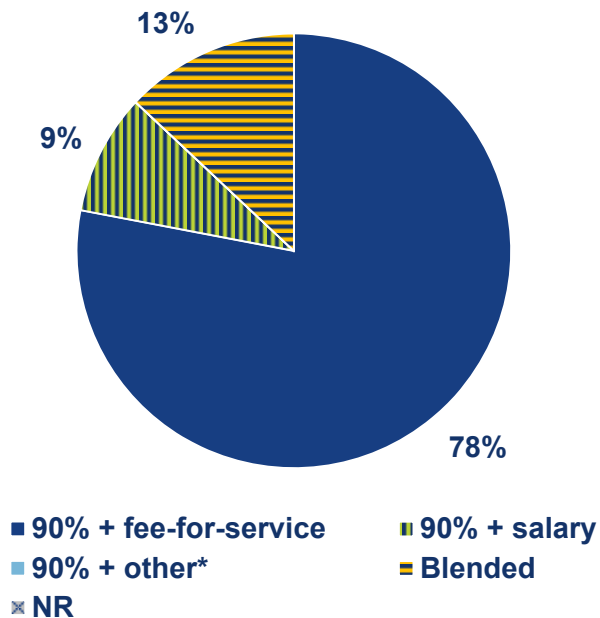
Activity	Hours worked per week
Direct patient care without teaching component	18.3
Direct patient care with teaching component	11.3
Teaching without patient care	2.5
Indirect patient care	4.9
Health facility committees	1.1
Administration	2.1
Research	2.3
Managing practice	2.7
Continued professional development	3.1
Other	0.3
TOTAL HOURS PER WEEK	48.6

*Most recent available data for this specialty

Source: 2014 National Physician Survey. CFPC, CMA, Royal College

Percentage by remuneration method

Primary payment method¹ in 2013**



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

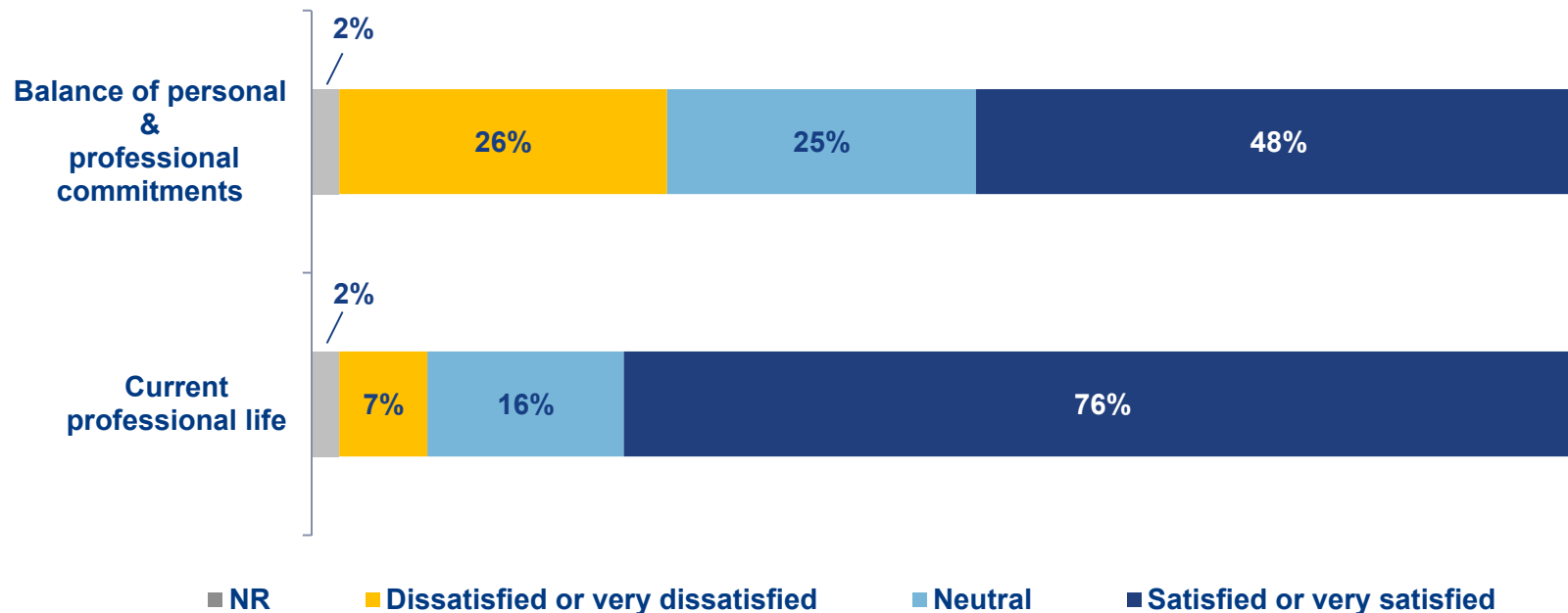
*Other includes capitation, sessional, contract and other methods

**Most recent available data for this specialty

¹ National Physician Survey, 2013, CFPC, CMA, Royal College

² National Physician Database, 2017/18, CIHI

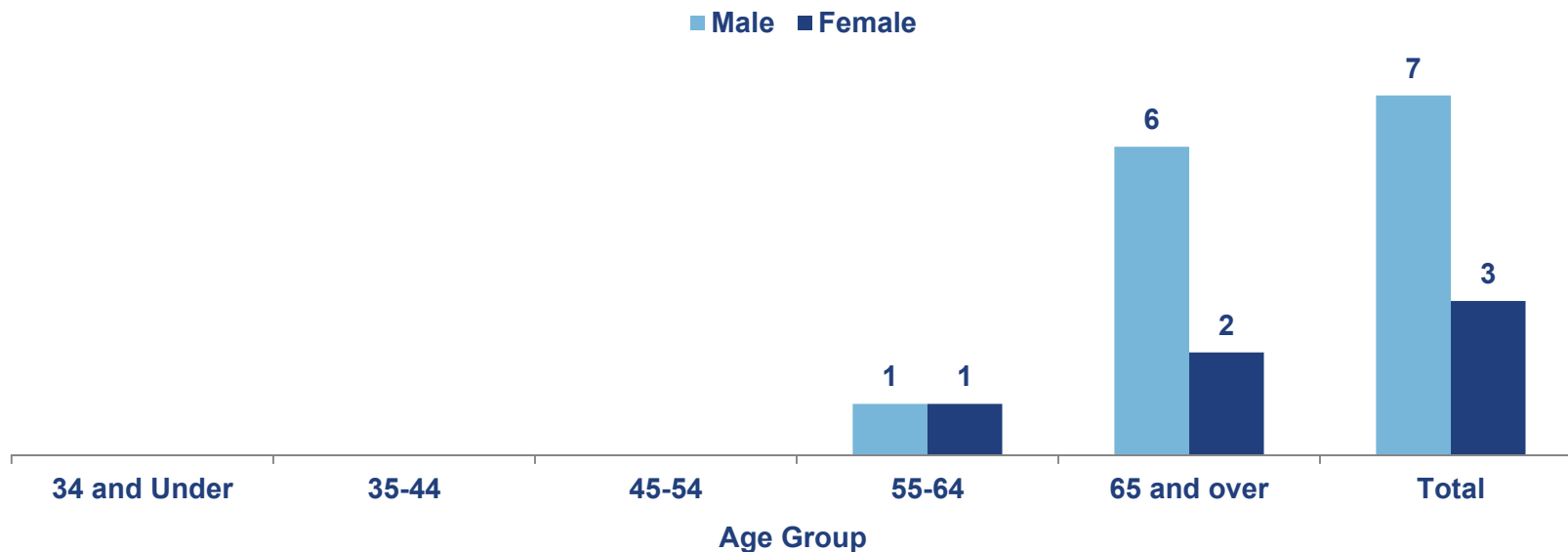
Professional & work-life balance satisfaction, 2013*



*Most recent available data for this specialty

Source: 2013 National Physician Survey. CFPC, CMA, Royal College

Number of retirees during the three year period of 2016-2018



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.

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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