

Measuring the performance of primary health care in Canada- populating the CIHI Primary Care Indicators

Administrative Data

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Types of Administrative Data Available in Canada

- **Physician Claims**
- **Drug Benefit Claims (> 65 years or all)**
- **Hospitalizations**
- **Emergency Room Visits**
- **Home care services?**

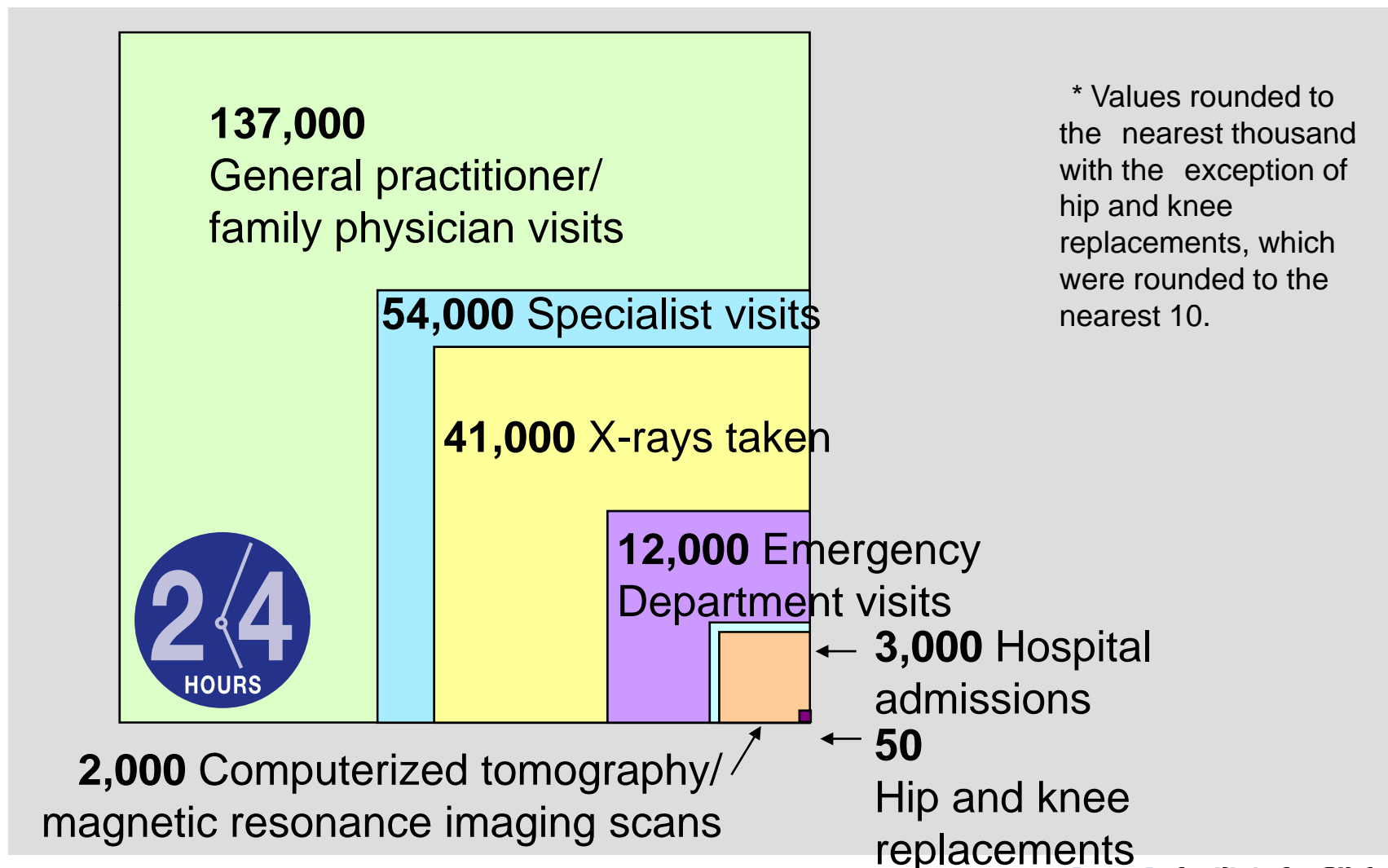
Strengths of administrative data

- Population coverage (ie. OHIP >90% coverage)
- Linked – physician visits, emergency department visits, seniors' prescriptions, admissions, lab testing, long-term care, homecare, disease registries
- Linked - to provincial and national surveys
- Available

What can administrative data measure?

- **Physician Supply**
- **Physician Services**
- **Hospital Care**
- **Prescriptions for Seniors**
- **Linked with Surveys**

Average Number* of Health Care Services Accessed Each Day, in Ontario, 2002/03



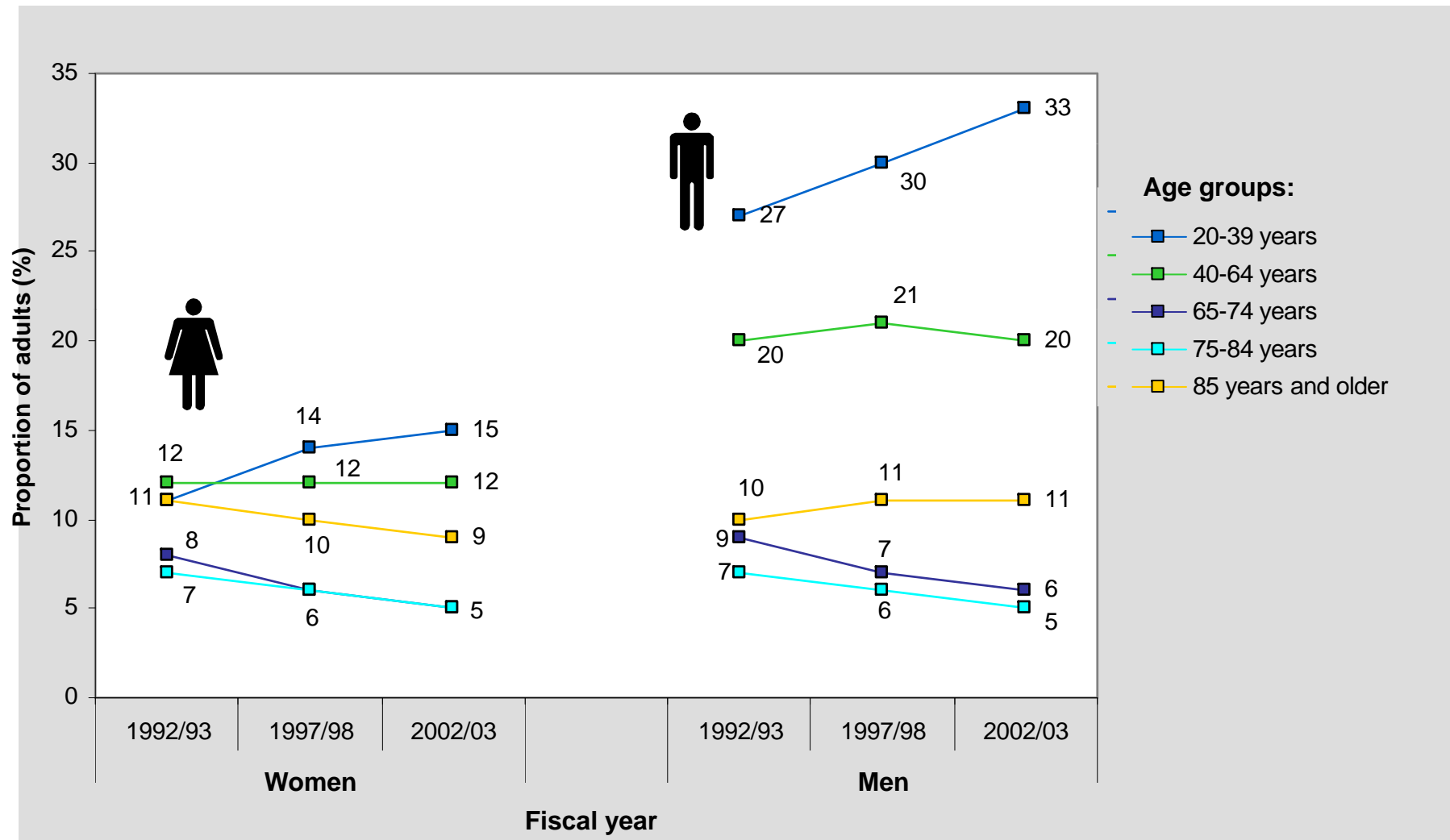
Challenges of Administrative Data

- Missing information (one some models of care, non-physician providers)
- Outdated data (patient addresses)
- Receipt of a service or prescription only
- Do not get results from tests
- Incomplete coverage (ie. prescriptions for those under 65 years of age)
- Does not include data from private plans

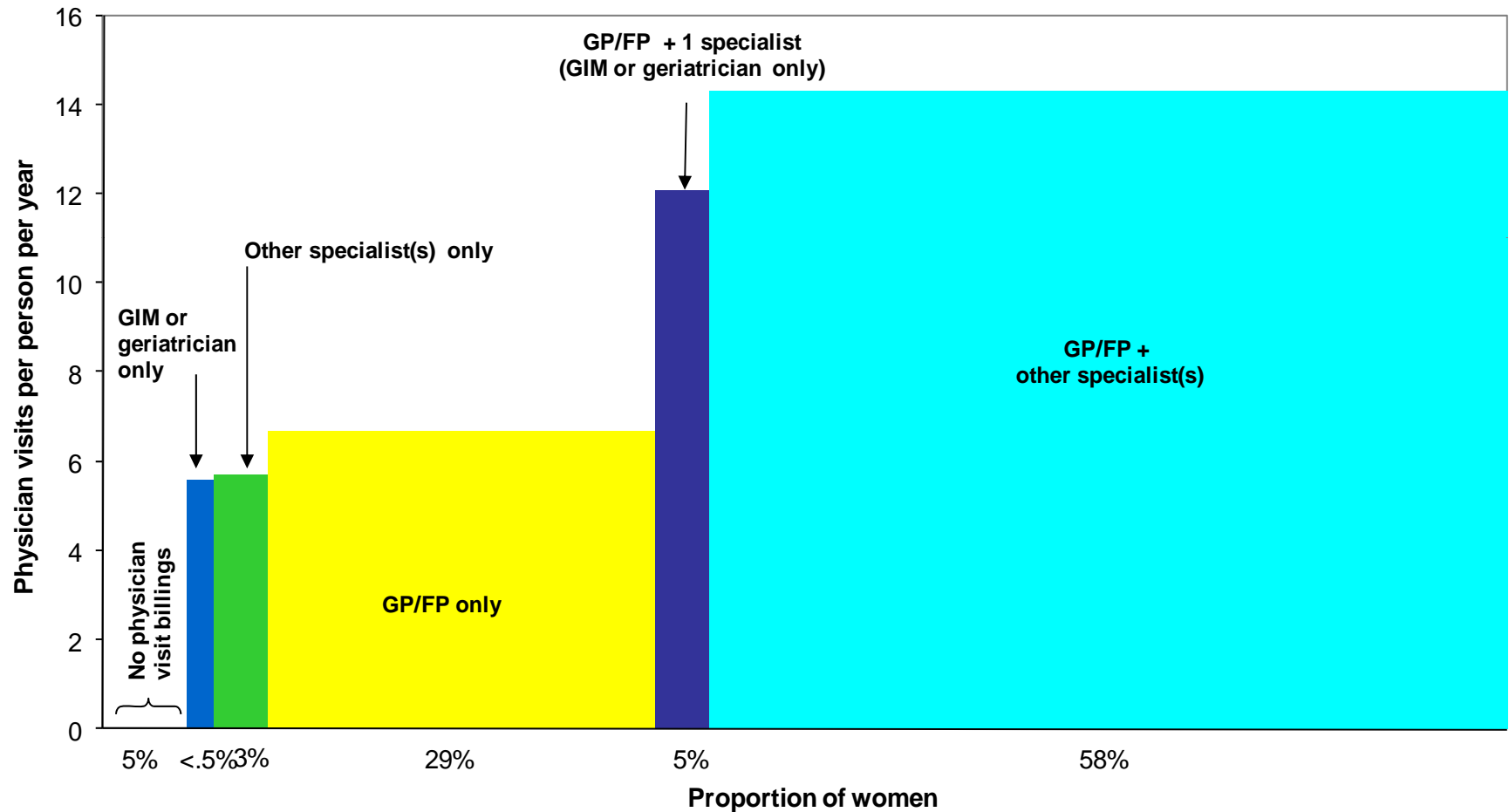
Using Administrative Data to measure Access to care

- Compare physician visits by age, sex and region.
- Look at billings for after hours care.
- Used linked surveys to compare use amongst different special needs populations.

Age- and sex-specific proportion of adults aged 20 years and older with no physician office visit billings, in Ontario, 1992/93, 1997/98 and 2002/03



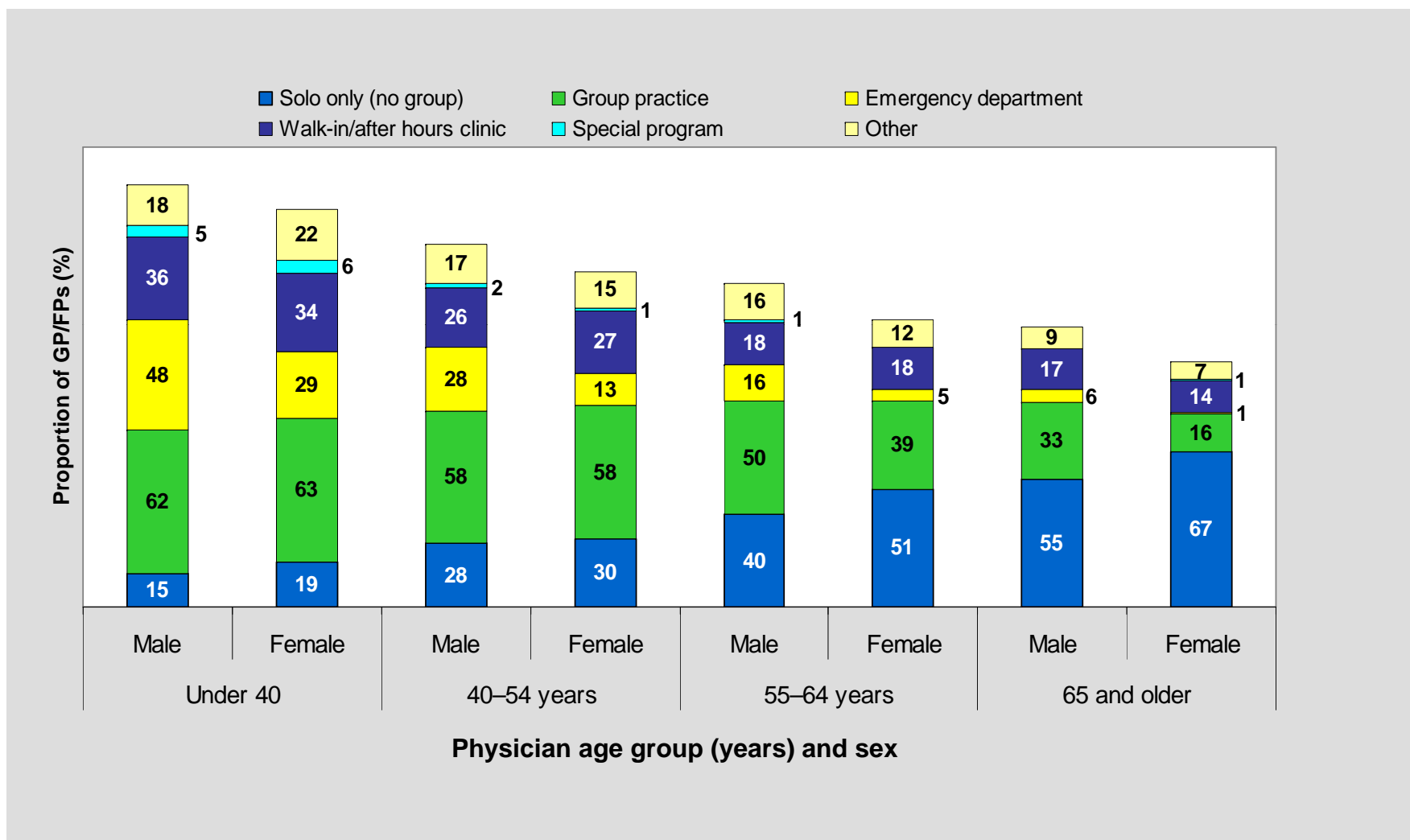
Age- and sex-specific distribution of office-based physician care for adults aged 20 years and older, by number of visits per year and physician specialty type, in Ontario, 2002/03



Using Administrative Data to measure Comprehensiveness

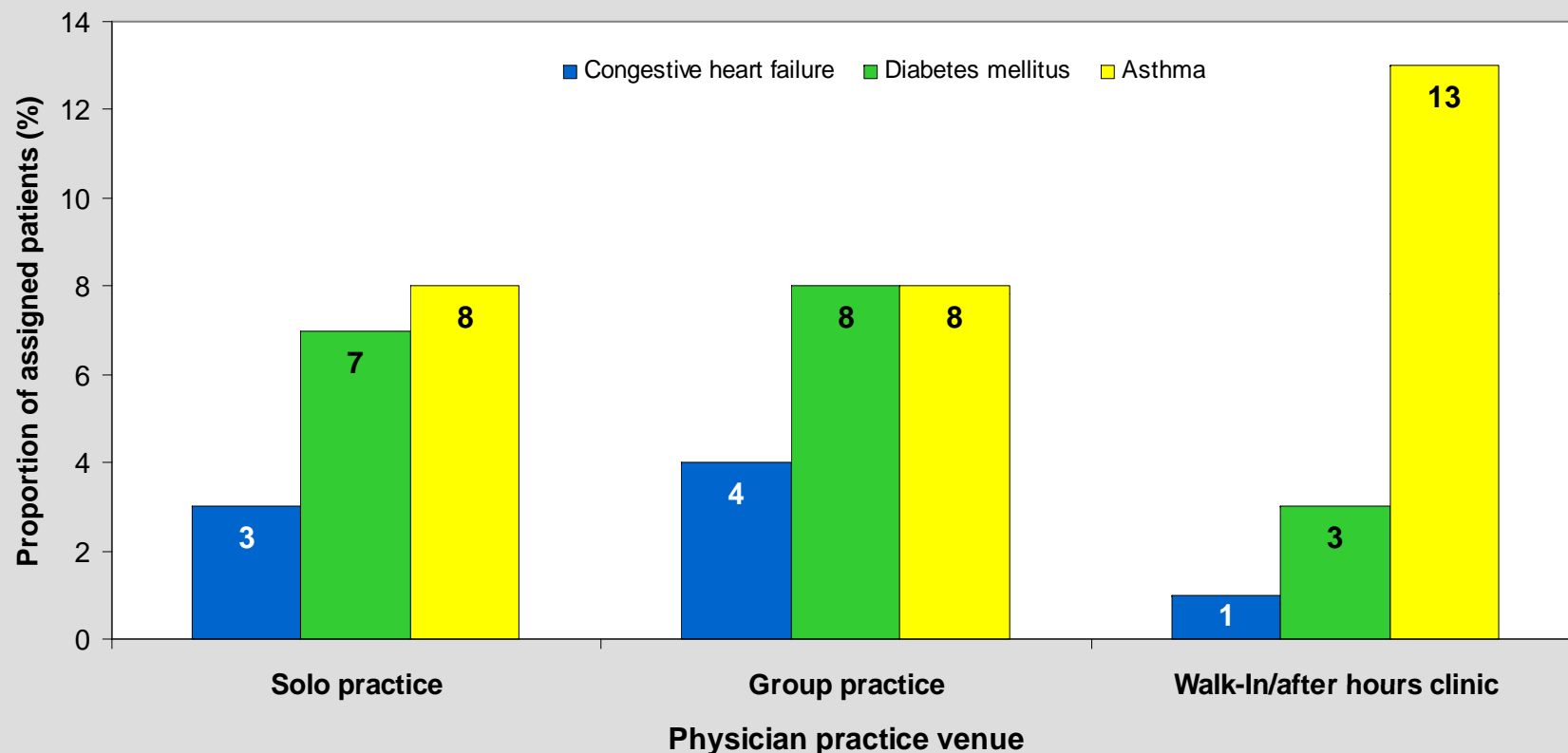
- **Scope of practice**
 - office, home, emergency department, inpatient, obstetrics, anesthesia, long-term care, etc.
- **Within office-based care**
 - minor, intermediate, general assessments
 - preventive care (immunizations, Pap smears)
 - geriatric general assessments
 - mental health care
 - educational counselling
 - HIV primary care
 - diabetes management
 - palliative care
 - emergency department equivalent weekends and holidays

All practice venues* of general practitioner/family physicians (GP/FPs) by physician age and sex, in Ontario, 2003/04



* Physicians may belong to more than one venue group at a time, thus the totals will not sum to 100%. See Appendix 11.A for venue definitions.

Average proportion of assigned* general practitioner/family physician (GP/FP) practice population with selected chronic conditions, by practice venue**, in Ontario, 2003/04



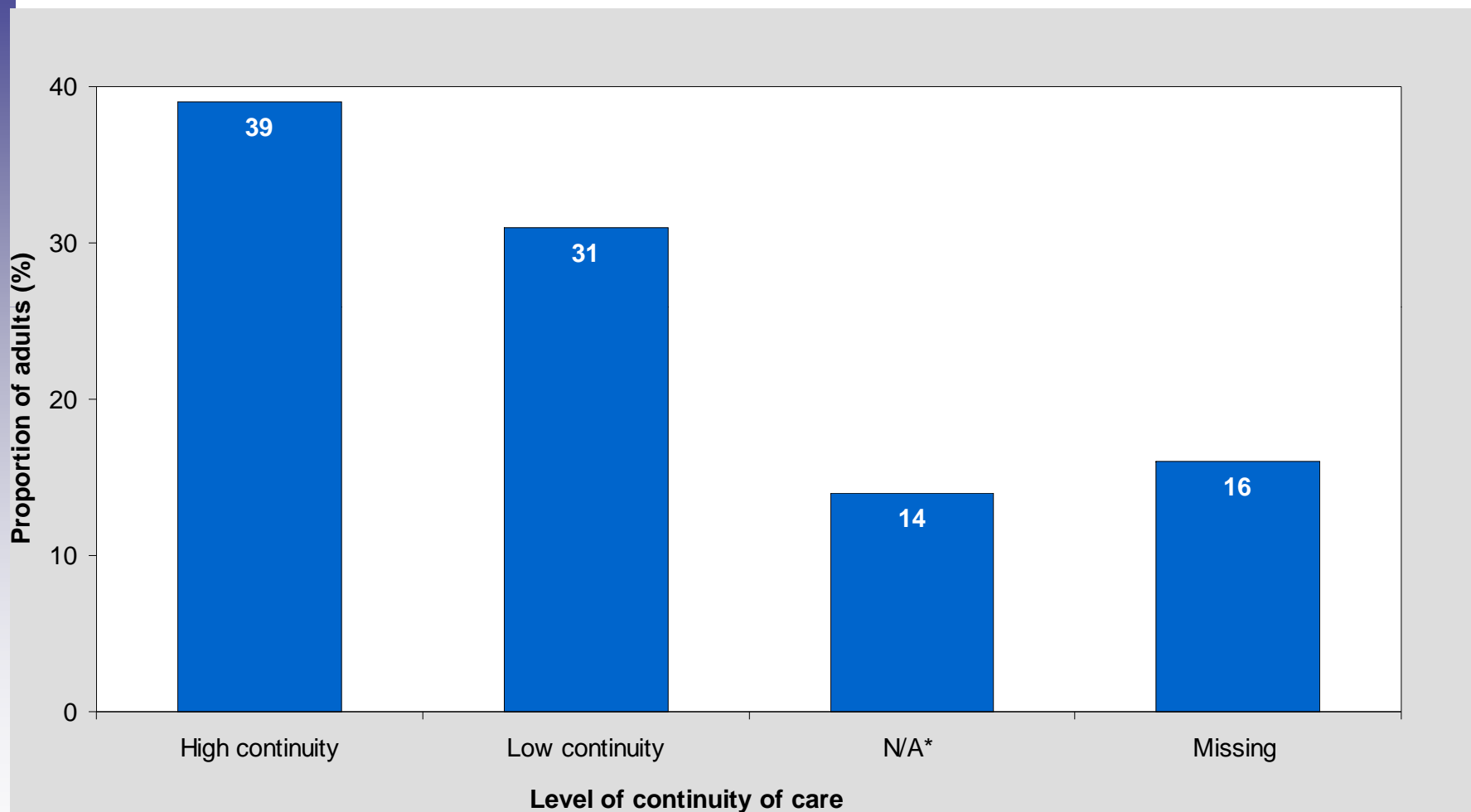
* Patients were 'assigned' to physicians using the majority rule—their assigned physician is the GP/FP from whom they received more than 50% of their primary care.

** See Appendix 11.A for venue definitions.

Using Administrative Data to measure Primary Care Continuity

- **Relational Continuity of care measures:**
 - **Usual Provider Continuity (UPC) Index**
 - **Continuity of Care (COC) Index**

Continuity of Care – Level of continuity of care with a general practitioner/family physician (GP/FP) for adults aged 20 years and older, in Ontario, 2001/02 to 2002/03

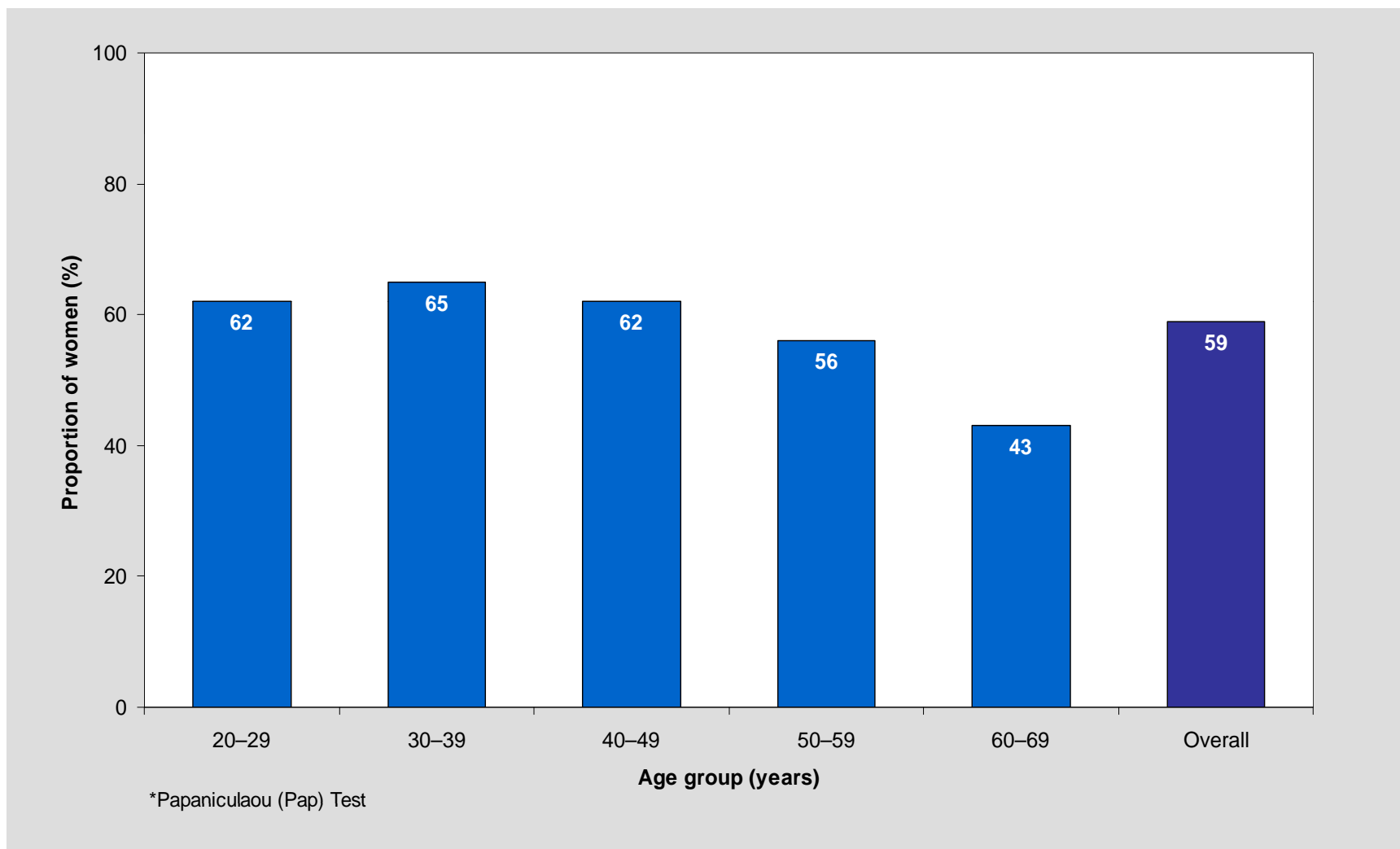


* Patients with only one or two visits.

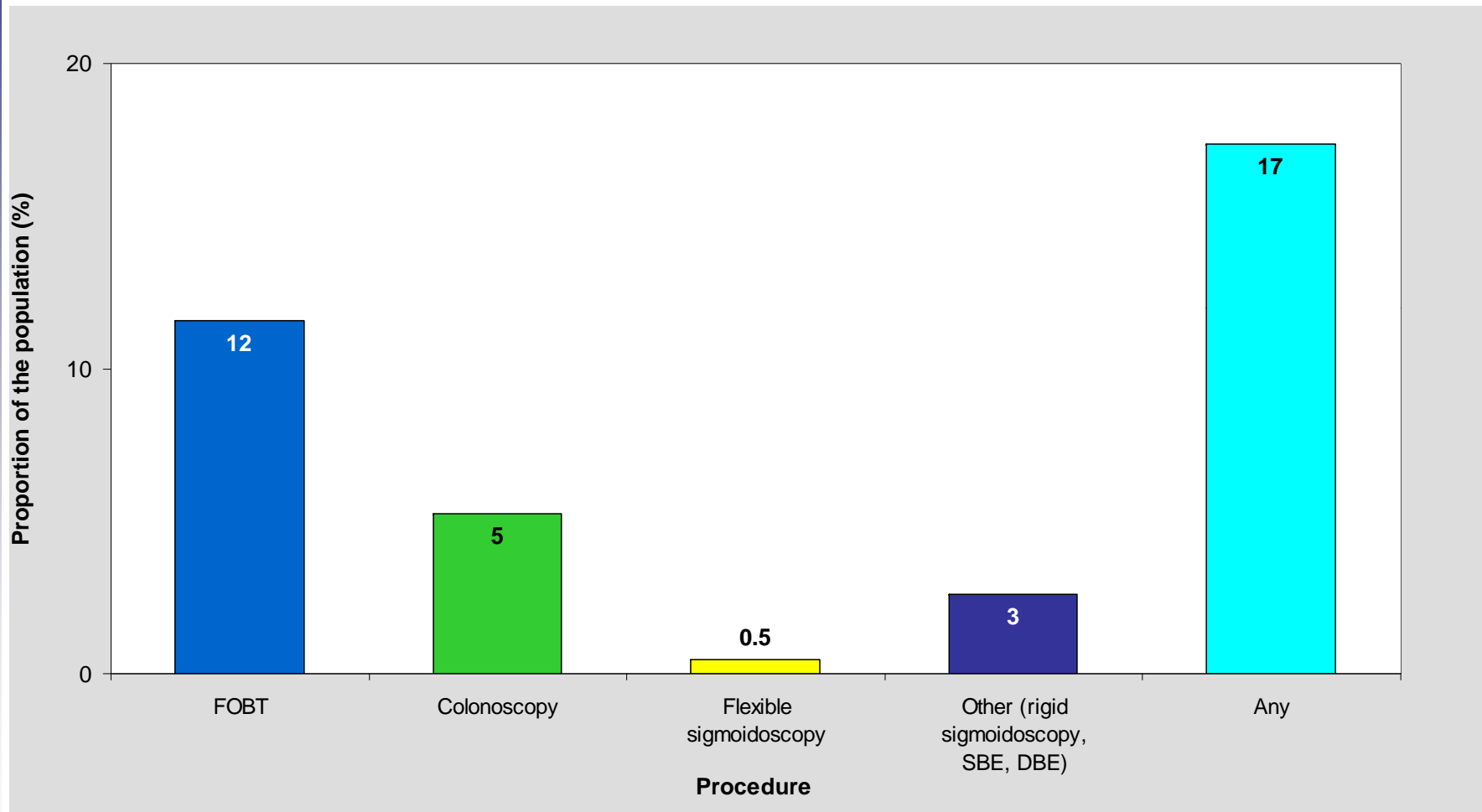
Primary Care Performance using Administrative Data

- ▶ Preventive care
 - Pap smears, mammography, immunizations, colorectal cancer screening
- ▶ Chronic disease management
 - incident heart failure (testing and prescribing)
 - asthma (testing and emergency department visits)
 - diabetes (eye exams, prescribing)
 - post MI (prescribing)
 - depression (follow-up)
 - seniors age 75+ (benzodiazepine prescribing)
 - avoidable admissions (asthma, diabetes, heart failure, angina)
- ▶ Acute conditions
 - low back pain (testing)

Cervical Cancer Screening – Proportion of women aged 20-69 years of age who had cervical cancer screening*, by age, in Ontario, 2000/01 to 2002/03

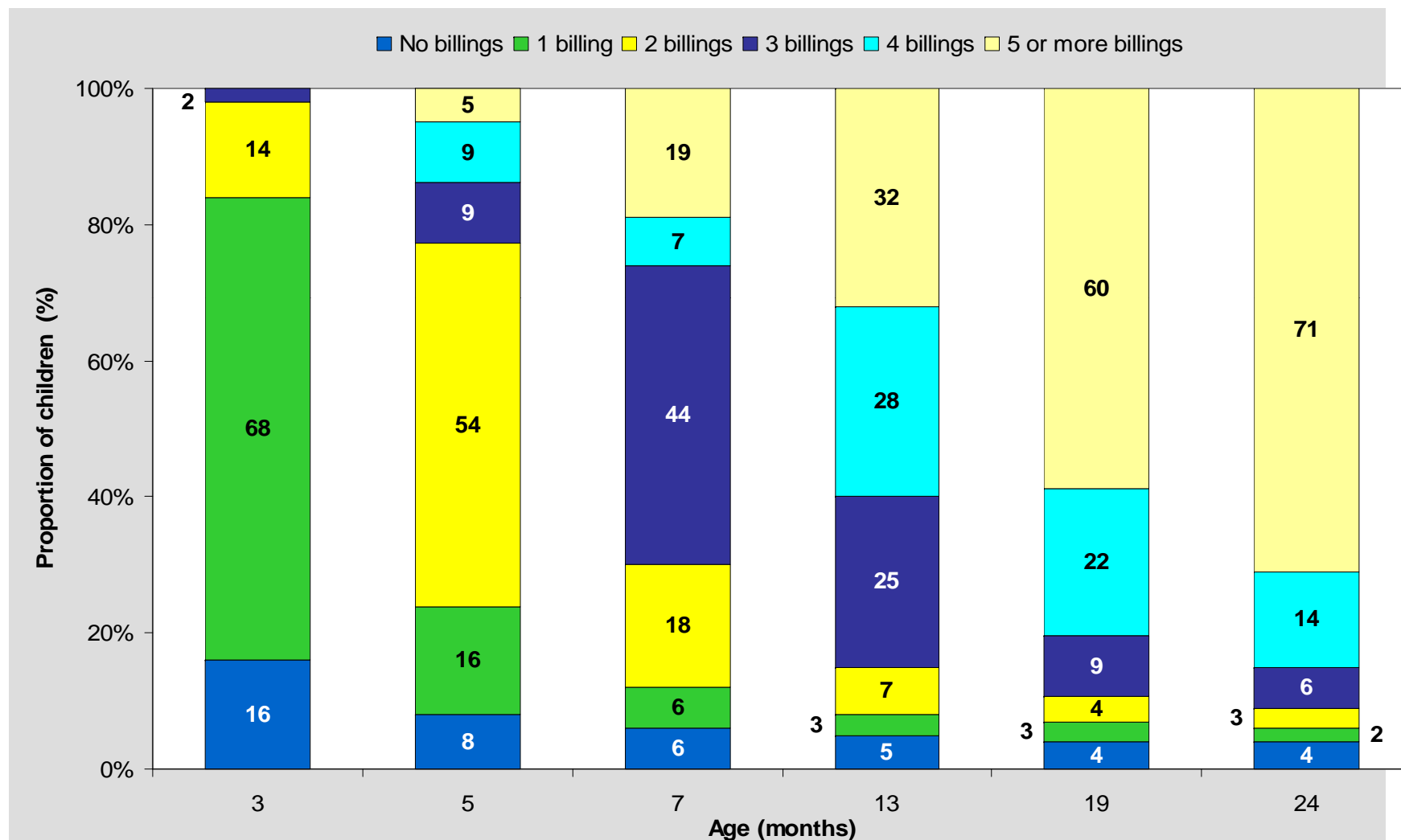


Colorectal Cancer Screening – Proportion of the population aged 50 to 69 years who had a colorectal cancer screening procedure*, by type of procedure, in Ontario, 2002/03 to 2003/04

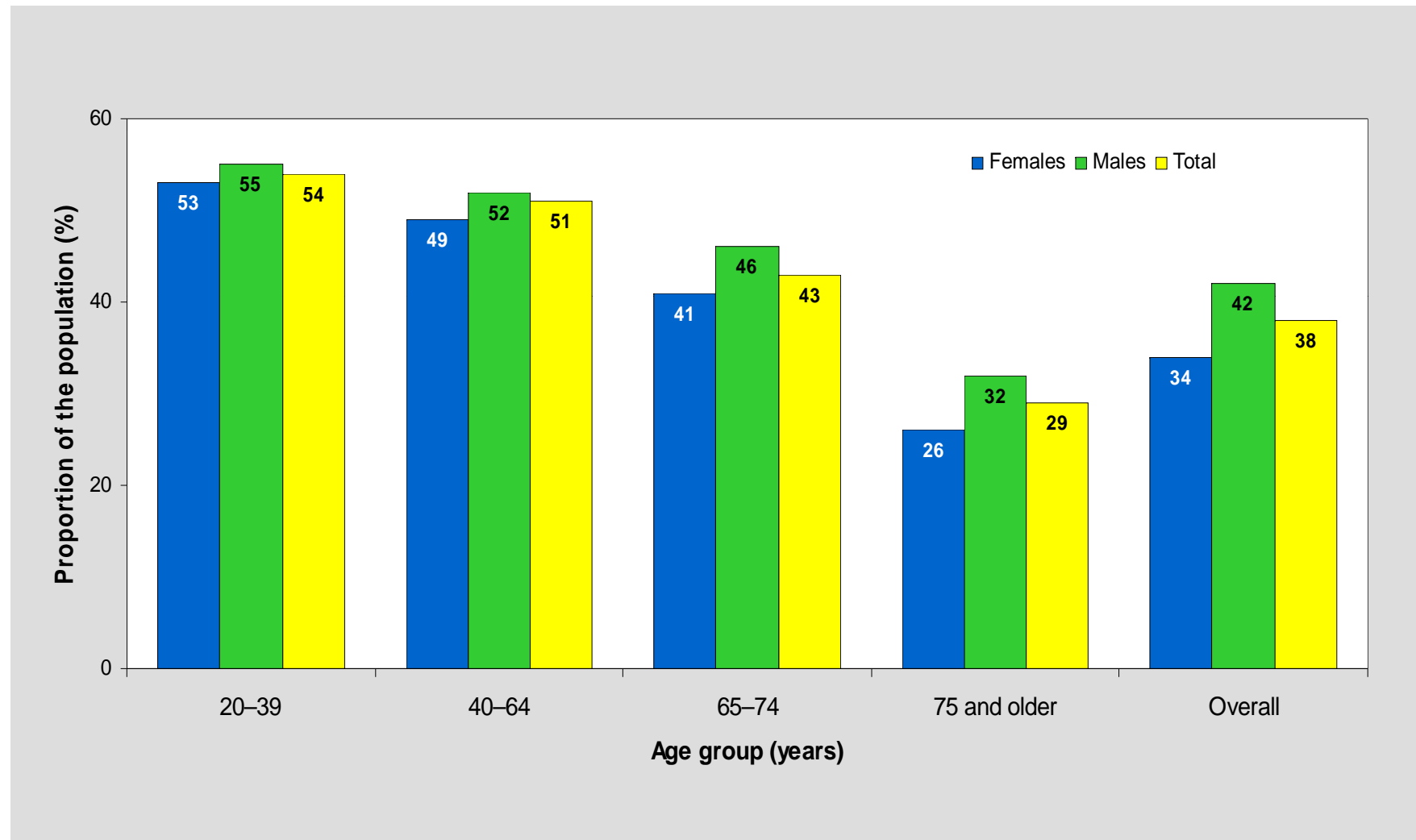


* Includes fecal occult blood testing (FOBT), colonoscopy, flexible sigmoidoscopy, rigid sigmoidoscopy, single contrast barium enema (SBE) and double contrast barium enema (DBE).

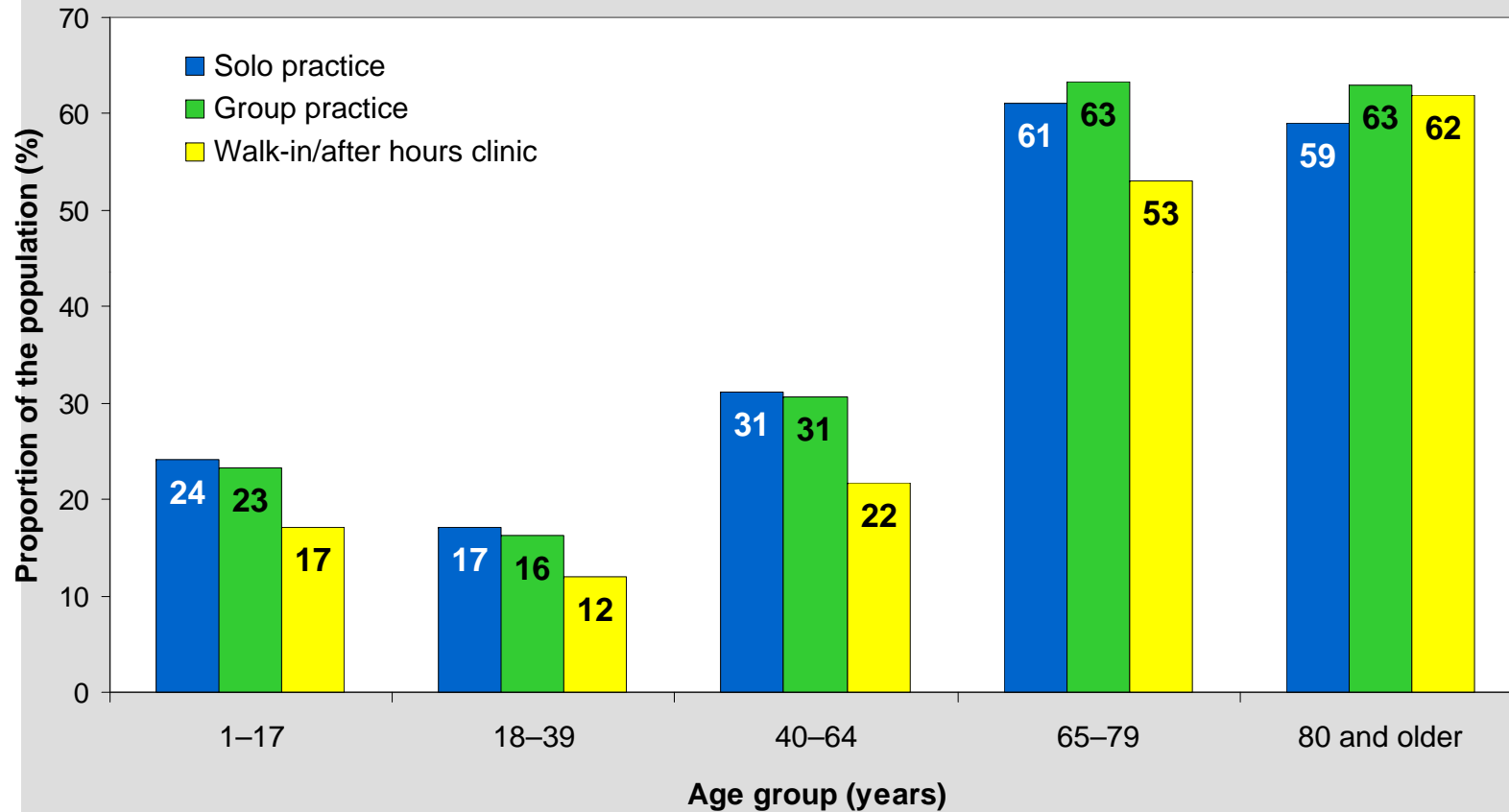
Childhood Immunization – Proportion of children born during 2002/03, by number of immunization billings and age in months, in Ontario



Congestive Heart Failure Care – Proportion of the population aged 20 years and older newly diagnosed with congestive heart failure (CHF), who received an echocardiogram within one year of diagnosis, by age and sex, in Ontario, 2002/03



Proportion of the population with at least one general practitioner/ family physician (GP/FP) visit and that had a flu shot, by age group and practice venue* where the majority of GP/FP care was received, in Ontario, 2003/04



* See Appendix 11.A for venue definitions.

Using Administrative data for Primary “Health” Care Performance: Advantages

- **Patient-level data:**
 - ▶ Looks at all health system care use not just from one practice.
 - ▶ Can track significant outcome measures such as emergency room use and hospitalization.
- **Physician-level data:**
 - ▶ Looks at the entire practice population.
 - ▶ Can be comparable to provincial average

Using Administrative data for Primary “Health” Care Performance: Disadvantages

- Patient-level measures:
 - ▶ Usually process measures of care.
 - ▶ What people get not what was offered.
 - ▶ May miss some service delivery (vaccines)
 - ▶ Satisfaction
- Provider-level measures:
 - ▶ Challenges identifying office based FP/GPs
 - ▶ Care provided by other health care providers
 - ▶ Shadow billing and global budget models

Comparing administrative data with chart extracted data

Indicator	Number and Mean percent (std) of patients achieving indicator per practice, by practice characteristics					
	Practice Structure					
	Solo (n = 11)		Group (n = 20)			
	Without NP (n = 9)		With NP (n = 7)		Without NP (n = 13)	
	<i>n</i>	mean (std)	<i>n</i>	mean (std)	<i>n</i>	mean (std)
Cervical Cancer Screening						
<i>Pap smear billings</i>	3058	0.26 (0.09)	7313	0.28 (0.06)	7515	0.41 (0.11)
<i>PapTaken, PapOffer, PapRefer; PapReslt</i>	250	0.72 (0.24)	122	0.78 (0.14)	468	0.88 (0.09)
Child Immunizations						
<i>5+ immunization billings</i>	68	0.55 (0.25)	254	0.58 (0.33)	310	0.72 (0.23)
<i>DTP primary immunization by 3 yrs</i>	105	0.93 (0.11)	60	0.74 (0.36)	179	0.89 (0.18)
<i>IPV primary immunization by 3 yrs</i>	104	0.91 (0.15)	60	0.75 (0.34)	176	0.90 (0.18)
<i>MMR primary immunization by 3 yrs</i>	102	0.90 (0.17)	61	0.83 (0.24)	171	0.88 (0.23)
<i>Hib primary immunization by 3 yrs</i>	100	0.87 (0.33)	48	0.79 (0.21)	166	0.97 (0.04)

J. Barnsley et al 2006
Enhancing the effectiveness of health care for Ontarians through research

Conclusions:

- **Administrative data is available and can provide population estimates for primary care performance in most jurisdictions in Canada.**