



UBC CENTRE FOR
HEALTH SERVICES AND
POLICY RESEARCH

Population-based trends in asthma in British Columbia: an evolving research agenda

McLeod C, Boygo T, Demers P, Edeer D,
Hertzman C, Kennedy S, Koehoorn M, McGrail K, Tamburic T

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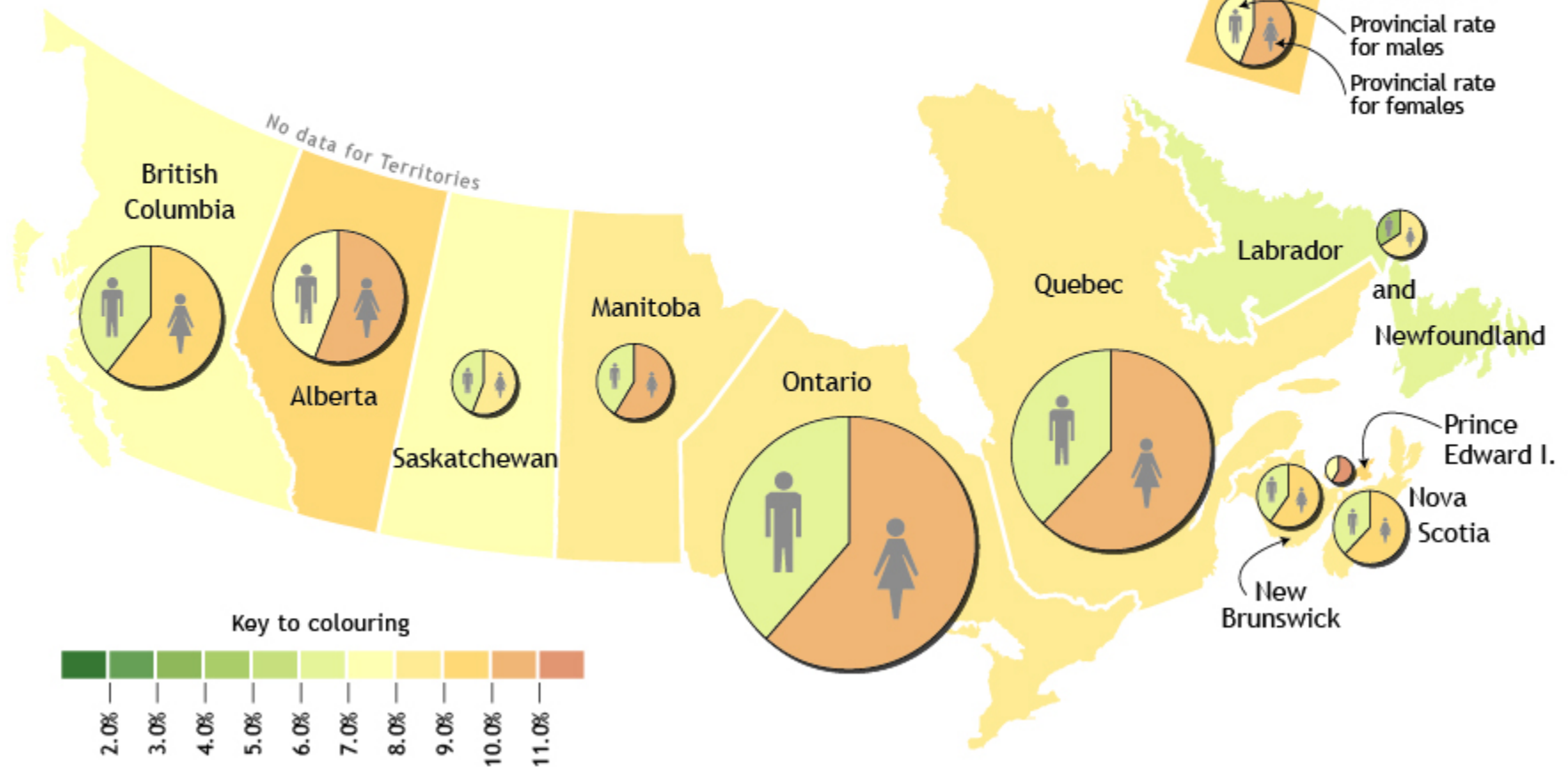
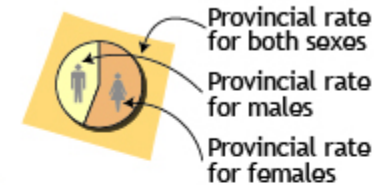
THE UNIVERSITY OF BRITISH COLUMBIA

WORK SAFE BC

WORKING TO MAKE A DIFFERENCE

Asthma prevalence (%) by province for males, females, and both sexes, for population aged 15-64, 2000/01

Circles are proportionately sized to reflect the number of people with asthma and divided by male and female



Asthma in British Columbia

Research Questions

- How much asthma is out there in the pre-working age and working age population?
- How much of this asthma might be work-related?
- How does this compare to workers' compensated asthma?

THE BC LINKED HEALTH DATABASE

POPULATION

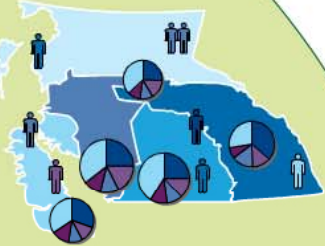
- Births
1985 forward
- Deaths
1985 forward
- MSP Registration
1986 forward

**SOCIAL INVESTMENT/
SAFETY NET**

- WCB
1987 forward

HEALTH CARE SYSTEM

Special Populations	Services	Care Providers
BC Cancer Agency 1985 forward	Ambulance 1999 only	MSP Practitioners 1985/86 forward
	Continuing Care 1985 forward	
	Hospital Separations 1985/86 forward	
	MSP 1985/86 forward	
	Mental Health 1986 forward	
	PharmaCare 1986 forward	



**SOCIAL/PHYSICAL
CONTEXT**

- Census
1986, 1991, 1996, 2001
- Population estimates
1991 forward
- BC Stats
1991 forward
- Health professionals
1985 forward
- Settlement patterns
1996, 2001
- Travel times
2001 forward (under development)

Data and case definition

- Data
 - Drawn from the medical services payment, hospitalization separation, and workers' compensation records for the period of 1991-2001
- Cases
 - Two or more physician visits in a rolling 12-month window, or one hospitalization or an accepted STD workers' compensation claim in any year
 - ICD9 codes: Extrinsic Asthma, Intrinsic Asthma, Unspecified Asthma (493); Red cedar Asthma (495.8)

Prevalence and incidence

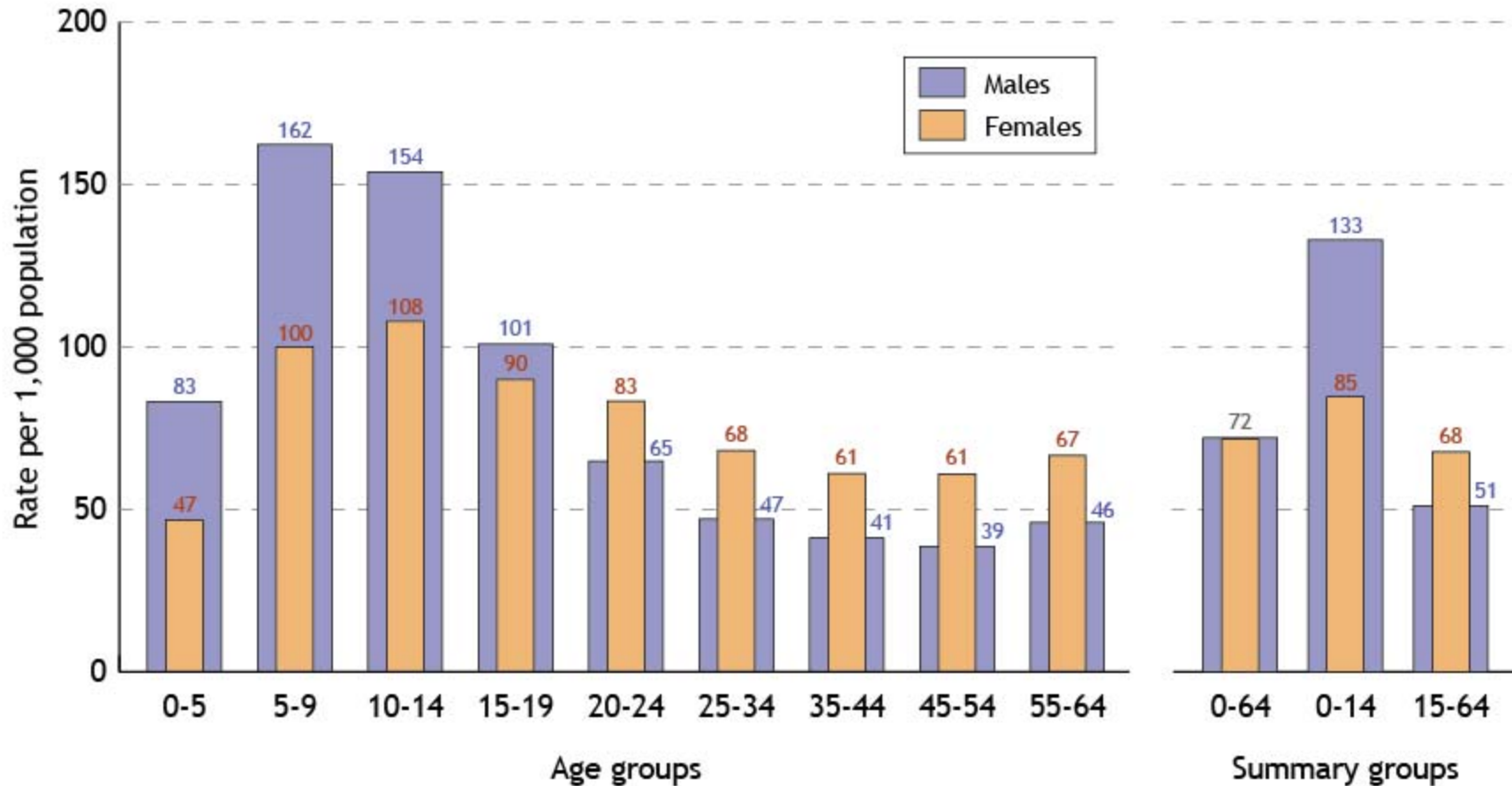
- Prevalence
 - Cumulative (once meeting the case definition always considered a prevalent case)
 - Active and inactive (dependent on whether an individual is receiving asthma medical services in a given year)
- Incidence
 - Restricted to those individuals who had no asthma services in the first five years to minimize the conflating of incidence with finding pre-existing cases

Defining work-related asthma

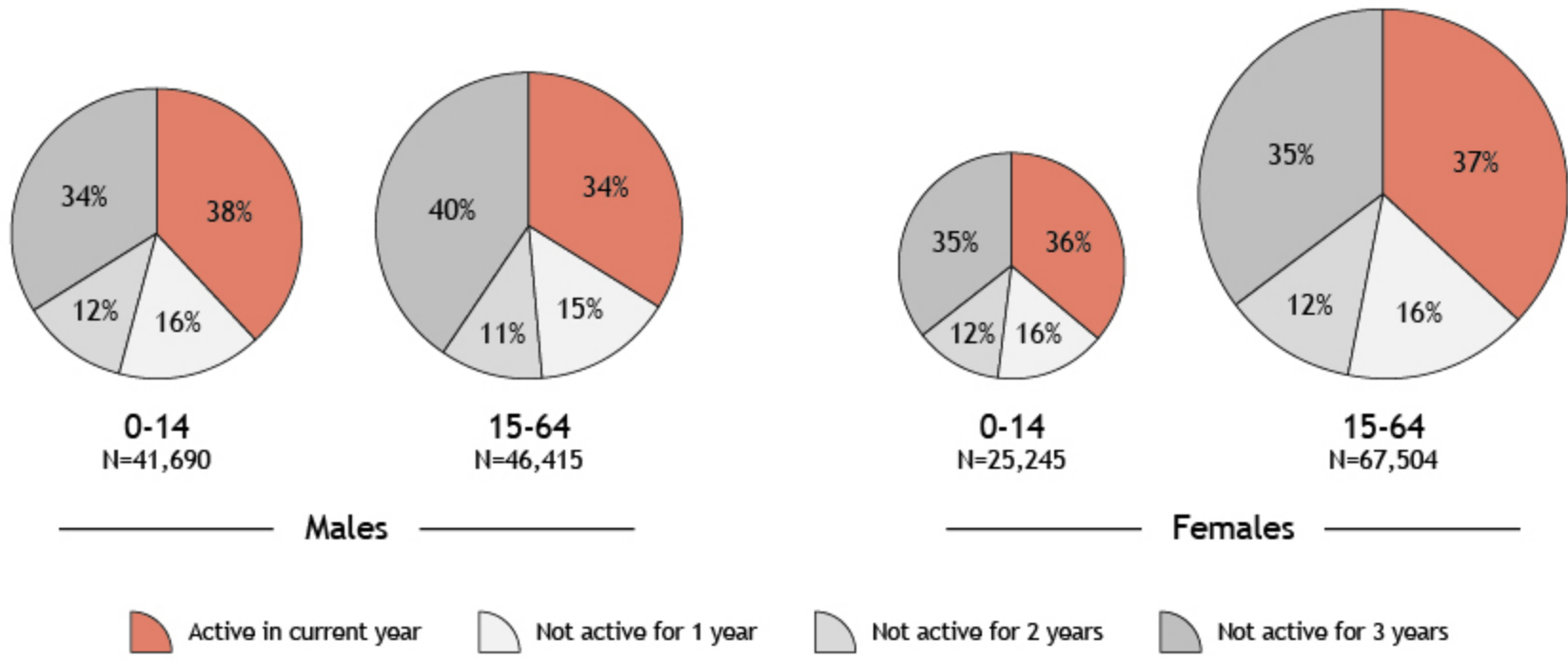
Population Attributable Risk (PAR)

- A measure of the burden of asthma related to occupational exposures
- Based on a review by the American Thoracic Society of the scientific evidence a PAR of 15% was chosen for this study
- The overall burden of work-related asthma can be applied by applying the PAR (%) to the overall population burden

10-year cumulative asthma prevalence, males and females, by age group, 2000

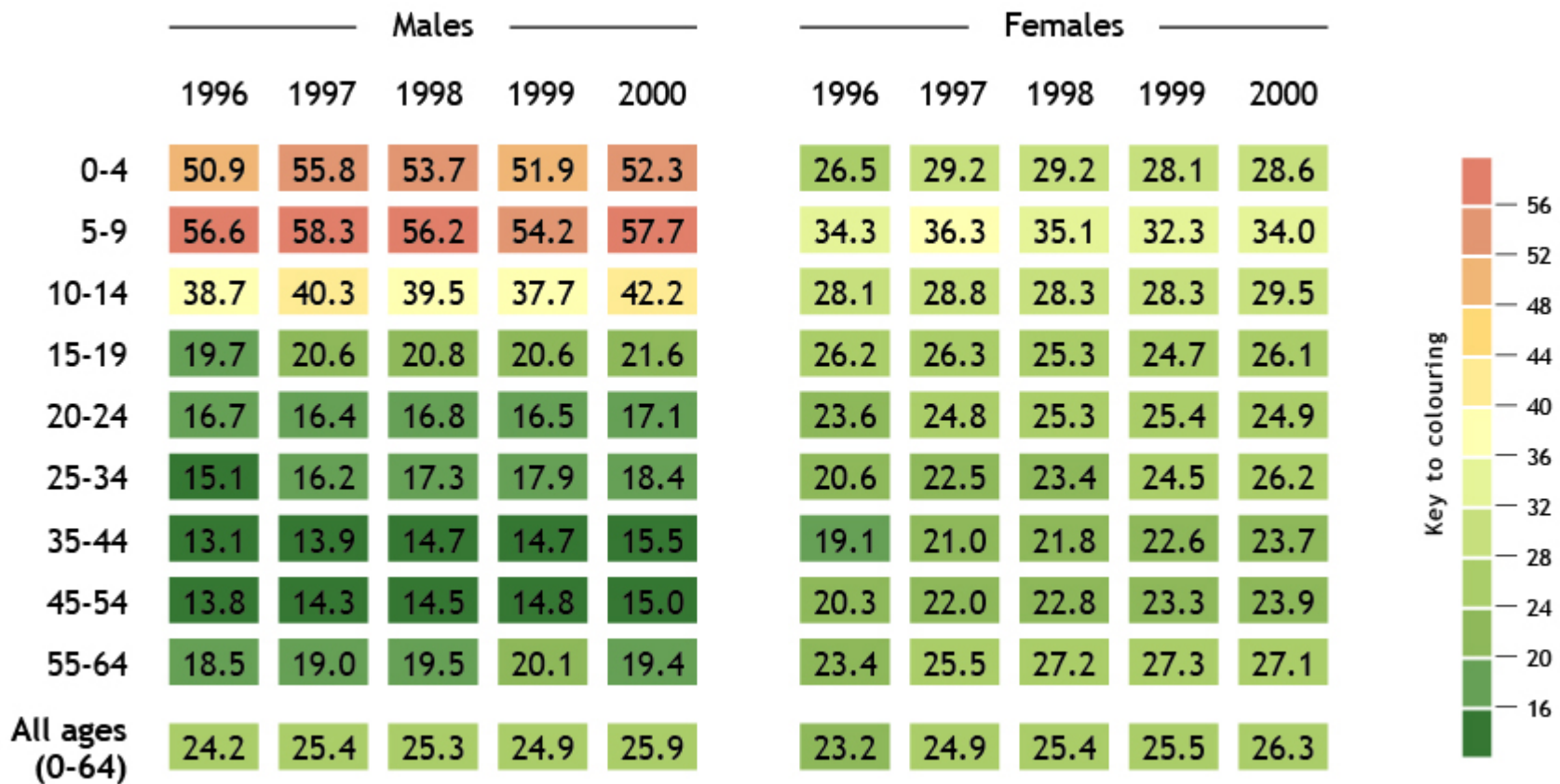


Three-year inactive prevalence and asthma activity in current year, males and females aged 0-14 and 15-64, 2000

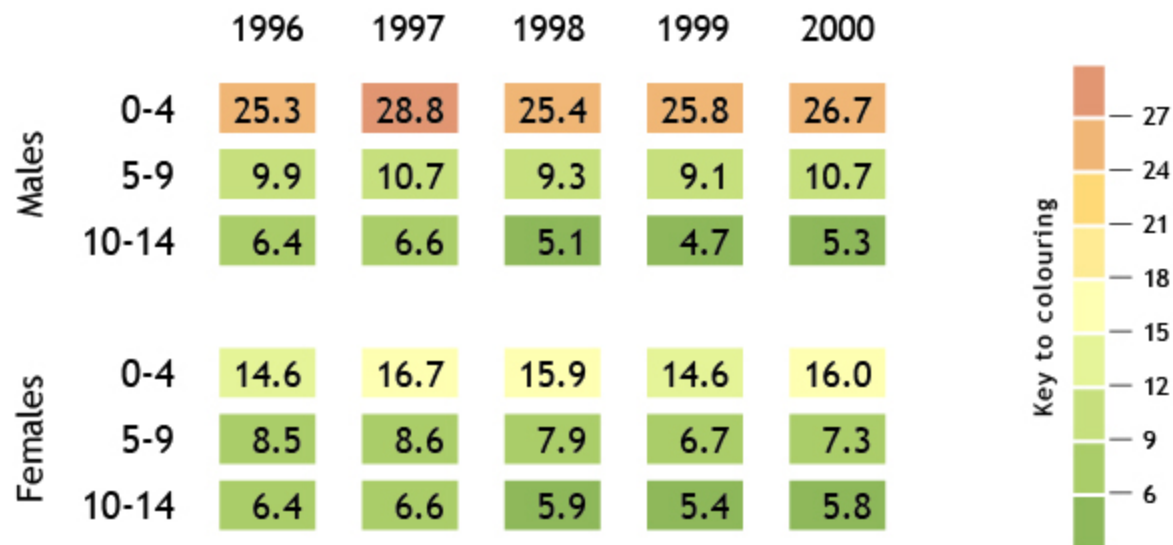


Pie charts are proportionately sized to reflect the number of people in each category

Active asthma in current year per 1,000 population, males and females, by age group, 1996-2000

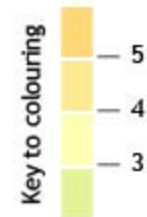


Incidence per 1,000 children (0-14), males and females, by age group, 1996-2000

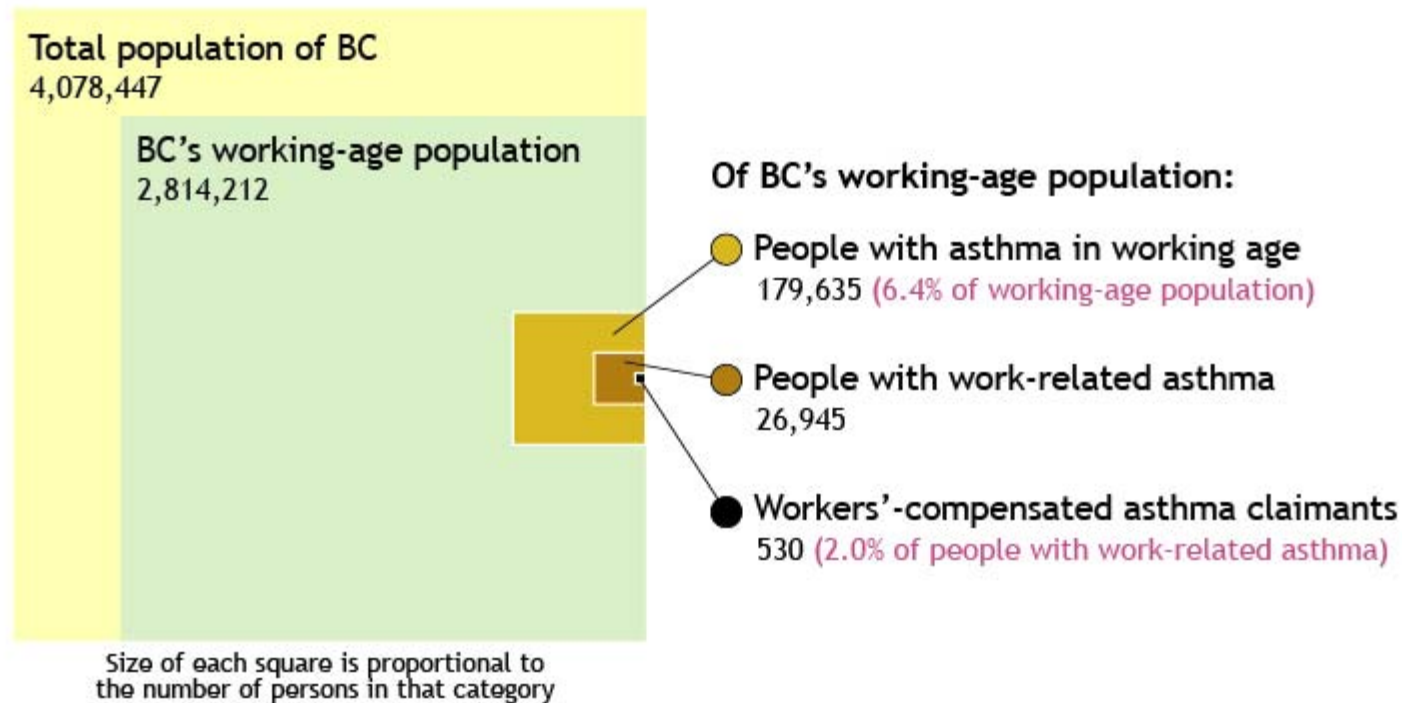


Incidence per 1,000 working-age adults (15-64), males and females, by age group, 1996-2000

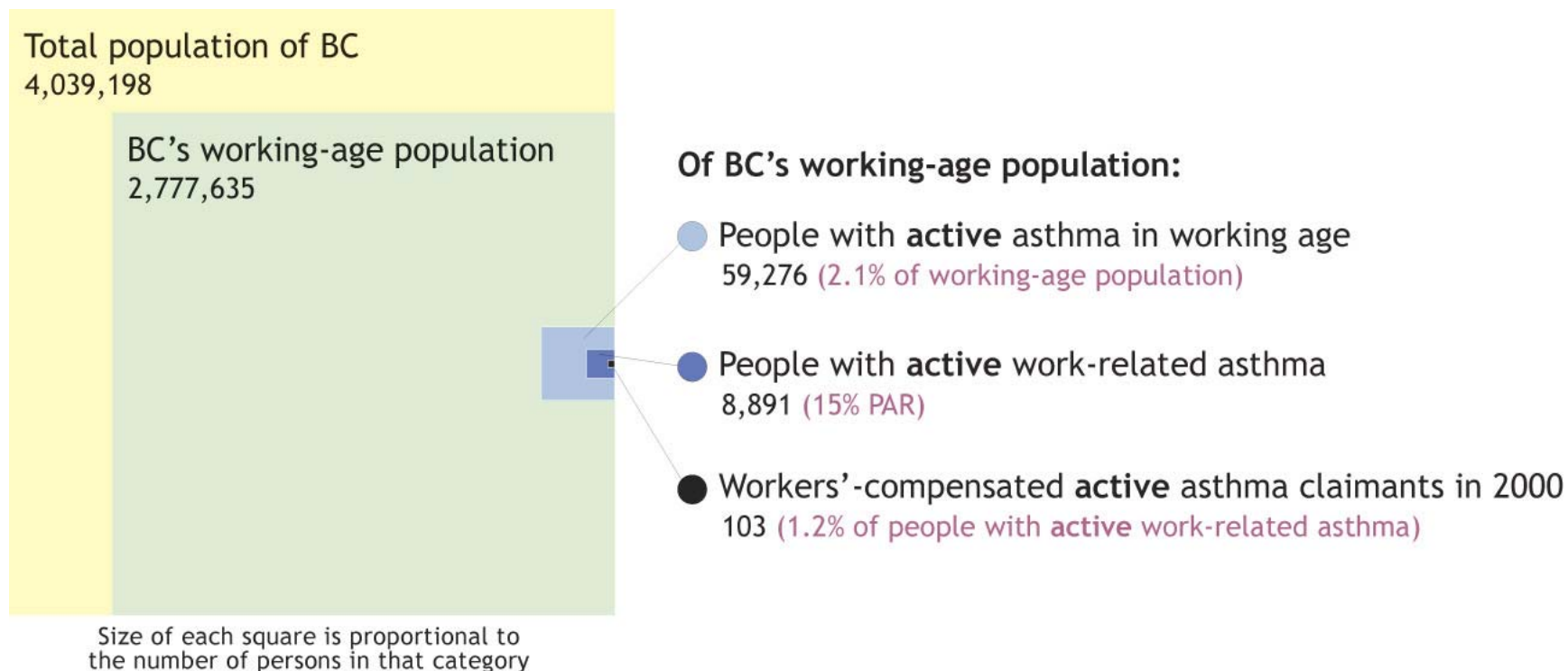
	1996	1997	1998	1999	2000	
Males	15-24	2.8	2.9	2.4	2.2	2.2
	25-34	2.8	3.0	2.8	2.8	2.7
	35-44	2.5	2.8	2.7	2.4	2.4
	45-54	2.5	2.6	2.4	2.6	2.3
	55-64	2.9	3.1	3.2	3.2	3.0
Females	15-24	4.9	4.9	4.3	4.0	4.2
	25-34	4.1	4.3	4.5	4.3	4.4
	35-44	4.1	4.4	4.3	4.1	4.1
	45-54	4.0	4.5	4.3	4.1	4.1
	55-64	4.5	4.8	5.0	4.6	4.4



Comparison of workers' - compensated asthma claims to individuals with work-related asthma, 2001



Comparison of workers' - compensated asthma claims to individuals with active work-related asthma, 2000



Strengths and Limitations

- Strengths
 - Population-based study
 - Epidemiologically consistent measure of incidence and prevalence
- Limitations
 - Change in treatment over time
 - No drug data or other respiratory codes
 - Selection-bias in continuously registered cohort

Policy Relevance

- Large amount of work-related adult asthma
 - Focus on occupational regulation and prevention
 - Medical costs externalized from employer-financed WCB health care to taxpayer-financed public health care system
 - Impact on compensation policy
 - Changes to what is considered compensable

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Investigating Asthma in British Columbia Workers: A Pilot Project for Occupational Disease Surveillance

- Using a newly developed industry of employment variable we will examine whether rates of asthma in the work-aged population vary for those employed in industries with a high risk of work-related asthma compared to industries with little or no risk.
- Apply a standardized methodology to facilitate comparison across admin data and survey data

More Information

Full report can be downloaded at:

www.chspr.ubc.ca/research/worksafebc