



Lack of government-funded optometric services is associated with reduced utilization of eye care providers and increased utilization of family doctors

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Introduction

- The Canadian Eye Care System
 - Family doctors
 - Optometrists
 - Ophthalmologists
- Eye doctors



Optometrists



- Trained in a School of Optometry
- Primary care of eye disorders and diseases
- Cannot perform eye surgery

Ophthalmologists



Government coverage for eye care in Canada

- Referral, diagnosis and treatment of an eye disease:
by **family doctors** and **ophthalmologists** are universally covered by government in all Canadian provinces/territories
- Referral, diagnosis and treatment of an eye disease & general eye exams to detect a blinding disease and to prescribe eyeglasses:
by **optometrists** are not uniformly covered by government.

Provincial coverage for optometric services on eye diseases in Canada

	AB	BC	ON	QC	MB	NS	SASK	NB	PEI	NFLD
Ocular diseases, inc emergency of ocular conditions	√	√	√	√	√	√	√	X	X	X

Implications for access to eye care providers

How many Canadians do not have a family physician?

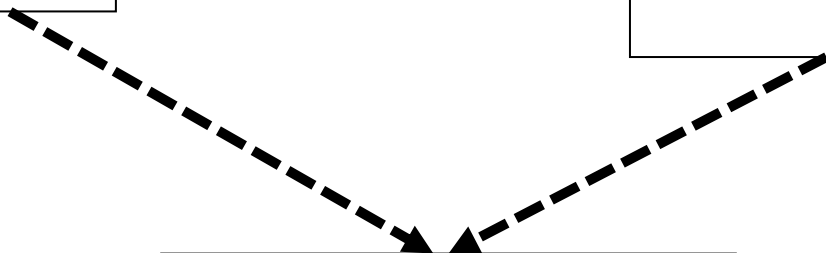
In 2006, a poll by the College of Family Physicians of Canada revealed that 17% of Canadians do not have family physicians, i.e. 5 million Canadians have no family doctor. Of these 5 million, nearly 2 million have sought a family physician but were unable to be accepted into a practice

My eye is painful but I do not have a family doctor!!



Optometrist

Hospital emergency room



Eye care services
by ophthalmologist
as necessary

Objective

To investigate whether lack of government-insured optometric services is associated with unequal patient utilization of optometrists, ophthalmologists and family doctors

Methods -1

- The utilization of eye care providers (including optometrists and ophthalmologists) and family doctors among Caucasians residing in provinces with and without government-insured optometric services was compared.
- Data was derived the Canadian Community Health Survey (CCHS) 2005 (n= 132,221)
 - Nationwide self-reported survey done by Statistics Canada
- Non-Caucasians were excluded: 1) valid comparisons and 2) small sample size for non-Caucasians

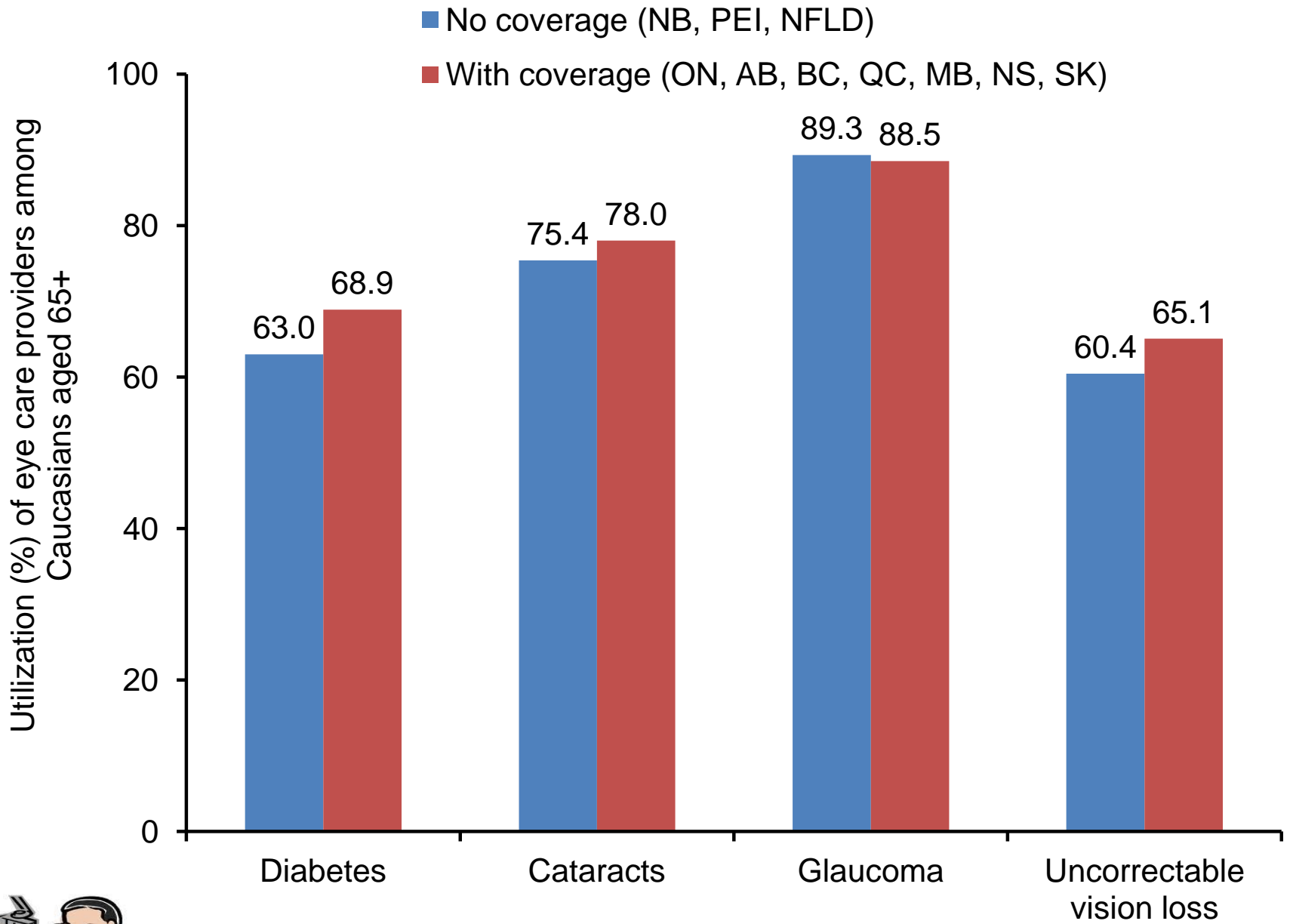
Methods -2

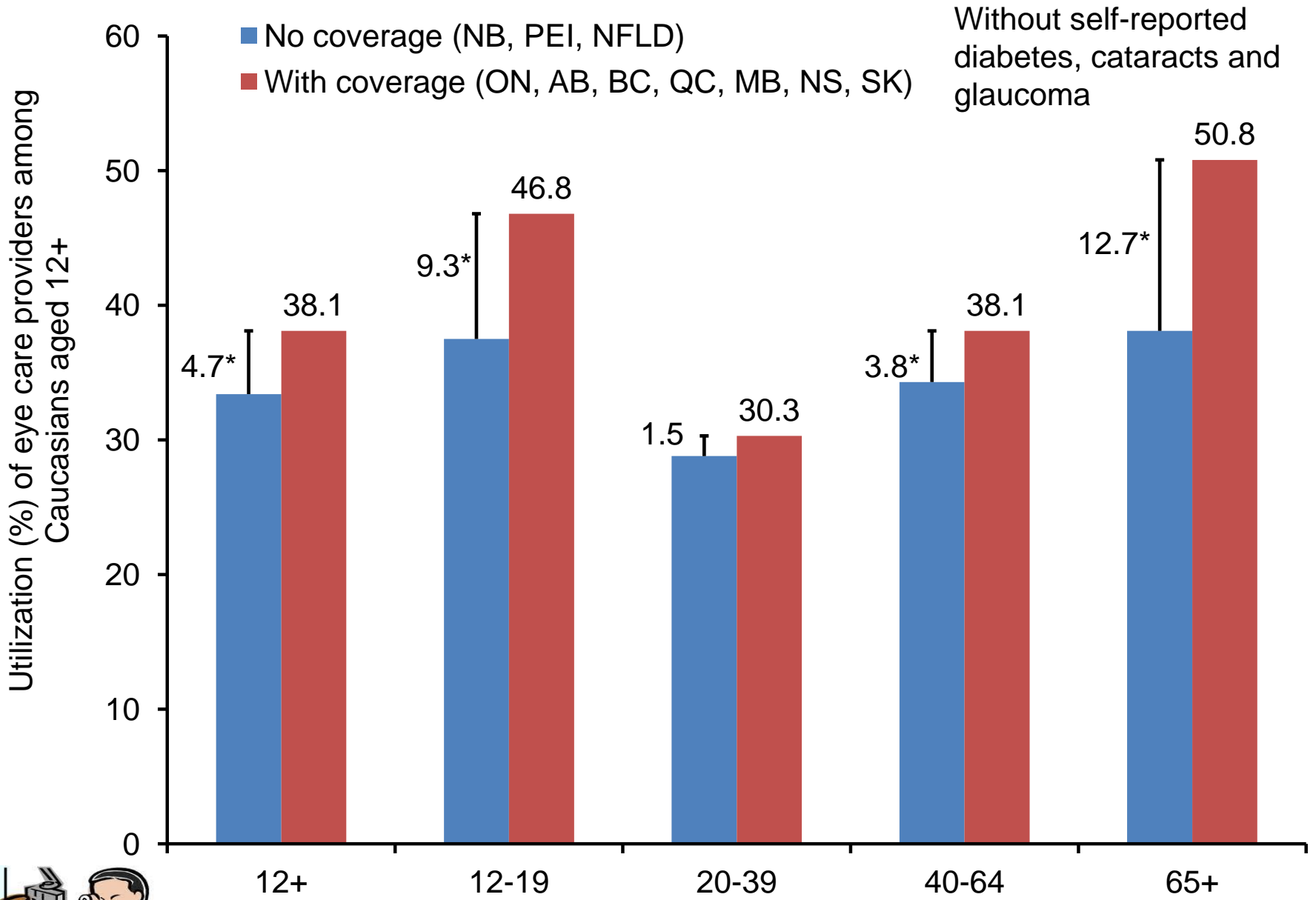
- Survey weights provided by Statistics Canada
- The 95% confidence interval: Bootstrap weights at the Toronto Region Statistics Canada Research Data Centre

Results

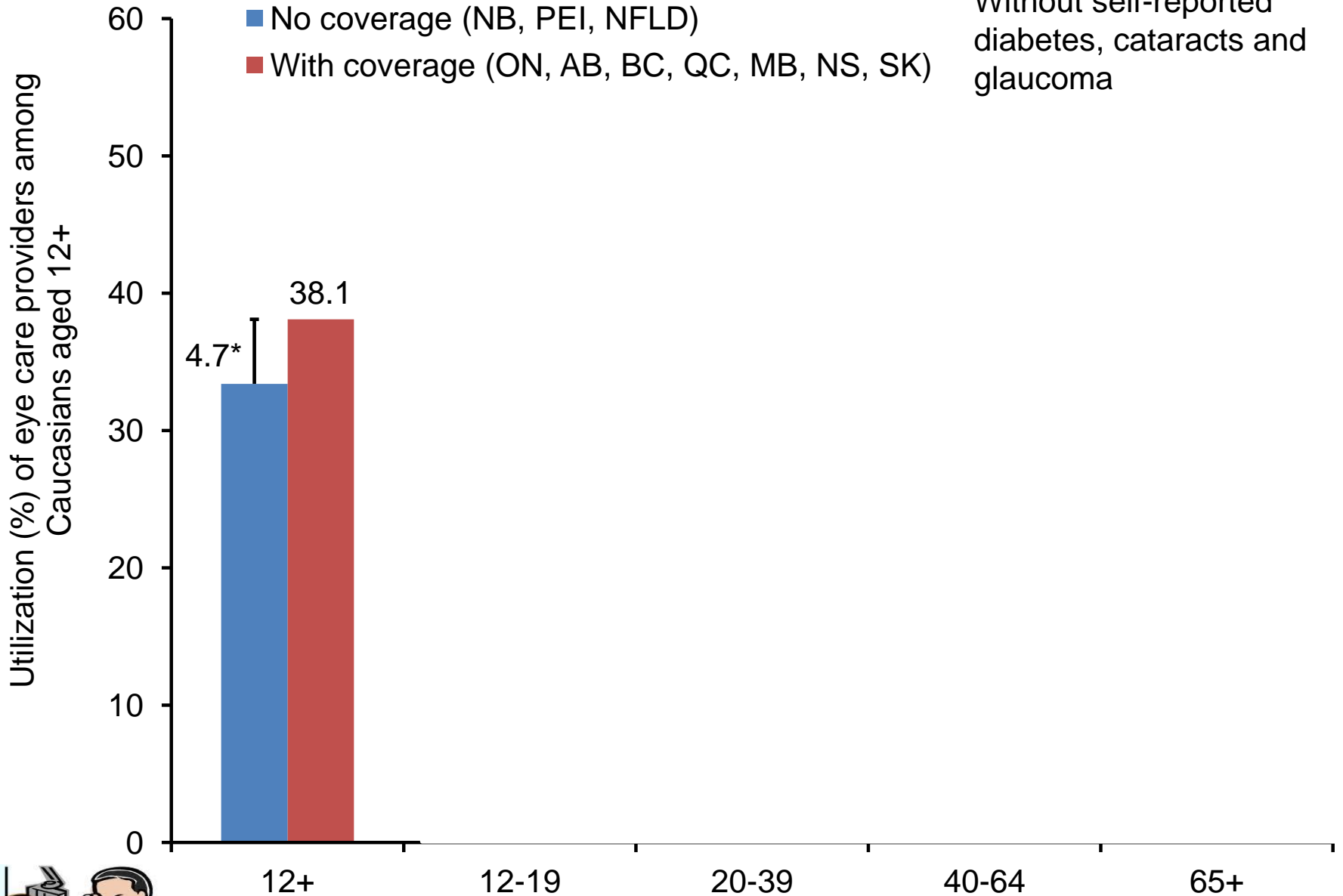


Utilization of eye care providers (including ophthalmologists and optometrists)





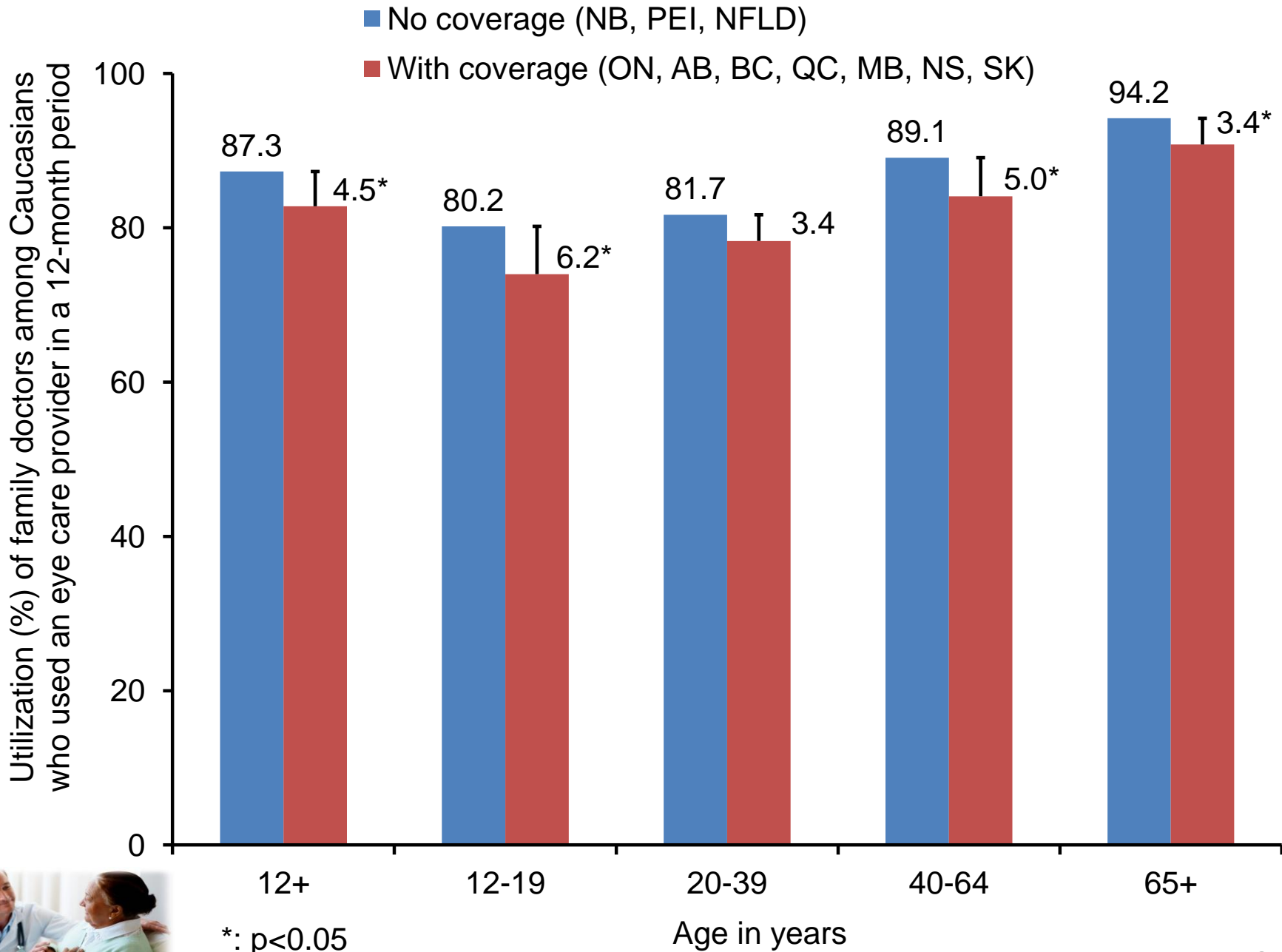
*: p<0.05

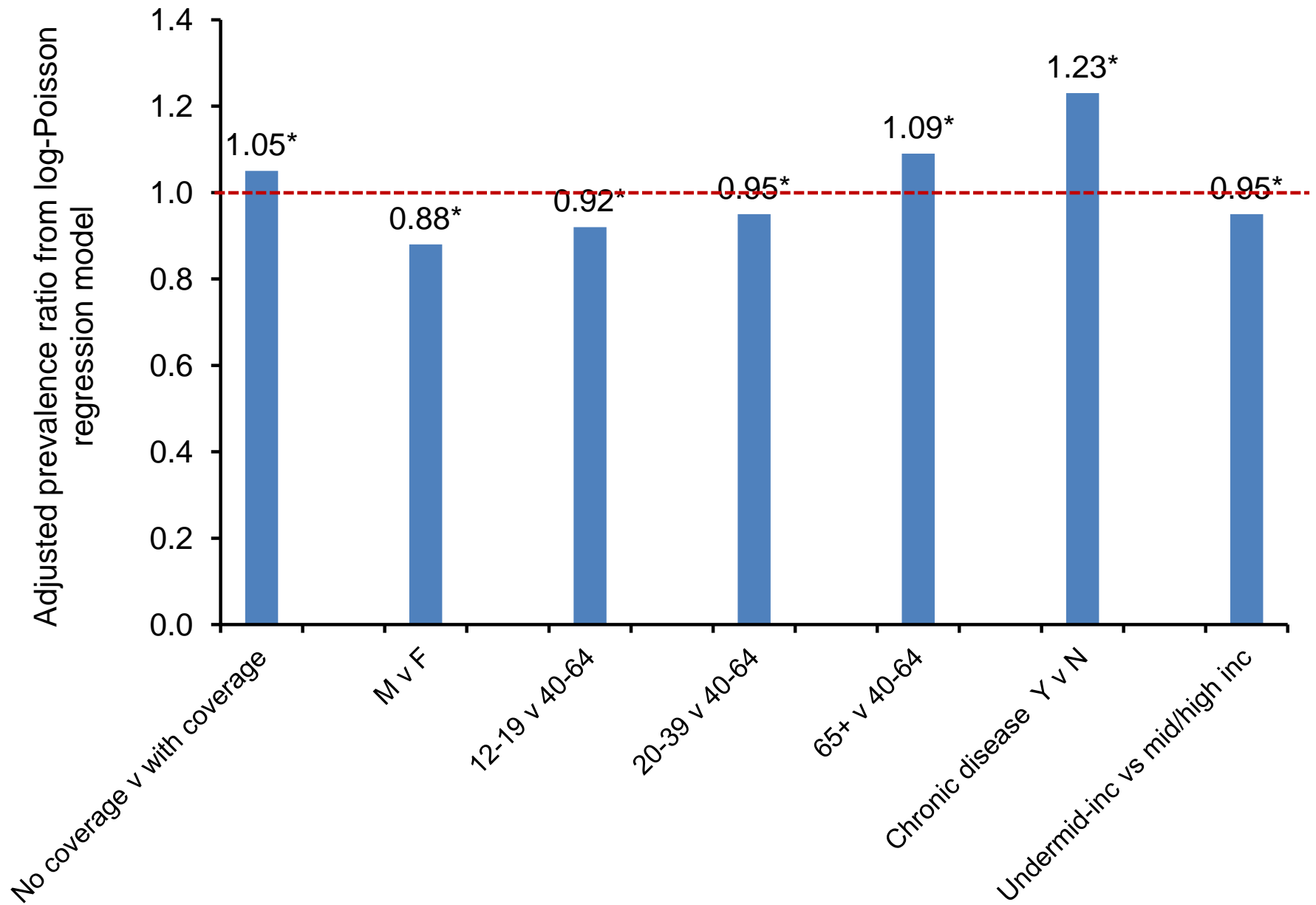


*: $p < 0.05$



Utilization of family doctors





*: $p < 0.05$

Conclusions

- Lack of government-funded optometric services is associated with

5% ↓ utilization of eye care providers

5% ↑ increased utilization of family doctors
(70,021 individuals seeing 1625 family doctors in uninsured provinces)

- Likely due to financial barriers inhibiting access to optometrists in provinces without provincial insured optometric services

Limitations

- Recall and reporting error associated with self-report
 - Raina P et al. Agreement between self-reported and routinely collected health-care utilization data among seniors. *Health Serv Res.* 2002; 37(3):751-74.

“Substantial to almost perfect agreement was found for the contact utilization measures” (defined as any stay in hospital (yes or no) and any contact with a health professional (yes or no))
 - MacLennan PA et al. Medical record validation of self-reported eye diseases and eye care utilization among older adults. *Curr Eye Res.* 2013;38:1-8.

“Agreement between self-report and medical records was substantial for eye care utilization ($\kappa = 0.64$) and glaucoma ($\kappa = 0.73$).”

Strengths

- Large, nationwide, representative sample

Thank you!

Funding:



Government Coverage for General/Routine Eye Exams in Canada

	AB	BC	ON	QC	MB	NS	SASK	NB*	PEI*	NFLD*
<20	√ (0-18)	√ (0-15)	√ (0-19)	√ (0-17)	√ (0-17)	√ (0-9)	√ (0-17)	X	X	X
	1/yr	1/yr	1/yr	1/yr	1 ev'y 2 yrs	1 ev'y 2 yrs	1/yr	–	–	–
20-64	X	X	X	X	X	X	X	X	X	X
65+	√	√	√	√	√	√	X	X	X	X
	1/yr	1/yr	1/yr	1/yr	1 ev'y 2 yrs	1 ev'y 2 yrs	–	–	–	–

*: NB: de-insured in 1992;

PEI: never insured;

NFLD: de-insured in 1991.

Government Coverage for General/Routine Eye Exams in Canada

	AB	BC	ON	QC						
<20	√ (0-18)	√ (0-15)	√ (0-19)	√ (0-17)						
	1/yr	1/yr	1/yr	1/yr						
20-64	X	X	X	X						
65+	√	√	√	√						
	1/yr	1/yr	1/yr	1/yr						

Government Coverage for General/Routine Eye Exams in Canada

					MB	NS				
<20					√ (0-17)	√ (0-9)				
					1 ev'y 2 yrs	1 ev'y 2 yrs				
20-64					X	X				
65+					√	√				
					1 ev'y 2 yrs	1 ev'y 2 yrs				

Government Coverage for General/Routine Eye Exams in Canada

							SASK			
<20							√ (0-17)			
							1/yr			
20-64							X			
65+							X			
							—			

Government Coverage for General/Routine Eye Exams in Canada

								NB*	PEI*	NFLD*
<20								X	X	X
								—	—	—
20-64								X	X	X
65+								X	X	X
								—	—	—

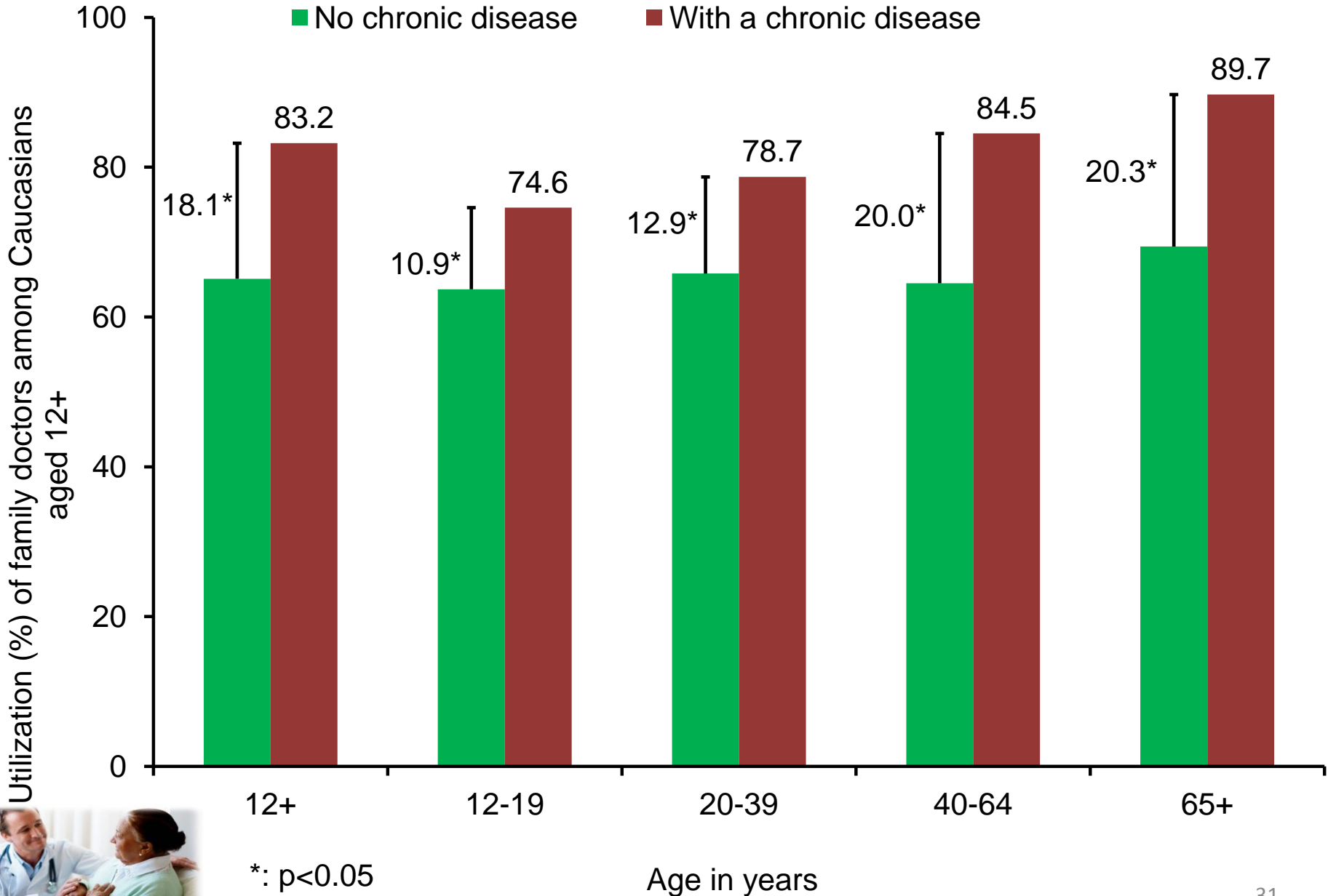
*: NB: de-insured in 1992;
 PEI: never insured;
 NFLD: de-insured in 1991.

Government Coverage for General/Routine Eye Exams in Canada

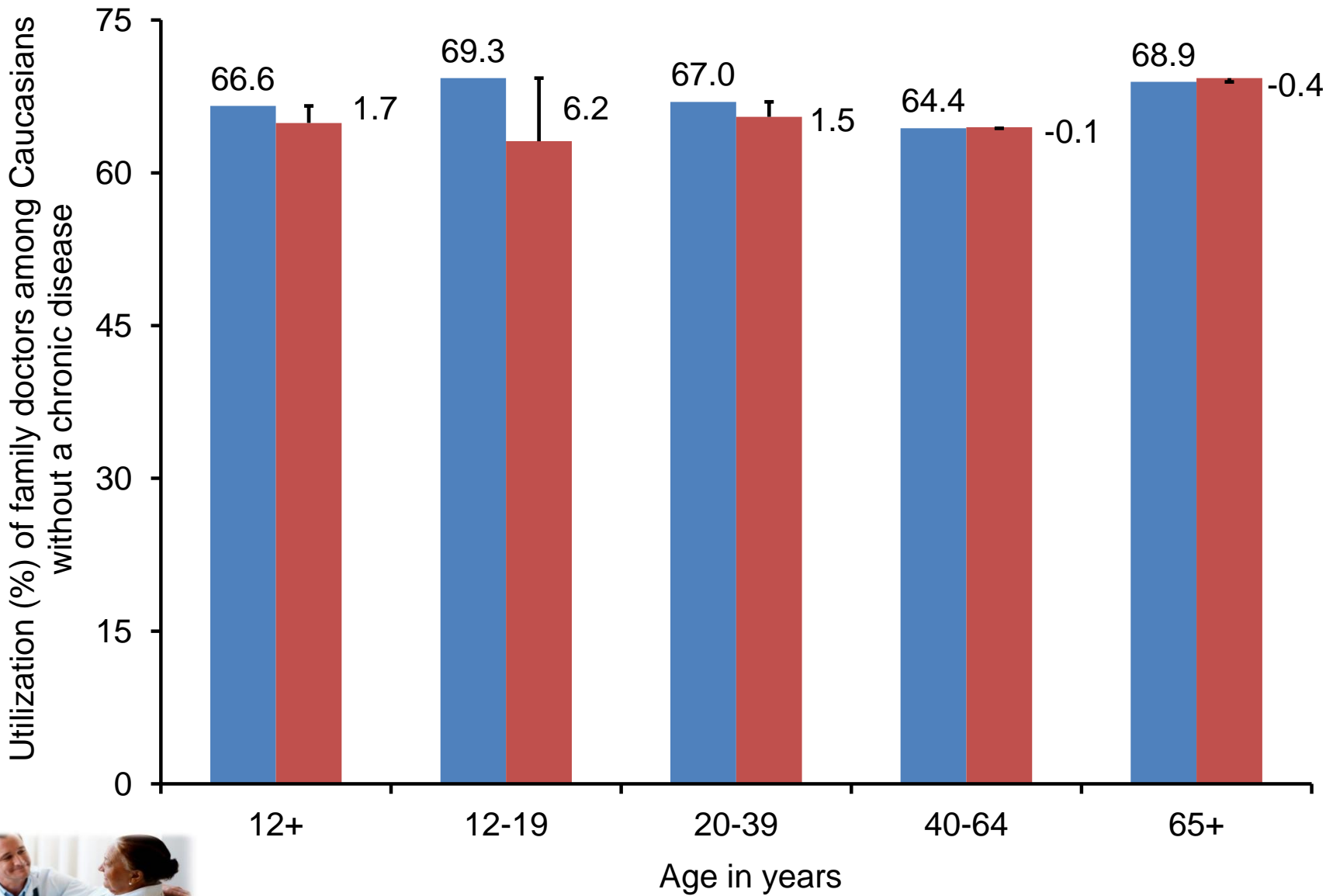
	AB	BC	ON	QC	MB	NS	SASK	NB	PEI	NFLD
<20										
20-64	X	X	X	X	X	X	X	X	X	X
65+										

The percentage of Canadians without a regular medical doctor (CCHS 2005)

Does not have a regular medical doctor				
Provinces	12+	65+		
	Overall	Overall	With a chronic disease	Without a chronic disease
NFLD	12.7	7.5	6.8	-
PEI	10.1	5.4	4.8	-
NB	6.6	3.8	2.9	-
Subtotal	9.3	5.3	4.6	12.6
ON	8.8	3.9	3.4	-
QC	24.9	7.0	5.4	-
AB	17.5	5.1	4.7	-
BC	10.9	2.5	2.0	-
SK	15.6	5.4	4.4	-
MB	16.1	5.7	4.6	-
NS	5.4	2.8	2.3	-
Subtotal	14.4	4.7	3.8	12.6
Total	14.3	4.7	3.9	12.7



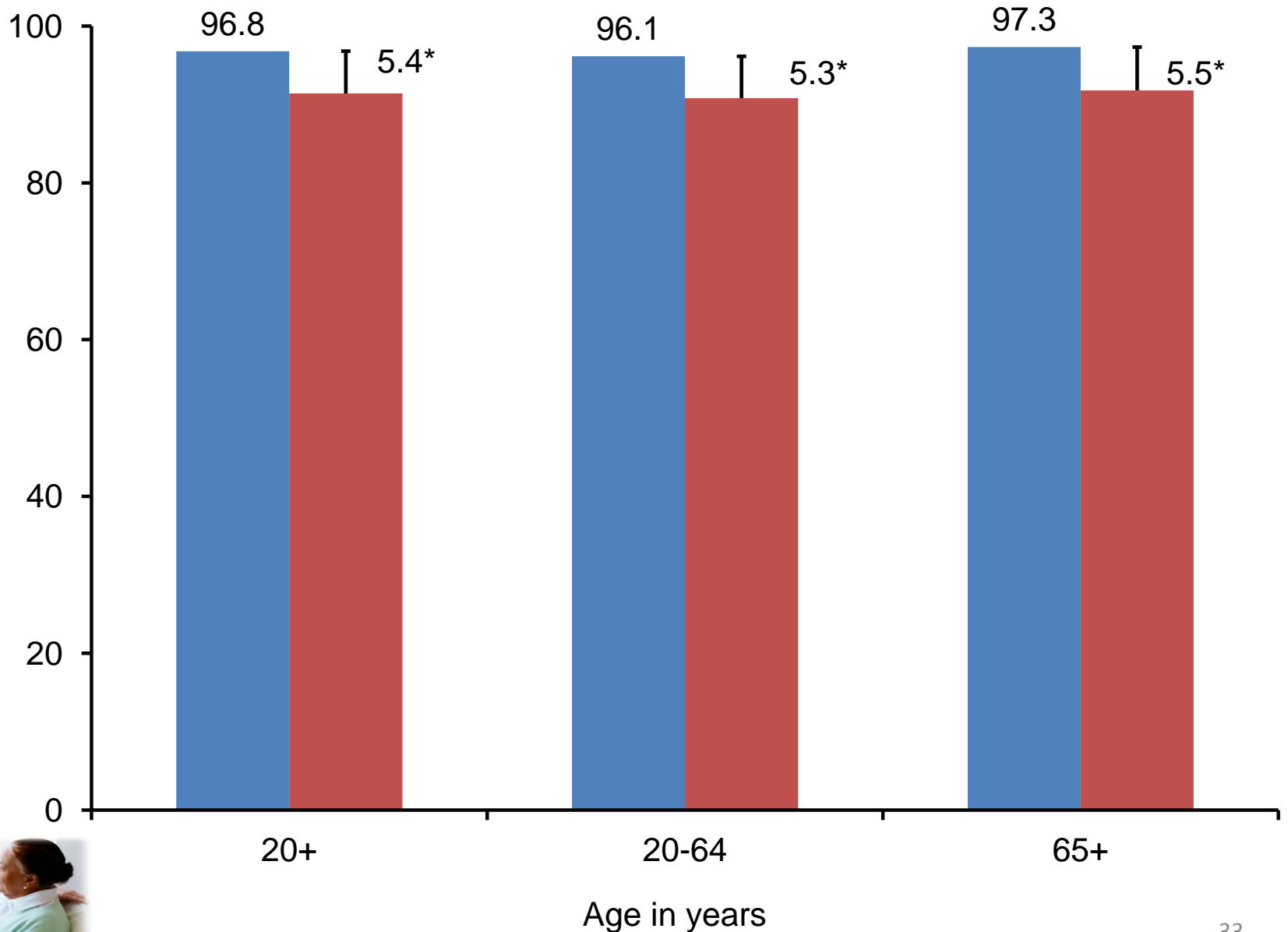
■ No coverage (NB, PEI, NFLD) ■ With coverage (ON, AB, BC, QC, MB, NS, SK)



Utilization (%) of family doctors among Caucasians who self-reported having diabetes, cataracts and glaucoma and used an eye care provider in a 12-month period

■ No coverage (NB, PEI, NFLD)

■ With coverage (ON, AB, BC, QC, MB, NS, SK)



*: p<0.05

Utilization (%) of family doctors among Caucasians without a chronic condition and used an eye care provider

