

Work related lost productivity and its economic impact in Canadian patients with moderate to severe psoriasis

Thank you

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Outline

- Background
- Methods
- Results
- Other studies

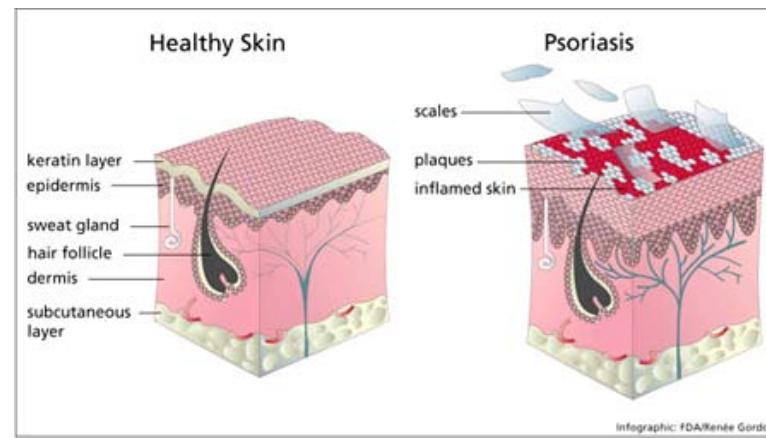
Take home messages

- Psoriasis appears to have an impact on work productivity

Background - Psoriasis

- “Most common autoimmune disease in the US”¹
- itchy, scaly, red patches
 - chronic, autoimmune skin disease
- Affects 1 million Canadians, 80 million worldwide²

1. National Psoriasis Foundation, 2011
2. Canadian Dermatology Association, 2011



Background – health care costs

- \$1.24 billion direct costs U.S.¹ (2004)
- \$114 million indirect costs U.S.¹ (2004)
 - \$50.8 million lost workdays
 - \$32.2 million restricted activity days
 - \$21.8 million lost caregiver work days
 - \$9.6 million loss future earnings

1. Bickers DR, et al. 2006

Background – lost productivity

- Substantial in psoriasis – age of onset
- Mean age of onset = 33 years¹
- Decline after age 70¹
- 16-46 years of age²⁻⁵
- 16-22 and 57-60 years of age⁶

1. Green L., 2011
2. Farber EM et al. 1974
3. Yip SY et al 1984
4. Farber EM et al., 1985
5. Nevitt GJ et al., 1996
6. Henseler T et al. 1985

Rationale

- Lost productivity likely to be substantial burden
- Lack of Canadian data on the economic burden of lost productivity in psoriasis

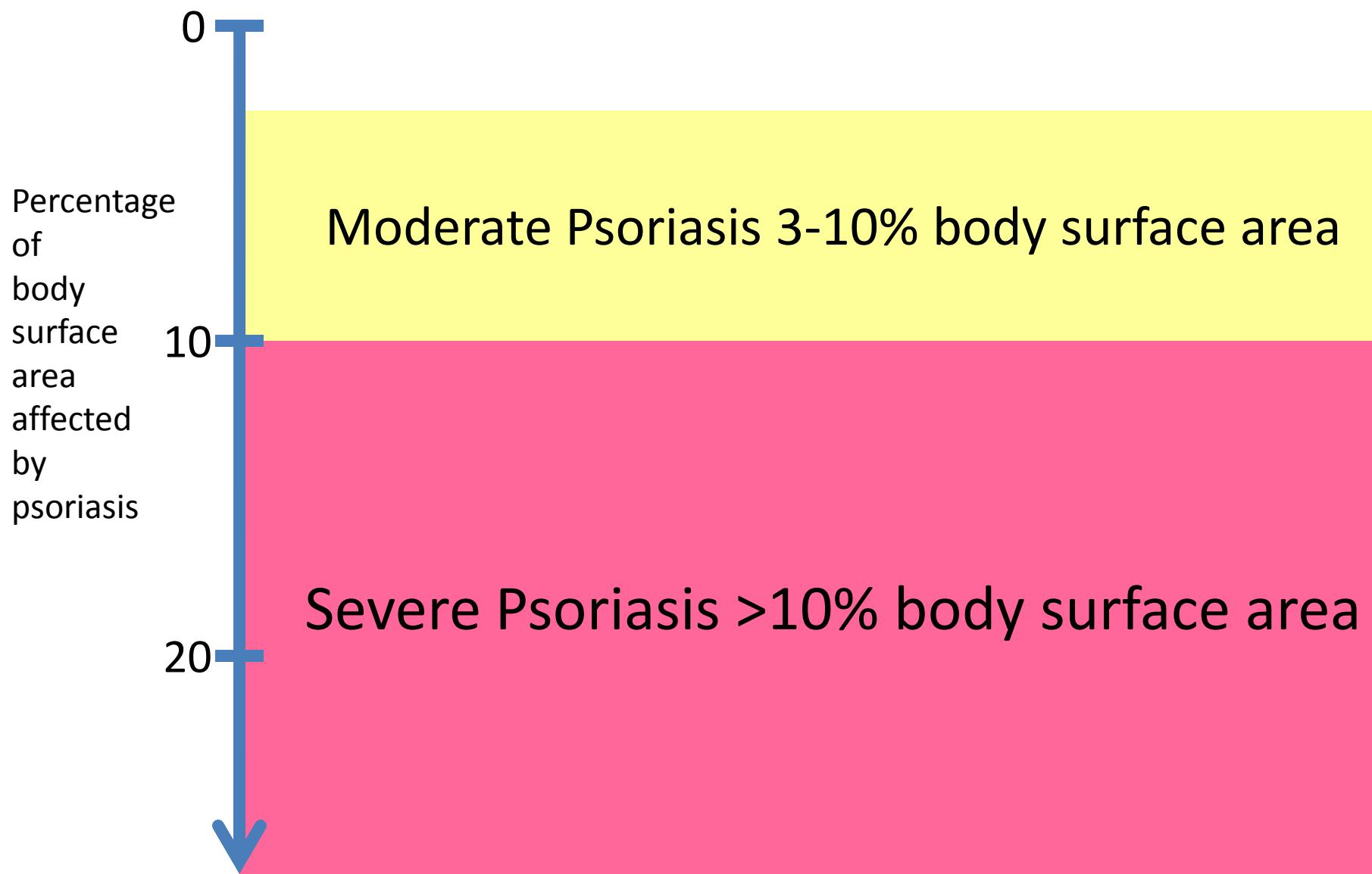
Objective

- To determine the lost productivity and its economic impact in Canadian patients being treated for moderate to severe psoriasis

Methods

- 4 Canadian dermatology clinics (academic centres and community offices)
- Inclusion: diagnosis of moderate to severe psoriasis, 19 years of age or older, undergoing treatment for psoriasis (biologic, phototherapy, systemic or topical)

Methods



Methods

- Recruitment of consecutive patients – Sept 21st to Nov 8th 2005
- Measurement = Work Productivity and Activity Impairment Questionnaire (WPAI)

Methods

- WPAI
 - Used extensively in prior studies
 - Easy to administer and complete
 - Simple to analyze

**Work Productivity and Activity Impairment Questionnaire:
Specific Health Problem V2.0 (WPAI:SHP)**

The following questions ask about the effect of your **PROBLEM** on your ability to work and perform regular activities. *Please fill in the blanks or circle a number, as indicated.*

1. Are you currently employed (working for pay)? NO YES
If NO, check "NO" and skip to question 6.

The next questions are about the **past seven days**, not including today.

2. During the past seven days, how many hours did you miss from work because of problems associated with your PROBLEM? *Include hours you missed on sick days, times you went in late, left early, etc., because of your PROBLEM. Do not include time you missed to participate in this study.*

HOURS

3. During the past seven days, how many hours did you miss from work because of any other reason, such as vacation, holidays, time off to participate in this study?

HOURS

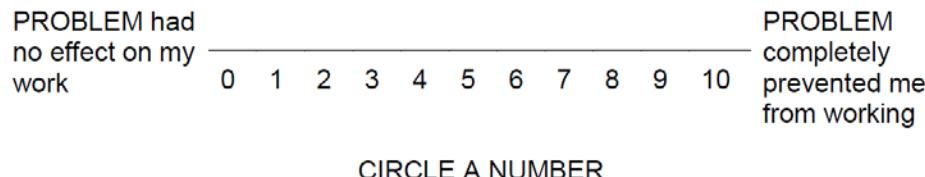
4. During the past seven days, how many hours did you actually work?

HOURS *(If "0", skip to question 6.)*

5. During the past seven days, how much did your PROBLEM affect your productivity while you were working?

Think about days you were limited in the amount or kind of work you could do, days you accomplished less than you would like, or days you could not do your work as carefully as usual. If PROBLEM affected your work only a little, choose a low number. Choose a high number if PROBLEM affected your work a great deal.

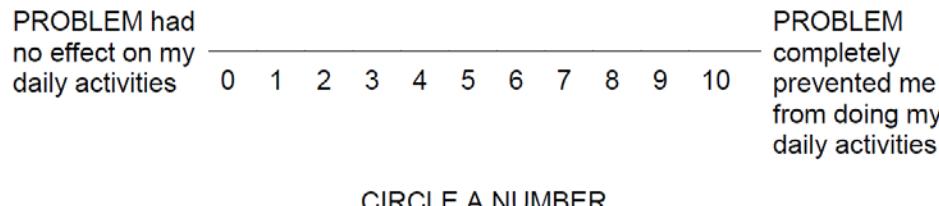
Consider only how much PROBLEM affected productivity while you were working.



6. During the past seven days, how much did your PROBLEM affect your ability to do your regular daily activities, other than work at a job?

By regular activities, we mean the usual activities you do, such as work around the house, shopping, childcare, exercising, studying, etc. Think about times you were limited in the amount or kind of activities you could do and times you accomplished less than you would like. If PROBLEM affected your activities only a little, choose a low number. Choose a high number if PROBLEM affected your activities a great deal.

Consider only how much PROBLEM affected your ability to do your regular daily activities, other than work at a job.



Methods

- Analysis exclusion: Reported retirees, unemployed, 0 hours worked in last week, or did not complete questionnaire completely.
- Lost productivity = absenteeism

Methods

$$\text{overall economic burden} = \text{total absenteeism} \times \text{average wage} \times \text{estimated psoriasis population}$$

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study results
(WPAI)



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study results
(WPAI)

total absenteeism

average wage

estimated psoriasis population

Statistics Canada
avg Canadian wage
(2012)

Methods

$$\text{overall economic burden} = \text{total absenteeism} \times \text{average wage} \times \text{estimated Canadian psoriasis population}$$

study results (WPAI)

estimated Canadian psoriasis population

X

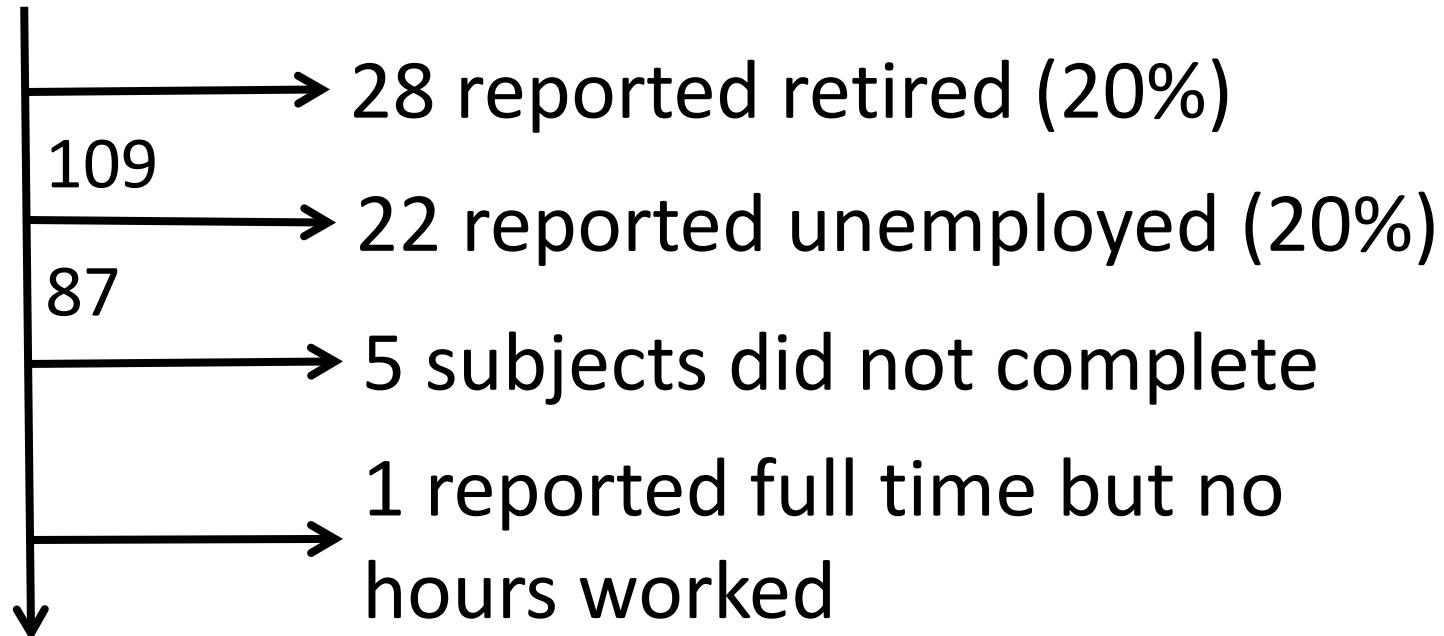
percent moderate to severe

estimated psoriasis population

Statistics Canada avg Canadian wage (2012)

Results

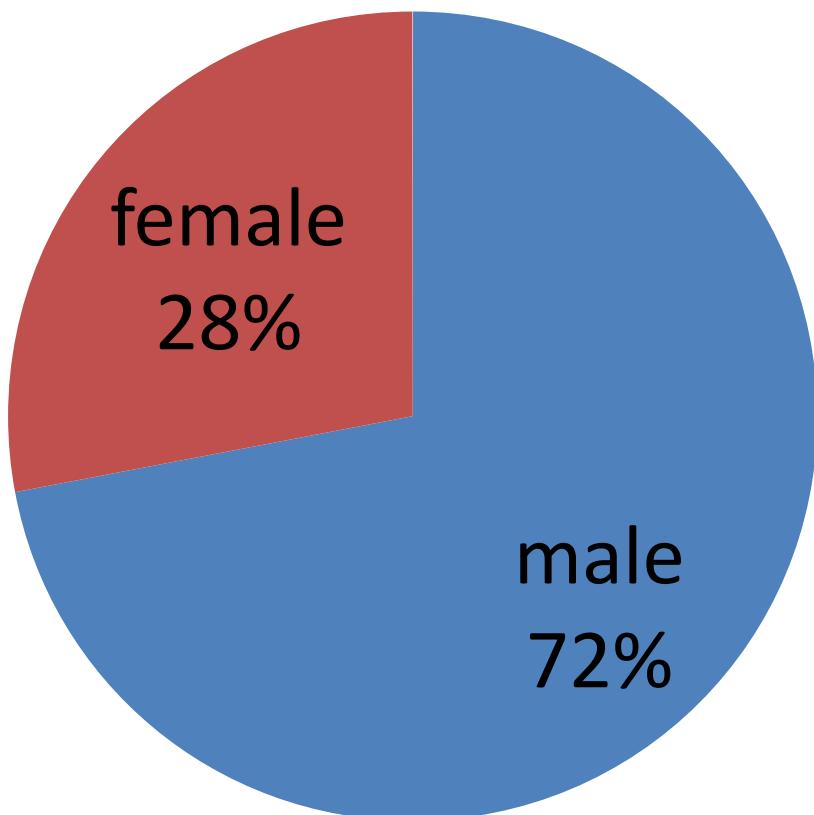
137 subjects included



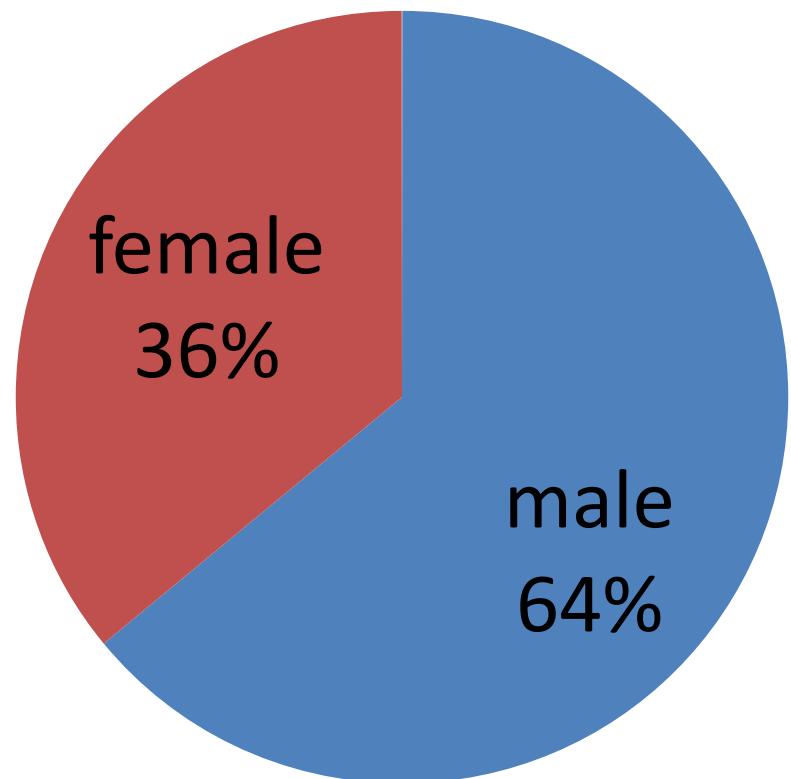
81 subjects included

Results

Currently employed

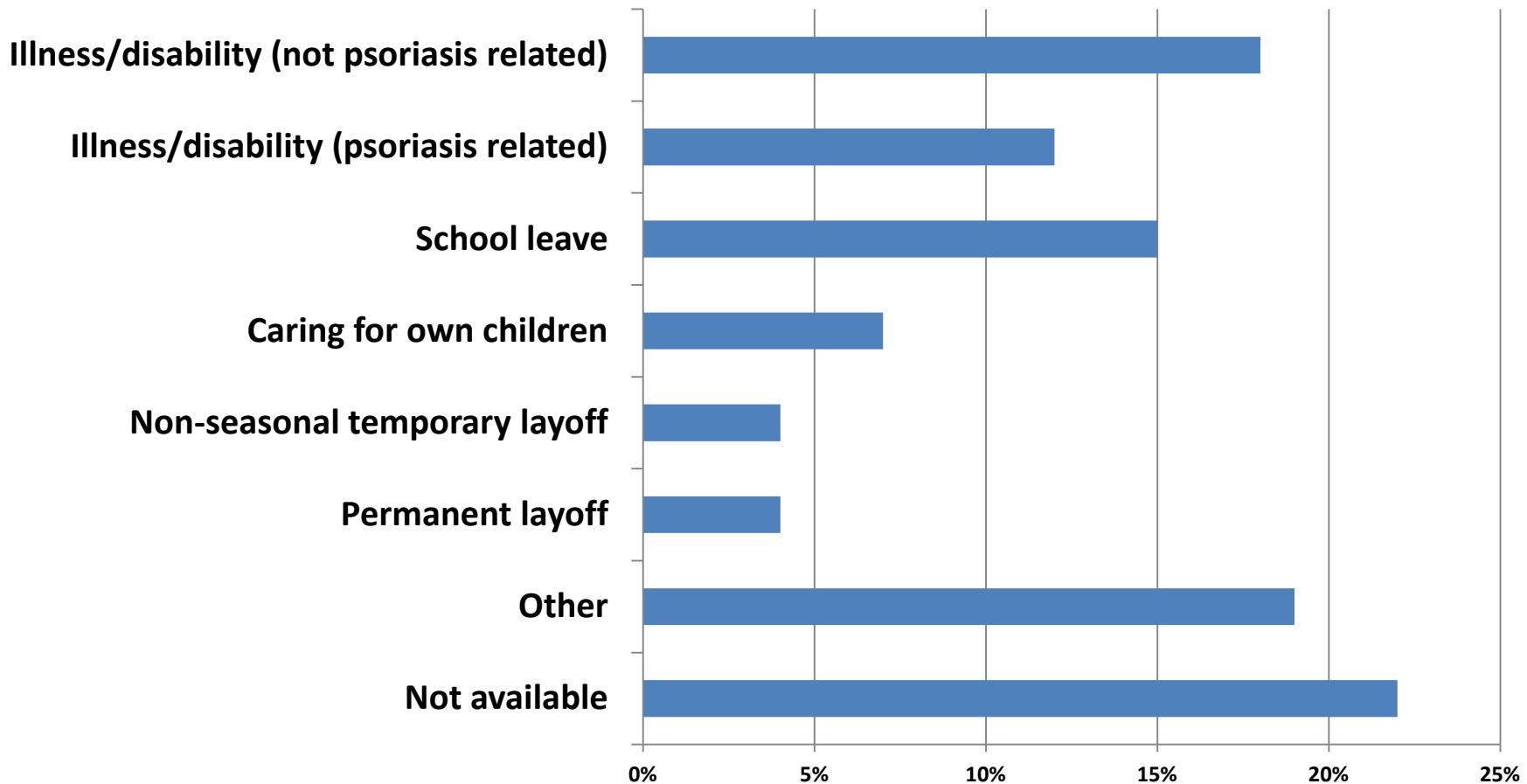


Currently unemployed

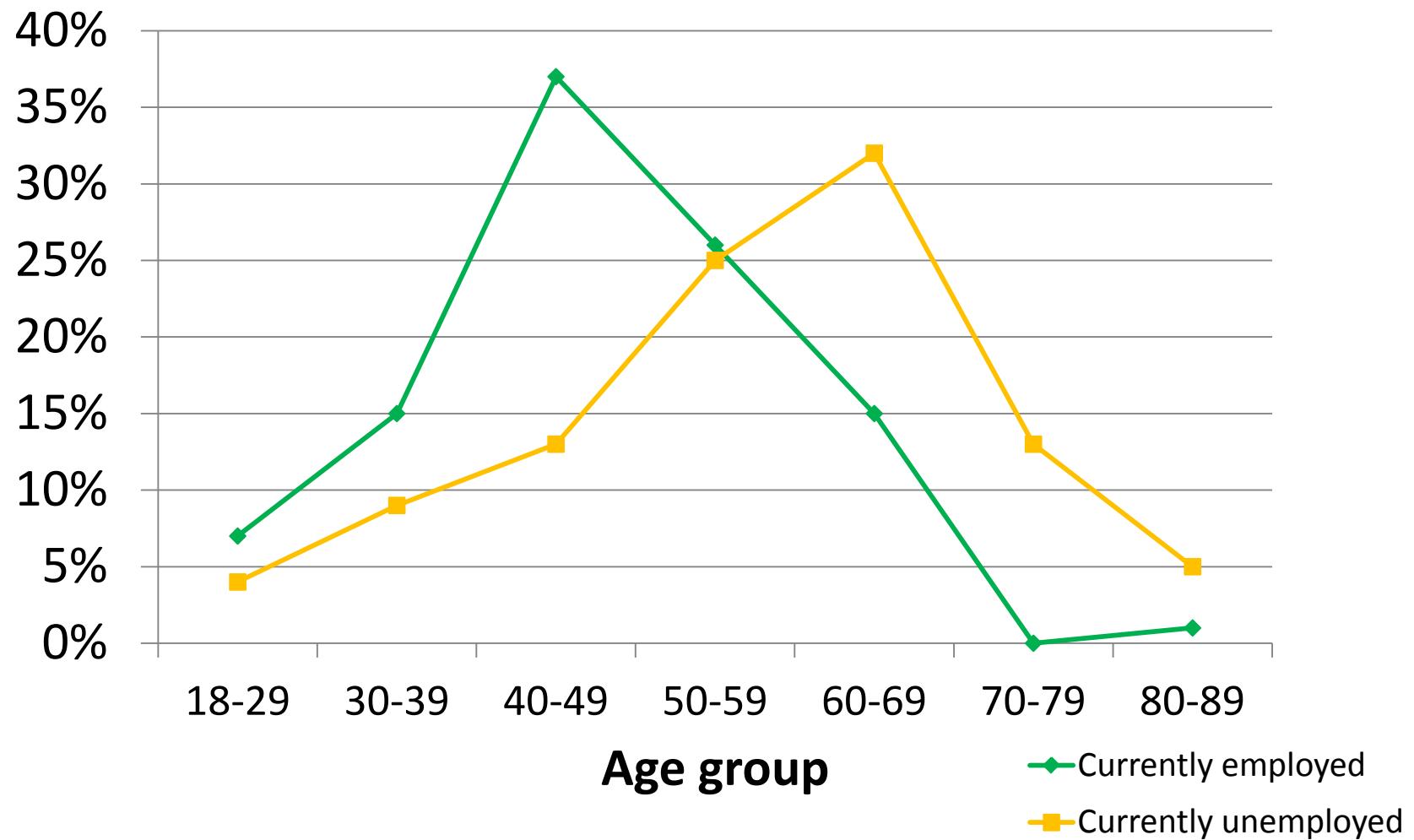


Results

Reason for unemployment

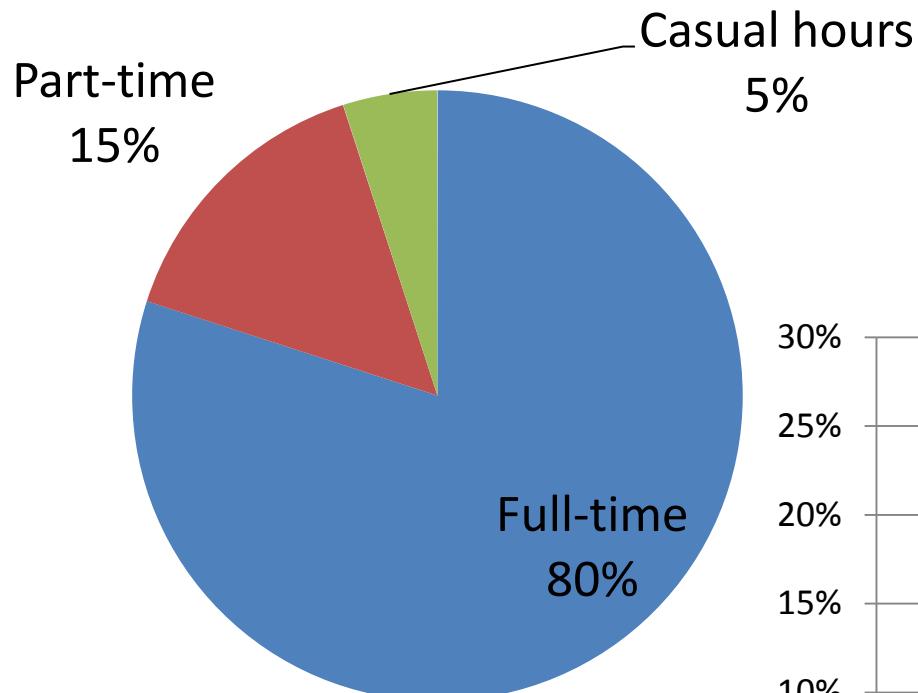


Results

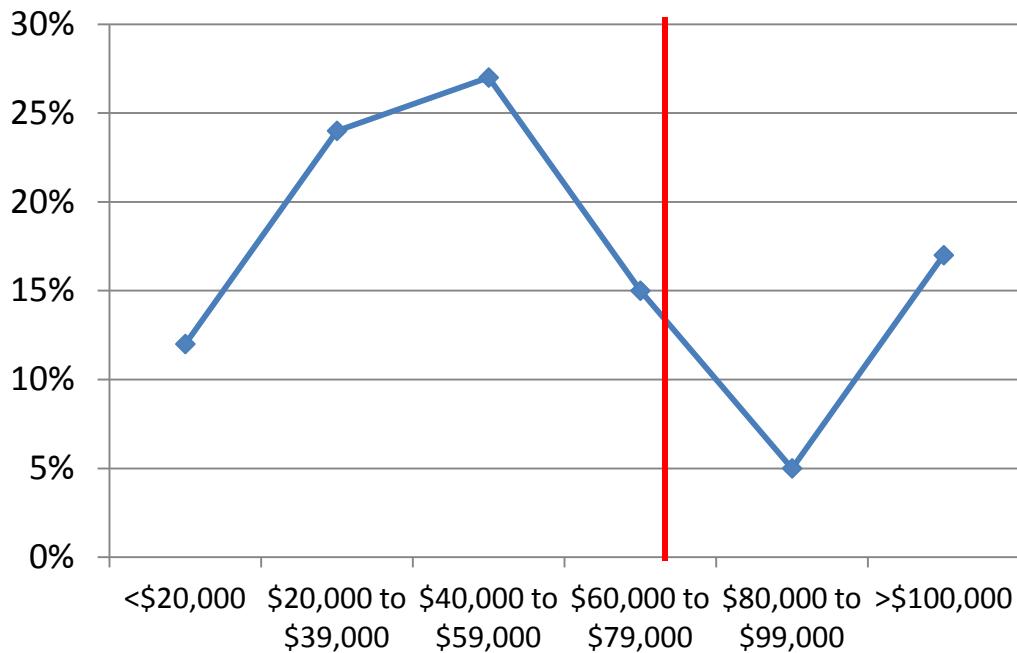


Results

Work status

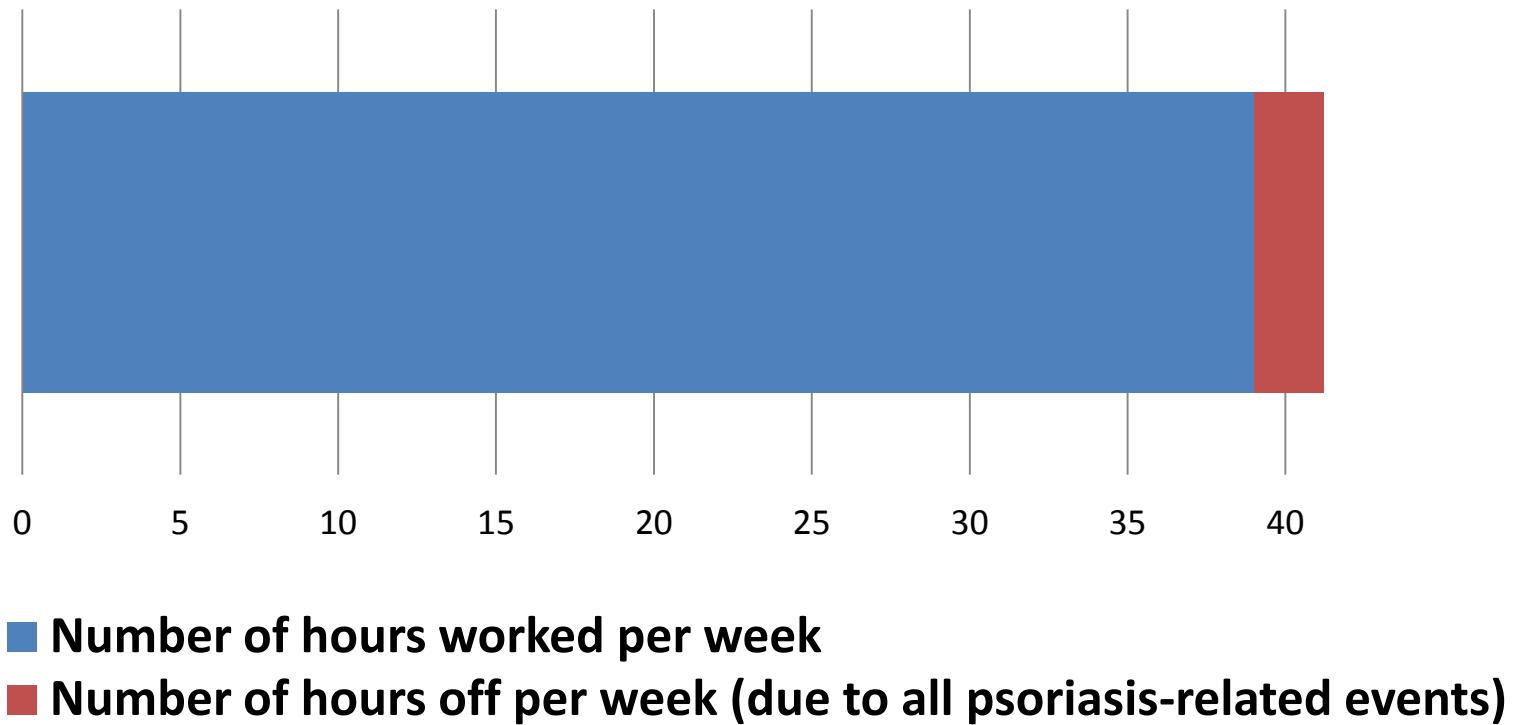


Household income



Results

Psoriasis impact on work productivity



Results

5.1% ($\pm 12.5\%$)

Average % of work time missed due to psoriasis

16.5% ($\pm 2.4\%$)

Average % impairment while working due to psoriasis

19.4% ($\pm 26.0\%$)

Average % overall work impairment due to psoriasis

Results

\$23.65

Average hourly wage for
individual aged 15+ March 2012

Results

\$23.65

Average hourly wage for
individual aged 15+ March 2012

\$2,700

Estimate of lost wages per
year due to absenteeism

Results

\$23.65

Average hourly wage for individual aged 15+ March 2012

\$2,700

Estimate of lost wages per year due to absenteeism

330,000

Canadians with moderate to severe psoriasis

Results

\$23.65

Average hourly wage for individual aged 15+ March 2012

\$2,700

Estimate of lost wages per year due to absenteeism

330,000

Canadians with moderate to severe psoriasis

\$890 million

Estimated lost wages in Canada per year

Other studies

	% work time missed	% impairment while working	% overall impairment
Our study	5.1%	16.5%	19.4%
Pearce DJ 2006		23.9%/15%	25%/12.1%
Meyer N 2010	10.7%		
Schmitt JM 2006	6.6%		

Other studies

- Sohn 2006 - 14.1 days of sick leave/year
- Schmitt 2006 - Estimated total loss in US \$16 billion
- Bala 2009 - missed hours of work (1.37 OR, 1.00-1.89), productivity impairment at work (1.66 OR, 1.28-2.18), overall work impairment (1.62 OR 1.25-2.11)

Other diseases

Disease	Absenteeism %	Presenteeism %	Overall work impairment	Author / year
Psoriasis	5.1% (12.5%)	16.5% (2.4%)	19.4 (26.0%)	
Ankylosing Spondylitis	9.0% (21.4%)	41.7% (25.3%)	43.9% (27.5%)	Reilly 2010
Asthma	10.4% (23.59%)	32.5% (26.99%)	48.8% (29.2%)	Demoly 2012
Rheumatoid Arthritis	8.7% (25.2%)	24.0% (22.7%)	33.3% (27.6%)	Bansback 2012
Diabetes	3.49% (1.18%)	13.52 (1.07%)	13.75 (1.07%)	DiBonaventura 2011

Limitations

- WPAI and recall bias
- Accuracy of sensitive questions
- Limited to BC and Ontario
- Paid and unpaid time off unknown

Future directions

- Link between psoriasis-lost productivity-quality of life
- Detailed investigation of income loss
- Comparison with other diseases

