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# Examining the effects of onset of an on-going disability on labour market attachment, job retention and career progression

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# Background

- Objective: to better understand the range of changes in work patterns of those experiencing the onset of ongoing health or activity limitations at work
  - Particularly, inter-actions with labour market attachment, retention, and career progression

## Placing this study in context

- Existing longitudinal work often points to a short period of disruption following onset and, for many, a “bounce back” in terms of attachment, earnings and hours worked
  - For example: Boden and Galizzi’s study of Workers’ Compensation/Unemployment insurance claimants
- However:
  - Jenkin and Rigg’s broader study of the British working age population found a more lasting and more constant effect
  - Mok et. al. indicate that those who report a disability tend to report a continuing, gradual decline in hours work and earnings over the mid- and long-term

## Data Sources

- Survey of Labour and Income Dynamics  
Longitudinal Versions
  - Wave 3: 1999-2004
  - Wave 4: 2002-2007
  - Will eventually will update to include current  
Wave 5: 2005-2009

# Methodology

- Results reflect the mid-term labour market outcomes for a population experiencing onset of a long-standing health or activity limitation
- A series of quasi-experimental trials were created:
  - Samples were selected where onset of a long-term disability occurred
    - Specifically, in an initial year, members indicated no disability; this was followed by four consecutive years of reporting of a disability
    - Data principally include differences in number of job and labour market characteristics between status in the year prior to onset and that at the conclusion of the five year trials
  - Parallel control group samples were selected from those who reported no disability over the same period
- In total, 4 samples and 4 control groups were developed:
  - Reflecting labour market experiences at the beginning and end of the periods 1999-2003; 2000-2004; 2002-2006; and 2003-2007

## Methodological notes

- Trial sample sizes: varied from unweighted counts of 116-164 for populations experiencing the onset of a long-lasting condition (Total of 604)
  - Control groups: unweighted counts of between 5,800-6,200 (Total of 24,350)
- Results reported are differences in means and proportions
- Inferences are based on simple inference tests, ANOVA (single of repeated measure) tests
- Unless otherwise stated, all inferences reported are based upon rejection of null hypotheses with a 95% confidence level
- Where applicable, age/sex normalized results are reported
- All dollar figures are indexed to constant 2007 dollars

## **A total of 11 dependent variables: Outcome measures of attachment, retention, and job/career progression**

1. Level of labour market attachment:
  - i. Returning to working full-year/full-time (1)
  - ii. Returning to working full year (2)
  - iii. Returning to work at all (3)
2. Intensity of Attachment
  - i. Hours worked (4)
  - ii. Weeks worked (5)
3. Level of job/employment retention
  - i. Likelihood of moving to new job (6)
  - ii. Employment tenure (years working for same employer) (7)
4. Job/Career progression:
  - i. Change in total earnings (8)
  - ii. Change in composite hourly earnings (9)
  - iii. Shift to/from management positions (10)
  - iv. Shift upwards/downwards within management (11)



# Independent variables

- Dichotomous variable: onset of on-going disability versus no disability with controls for:
  - Age
  - Gender
  - vintage (reflecting aggregate labour market conditions; cultural change)

Note: eventually, additional controls will be added including: job skill level/level of educational attainment; broad categorizations of occupation and industry; region (to reflect local labour market conditions, culture)

# General characteristics of population under consideration

An estimated average of:

- On average, 102,000\* of those who were working experienced the onset of a new on-going health or activity limitation annually (about 0.7% of those employed over the study period)
  - Just under  $\frac{3}{4}$  are working full year
  - Just over  $\frac{2}{3}$  are working full-year full-time

Among those working:

- Less than a third indicated that the related condition began in the year/year prior to the onset of the limitation
- More than one quarter report condition onset more than 5 years before indication of limitation
  - Looking back, some evidence that limitation is often episodic—one in six indicate a limitation/no limitation/ongoing limitation pattern
  - In line with indirect evidence from CPP-D administrative data which indicate work-related income decline well before cessation of work due to a permanent work-limiting disability

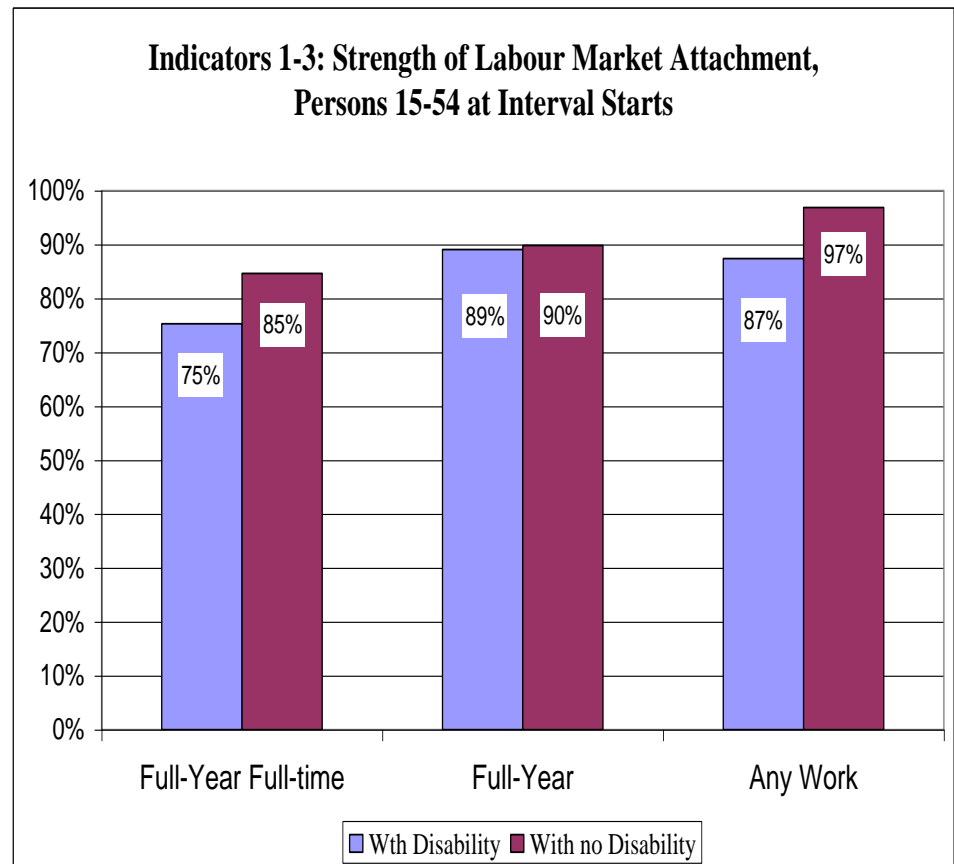
# **1. Level of labour market attachment**

## Measures 1,2,3: Likelihood of returning to some intensity of work following onset of a long-term disability--persons aged 15-54 at the onset of the trial

Major differences occur in changes in work pattern between young/middle aged workers and older workers

Focusing on those 15-54:

- Over the four trial periods, persons experiencing the onset of a long-term impairment were:
  - 10 percentage points less likely to remain working full-year full-time
  - As likely to retain full-year employment\*
  - 10 percentage points less likely to remain at work



## **But still, the great majority of those with disabilities return to the same level of labour market attachment**

3 years following disability onset:

- 75% came back to a pattern of working full-year, full time
- 90% came back to a pattern of working the full year
- 85% who had worked at all, remained working

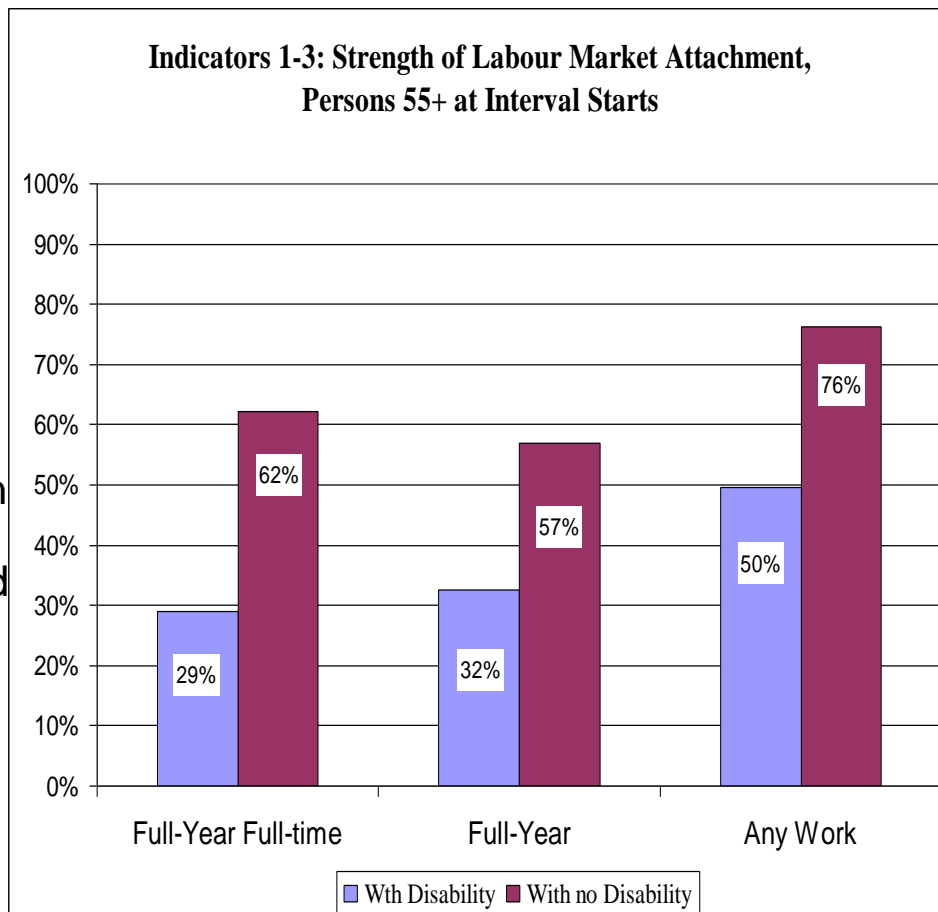
Implications--Onset of disability has some impact:

- on reduction in full-time work (see below)
- on attachment of those with initially weaker labour market attachment (those working but not full-time and/or full year)\*

## Measures 1,2,3: Persons aged 55+ at the onset of the trial

Among those 55+, there remain many with strong labour market attachment, irrespective of disability onset

- For those not experiencing health and activity limitations, an average of
  - 76% of those working were at work at the end of the trial period;
  - 57% continued to work full-year
  - 62% continued to work full-time full-year
- Among those experiencing the onset of an ongoing disability, an average drop of:
  - 26 percentage points in the likelihood of retaining any labour market attachment
  - 25 percentage drop in the likelihood of retaining full-year employment
  - 33 percentage point drop in the likelihood of retaining full-year, full-time employment



## Among those 55+ a strong vintage effect was evident, irrespective of level of attachment

For example:

- the proportion of those working full-year without disability onset increased from 52% in 2003 to 60% in 2007
- For those experiencing disability onset, the proportion continuing to work full-time increased from 25% to 36%

Implication: *Freedom 55* is gradually becoming a myth

- Older workers are increasingly remaining at work with increasing attachment, particularly those who have experienced onset of an ongoing condition

## Summary of effects of ongoing disability onset on labour market attachment

- **There is a relatively small impact of ongoing disability onset among younger and middle aged working adults on the likelihood of returning to existing levels of attachment**
- **Among those 55 and over, onset of an ongoing disability reduces the likelihood of remaining at work by about a third and, for those continuing to work, of maintaining the same level of attachment by about a half**
- **However, later vintages of workers are more likely to continue to work and to retain level of attachment**



## **2. Intensity of Attachment**

## Indicators 4 and 5: Weeks and Hours Worked Annually

- For those who continued employment, there were no discernible differences in the weeks worked between those who experienced the onset of a ongoing disability and those who did not
  - Both worked an average of 49 weeks in the start year, increasing marginally to 50 weeks at the trial end
- However there were significant and similar differences in each trial in the average hours worked annually. Overall:
  - **At the beginning of the trials those experiencing onset of an on-going disability worked an average of 85 hours more than control group members**
  - **At the trial ends, those experiencing onset of an on-going disability worked an average of 92 hours less (close to an equivalent of 3 full time work weeks)**

## Implications:

- **These results highlight the tendency for persons experiencing disability onset to remain at work full-year, but to move away from full-time work**
- These results may provide some evidence regarding the potential dangers of “burn-out”
  - **Average** hours worked for those who eventually experienced a onset of a on-going disability was 37.5 in the year prior to onset with well over a third working in excess of 40 hours per week

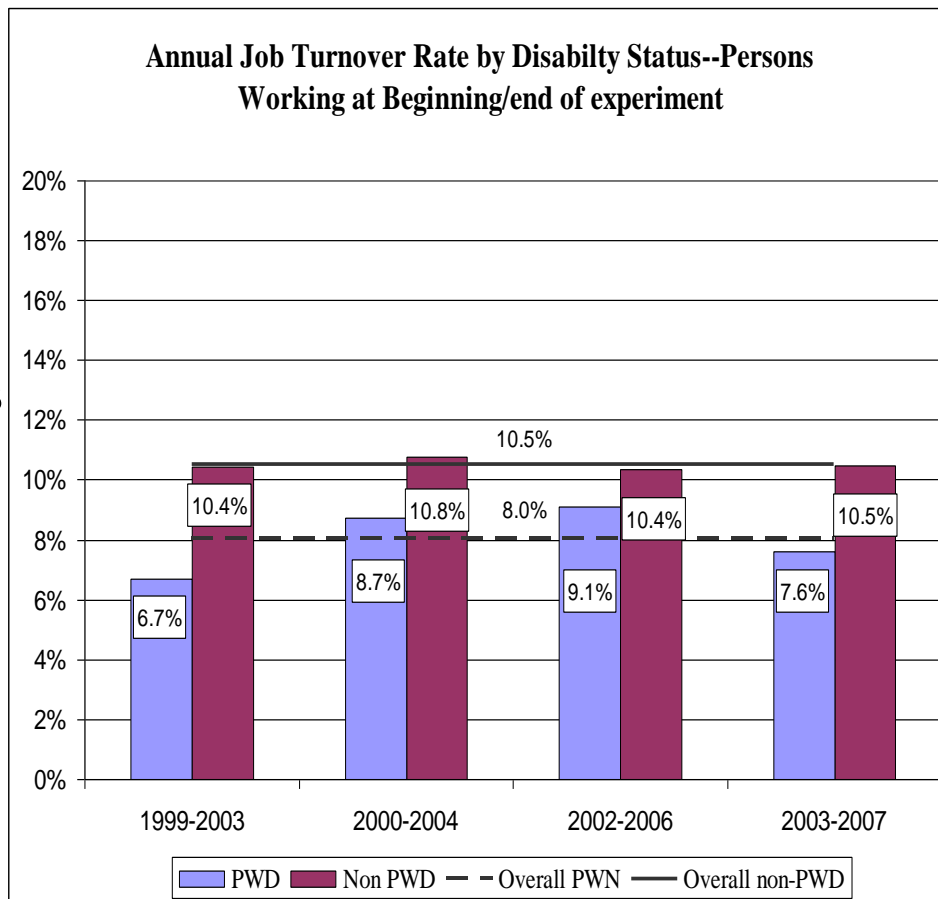
### **3. Level of job/employment retention**

## Measure 6: Job mobility following onset

- **Persons with disabilities are consistently less likely to move to new jobs than others**

Average annual mobility rate:

- 10.5% people with no disabilities
- 8.0% for those with disabilities
- Most, but not all of the difference is the result of average older age of subpopulation with disabilities
- Accommodation in the workplace, to some degree creates “barriers” to job mobility
- Conversely, so too does hiring discrimination



## Measure 7: Length of tenure

**Working people with disabilities tend to have been with the same employer longer than those who have not experienced disability (12.7 versus 11.8 years)**

- Partially reflects:
  - Lower levels of mobility (measure 6)
  - Average older age among those with long-term disabilities (tenure is highly related to age)
- With offsetting factor of a higher proportion of women with long-term disabilities (tend to have shorter tenures)
- Controlling for these factors results in a narrowing of the length of tenure difference to the point where adjusted tenure lengths cannot be differentiated

## **4. Earnings progression**

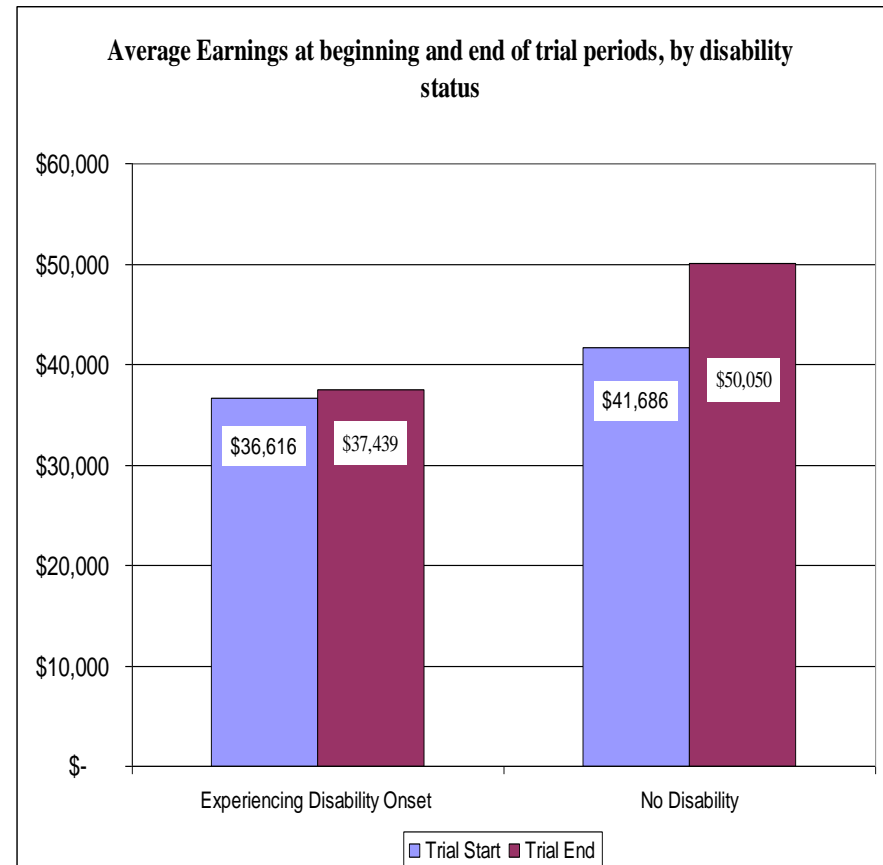
## **Indicator 8: Composite hourly earnings (Constant 2007 \$'s)**

- Composite hourly earnings for those with disabilities lagged behind those of the control group by an average of 5%
- Composite hourly earnings grew in real \$'s for both groups—by 2% annually, on average, for those experiencing onset of an on-going disability and a slightly higher 3% for the control group
- By the end of the trial, the gap in composite hourly earning had grown to 10%



## Indicator 9: Total annual employment earnings (Constant 2007 \$'s)

- Average earnings of those with an on-going disability lagged before onset, with a considerable widened gap at trial end
- Those experiencing onset of a continuing condition earned beforehand, an average \$5,070 less than those who did not experience a disability (a 12% difference)
- Earnings for both groups then increased:
  - An average of 0.4% for the disability group and 3.7% for the control group
- **At the end of the trial period, those with disabilities earned an average of \$12,610 less (a 25% difference)**



## Earnings (continued)

- Lower earnings occur despite older average age of the disability group (age normalization widens the gap at trial end to about a third)
- Partially reflects higher proportion of women in disability sample
- Primarily a composite of slightly lower wages + lower # of hours worked
- However, results are in line with high proportion of the disability sample who have a condition which precedes disability onset
  - In line with CPPD beneficiaries analysis which indicates that earnings lag behind those of others, on average, for more than a decade prior to being unable to work

## Career Progression: Shifts to Management (10)

- Among those working, there was no discernible difference in the likelihood that those who were managers at the beginning of the trial periods would retain a manager position at trial end
- However, persons with disabilities were less likely to move into a management position (8% of those with disabilities became managers during the trial in contrast to 12% of the control group)

## Shifts up/down/in and out of the *management hierarchy*

- In comparison with the control group, persons with disabilities were less likely to have moved into any level of management position over the trial period and were more likely to have moved down the *management hierarchy* (12% versus 9%)
- However, there was not discernible difference in the likelihood of leaving management; staying at the same level or moving upward within management

# The *Big Picture* impacts on disability onset among working adults

In comparison with the control group, those experiencing the onset of an ongoing health or activity limitation while working:

- Are slightly more likely over the mid-term, if between the ages of 15 and 54, to stop work or reduce hours
- Are much more likely, if 55 and over, to stop work, work fewer weeks and hours
- Are more likely to remain in their job (are less mobile in the labour market)
- Tend to start out with lower wages and to fall further behind their co-workers
- Fall significantly behind in earnings, reflecting an emergent gap in hours worked and in wages,
- Are less likely to move into management and marginally more likely to fall within a management hierarchy, but are no less likely to hold onto a management job

# **THE BOTTOM LINE**

**Persons who experience the onset of an on-going disability while at work tend to be extremely resilient**

**The great majority, over the medium term, return to the same levels of labour market attachment**