



Comparative Benefits Adequacy and Equity of Three Canadian Workers' Compensation Programs for Long-Term Disability

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Introduction

- Providing adequate and equitable benefits is key objective of workers' compensation programs
- In practice other concerns can conflict with achieving these goals, such as keeping the cost of insurance down for employers
- Several approaches to formulating benefits have been tried in jurisdictions across North America, but most US programs found to be inadequate and inequitable
- Objective of this study was to examine the adequacy and equity of benefits received from three distinct Canadian programs



The Three Programs Under Study

The Permanent Impairment Program

- Existed in Ontario prior to 1990
- Benefit amount based on the percentage of permanent impairment
- ***Permanent Impairment benefit = pre-accident after-tax earnings x 90% x percentage impairment***

The Loss of Earnings Capacity Program

- Existed in Ontario from 1990 to 1997 (FEL/NEL)
- Benefit amounts based on a loss of earnings capacity assessments
- ***Loss of earnings capacity benefit = [pre-accident after-tax earnings - post-accident after-tax earnings capacity] x 90%***
- Claimants with permanent impairments also received a non-economic loss award



The Three Programs Under Study (cont'd)

The Bifurcated Award Program

- Existed in British Columbia up to 2002
- Benefits amount based on one of two approaches
 - loss of function/permanent impairment (LOF)
 - loss of earning capacity (LOE)
 - claimants received whichever benefit was higher
- ***Permanent impairment benefit = 75% x pre-accident before tax earnings x loss of function percentage***
- ***Loss of earnings capacity benefit = [75% x pre-accident before tax earnings] – [post-accident before tax earnings capacity]***



Data Linkage Created for the Analysis

Principal Data Source

- Longitudinal Administrative Databank (LAD)
- 20% simple random sample of tax filers
- Once selected, the filer is included in every subsequent year
- Linked administrative claims data from three workers' compensation programs with the LAD

Claimant Samples

- ***Permanent impairment program:*** accident from 1986 to 1989
- ***Loss of earnings capacity program:*** accident from 1990 to 1994
- ***Bifurcated award program:*** accident from 1990 to 1994



Sample Frame

Permanent Impairment Program

Sample Frame: Claimants injured between 1986-1989

pre-accident years	accident window	post-accident years
1982 - 1985	1986 - 1989	1990 - 2003

Loss of Earnings Capacity Program

Sample Frame: Claimants injured between 1990-1994

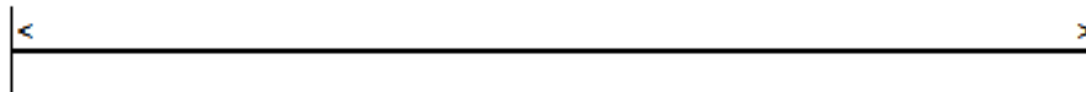
pre-accident years	accident window	post-accident years
1982 - 1989	1990 - 1994	1995 - 2003

Bifurcated Award Program

Sample Frame: Claimants injured between 1990-1994

pre-accident years	accident window	post-accident years
1982 - 1989	1990 - 1994	1995 - 2003

LAD time frame: 1982-2003





Methodology

Matching of Claimants with Uninjured Comparison Group

- Matched claimants with uninjured individuals (controls) in the LAD database
- Selected up to ten controls for each claimant observation based on pre-accident labour-market earnings, gender, age, and pre-accident self-employment earnings

Principal Measures

Determination of earnings recovery: comparison of 10 years of post-accident earnings of claimants with the earnings of uninjured controls

Determination of earnings replacement: proportion of control earnings replaced by the claimants' own earnings plus their benefits over 10 years

Adequacy target: at least 90% of after-tax control earnings

Equity target: achieving at least the 90% target for all strata



Sample Characteristics

	Permanent Impairment Program		Loss of Earnings Capacity Program		Bifurcated Award Program	
	count		count		count	
Gender						
female	29%	3,410	33%	4,315	16%	525
male	71%	8,290	67%	8,570	84%	2,800
Age Bracket at Accident						
<=24	7%	810	5%	670	6%	185
25-34	26%	3,025	26%	3,400	23%	765
35-49	41%	4,830	45%	5,735	38%	1,255
50-59	26%	3,035	24%	3,075	24%	790
Impairment Stratum						
0-5	28%	3,235	23%	3,005	63%	2,095
5-10	29%	3,415	21%	2,750	19%	635
10-20	31%	3,630	33%	4,225	11%	375
20-50	11%	1,270	21%	2,755	5%	170
>50	1%	145	1%	150	2%	55



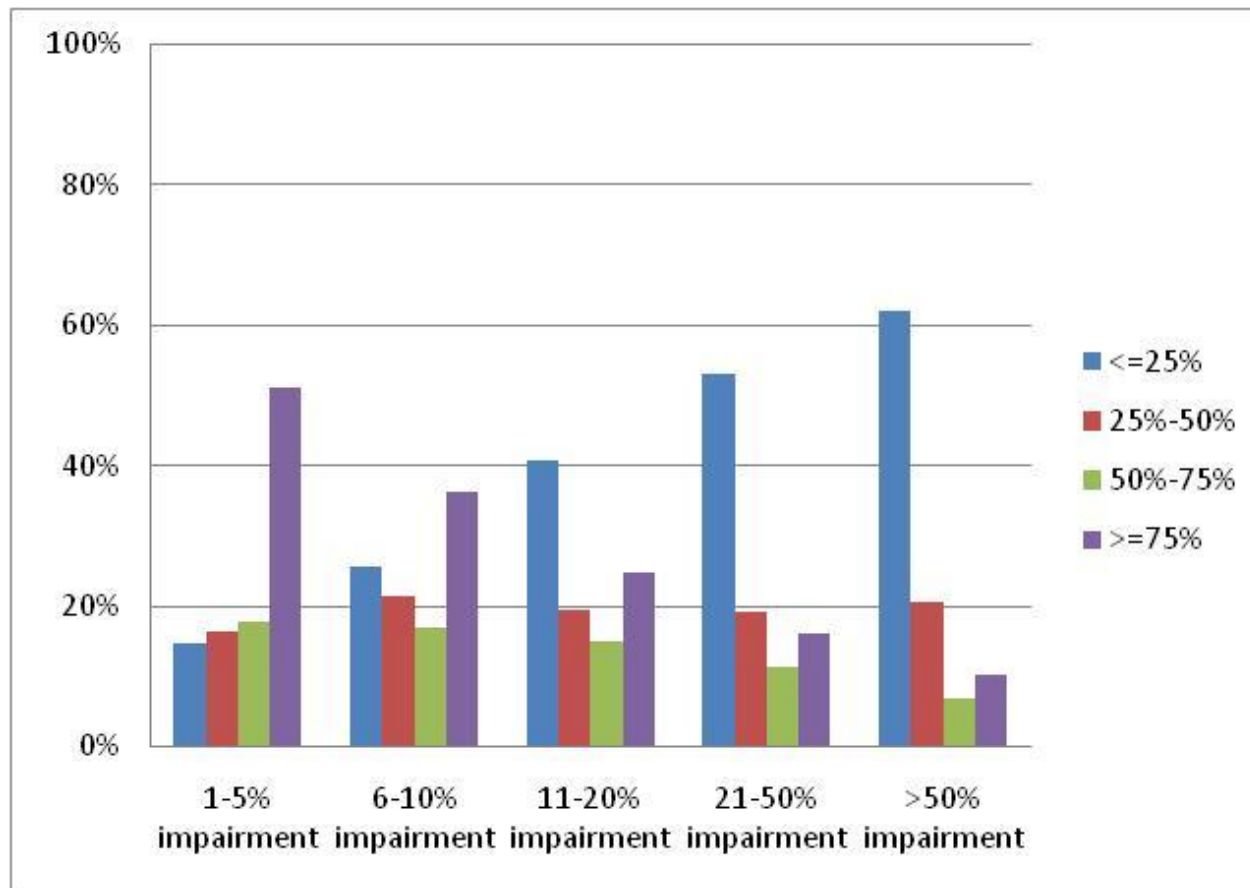
Permanent Impairment Program: Benefits Adequacy and Equity by Impairment Strata

Program	Strata	Individual-level earnings replacement rates	Confidence intervals for earning replacement rates*
Permanent Impairment Program Sample	1-5% impairment	98%	94%-102%
	6-10% impairment	99%	94%-102%
	11-20% impairment	98%	95%-101%
	21-50% impairment	102%	97%-106%
	>50% impairment	107%	97%-119%
	entire sample	99%	97%-101%

* bootstrapping sample of 2,000 with replacement

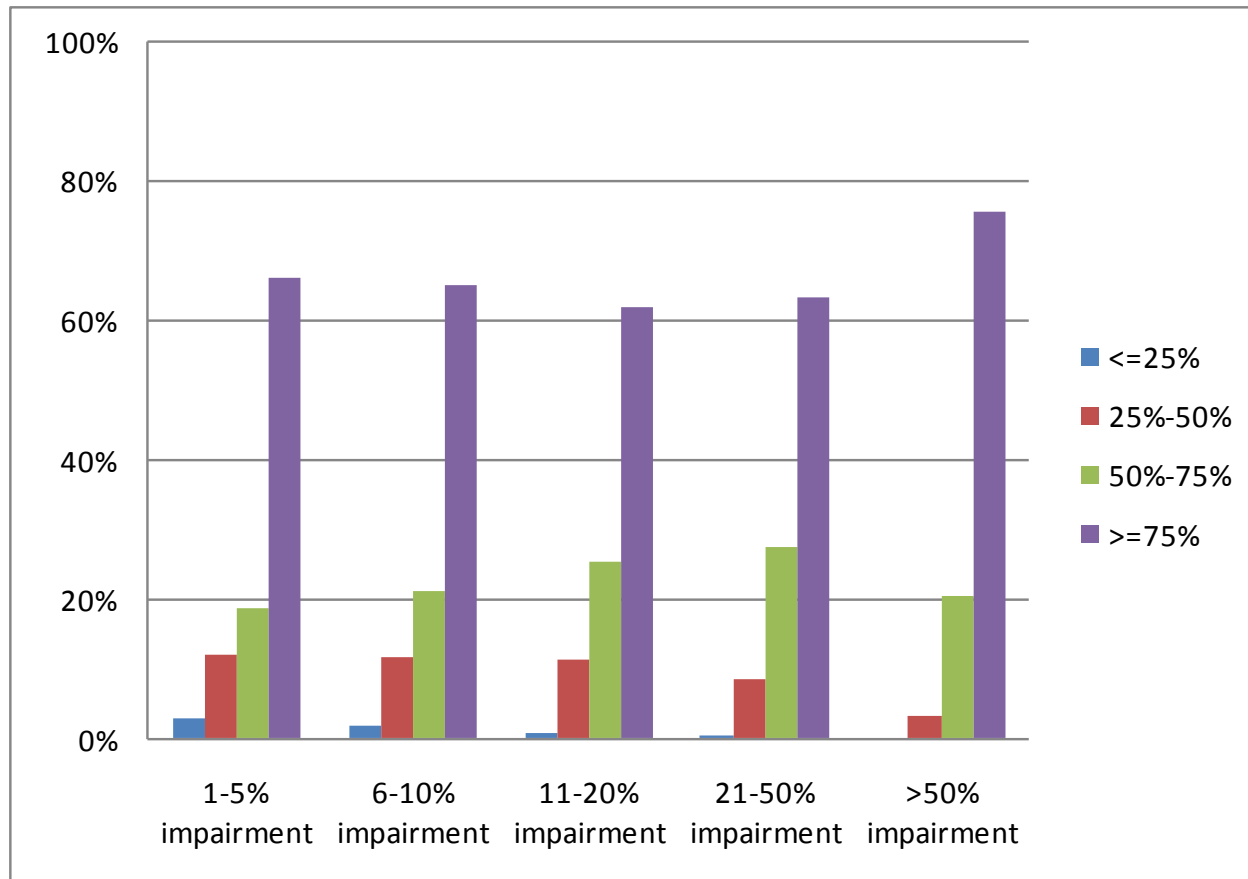


Permanent Impairment Program: Quartile Distribution of Claimant Labour-market Earnings Recovery over 10 Year





Permanent Impairment Program: Quartile Distribution of Claimant Labour-market Earnings plus Benefits over 10 Years





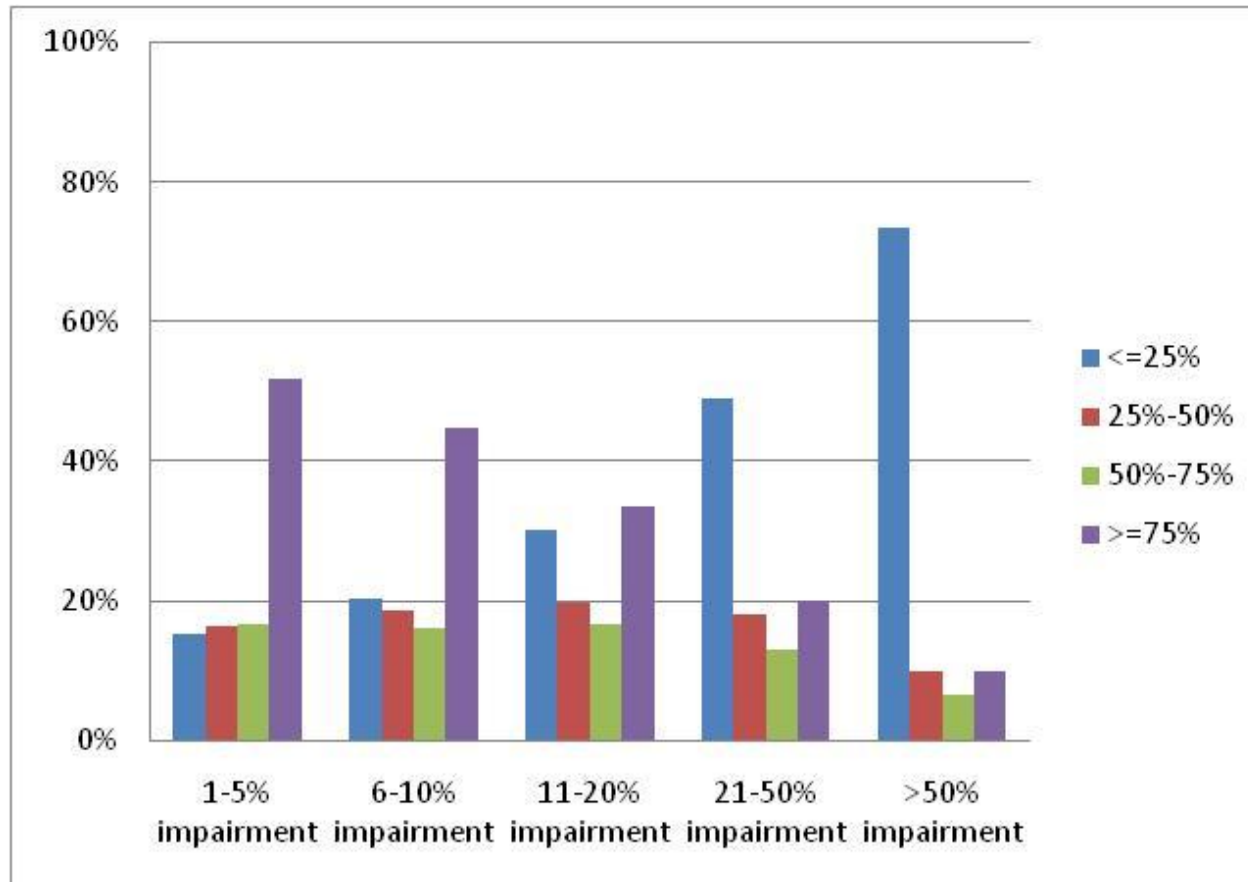
Loss of Earnings Capacity Program: Benefits Adequacy and Equity by Impairment Strata

Program	Strata	Individual-level earnings replacement rates	Confidence intervals for earning replacement rates*
Loss of Earnings Capacity Program Sample	1-5% impairment	95%	93%-97%
	6-10% impairment	99%	97%-101%
	11-20% impairment	99%	97%-101%
	21-50% impairment	100%	98%-102%
	>50% impairment	112%	102%-120%
	entire sample	99%	98%-100%

* bootstrapping sample of 2,000 with replacement

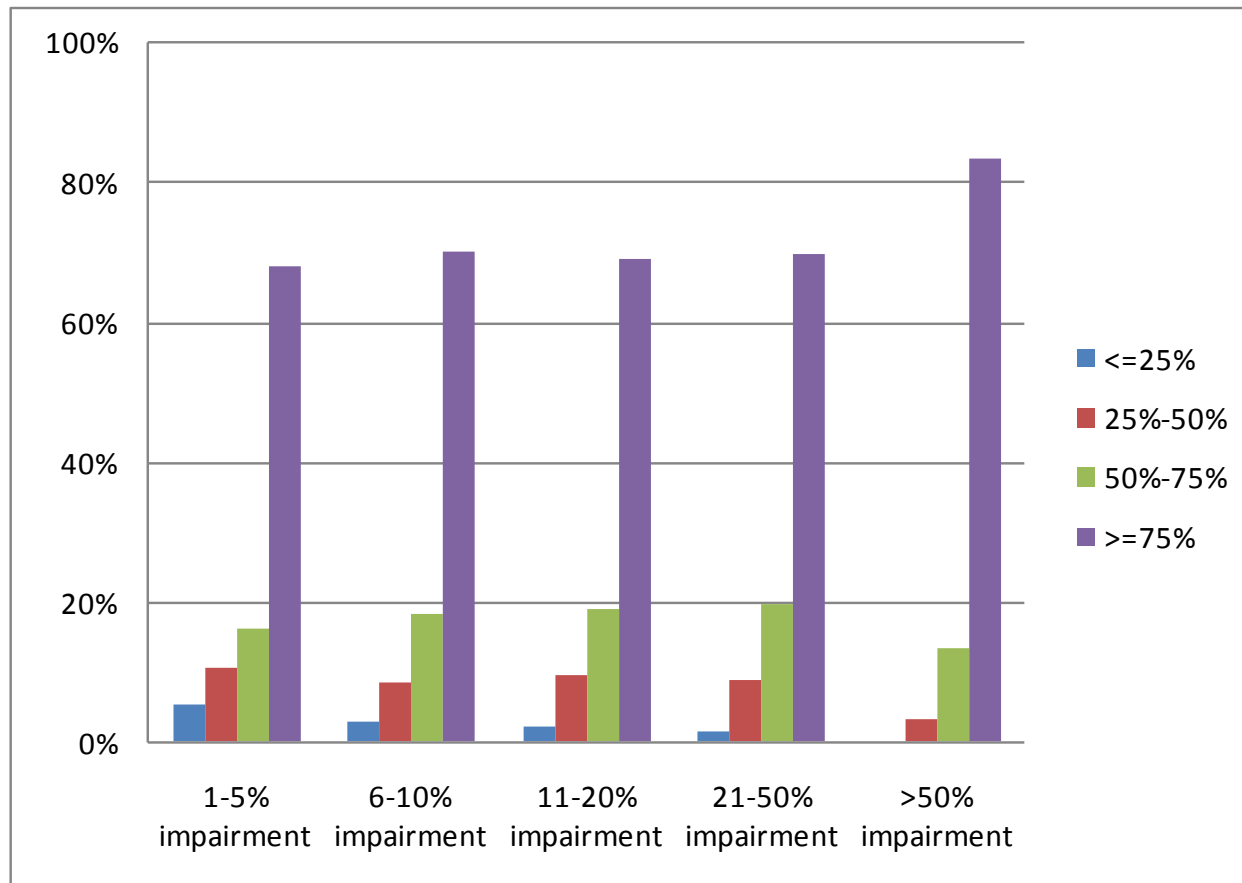


Loss of Earnings Capacity Program: Quartile Distribution of Claimant Labour-market Earnings Recovery over 10 Year





Loss of Earnings Capacity Program: Quartile Distribution of Claimant Labor-market Earnings plus Benefits over 10 Years





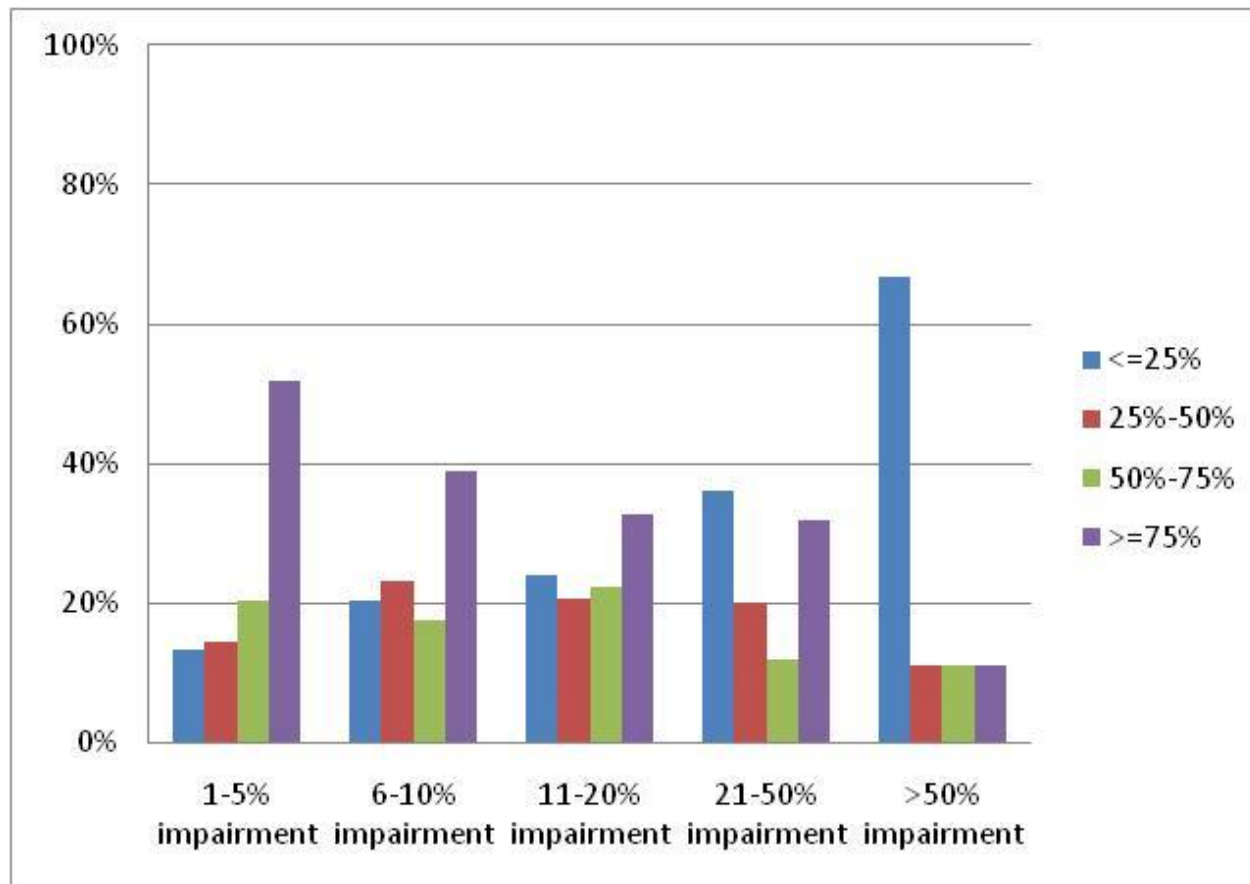
Bifurcated Program: Benefits Adequacy and Equity by Impairment Strata

Program	Strata	Individual-level earnings replacement rates	Confidence intervals for earning replacement rates*
Bifurcated Program Sample	1-5% impairment	99%	96%-102%
	6-10% impairment	106%	102%-111%
	11-20% impairment	113%	105%-120%
	21-50% impairment	123%	114%-133%
	>50% impairment	124%	109%-136%
	entire sample	104%	101%-106%

* bootstrapping sample of 2,000 with replacement

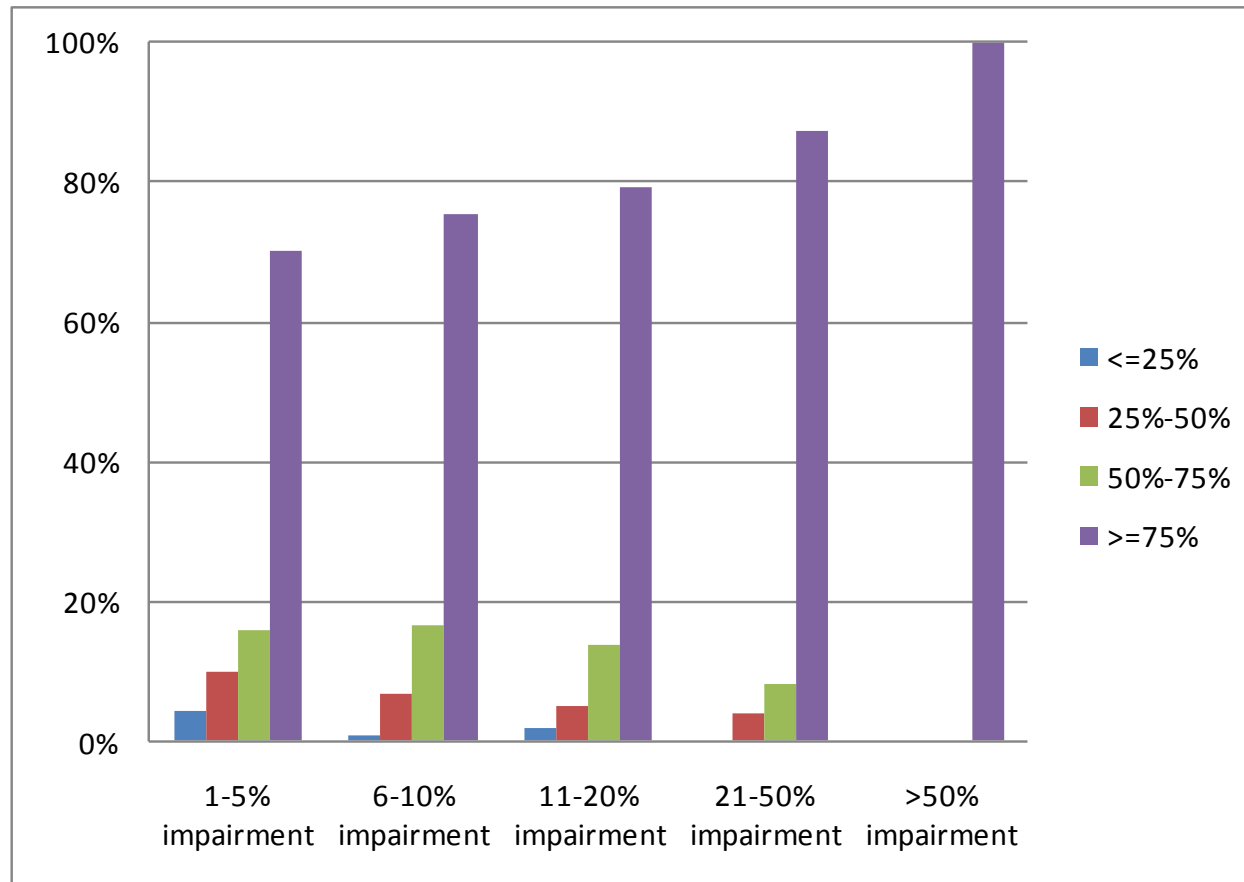


Bifurcated Impairment Program: Quartile Distribution of Claimant Labour-market Earnings plus Benefits over 10 Years





Bifurcated Impairment Program: Quartile Distribution of Claimant Labour-market Earnings plus Benefits over 10 Years





Conclusion and Discussion

- Even claimants with low levels of impairment can have large earnings losses
- Suggests that an impairment-based program might provide insufficient benefits for some claimants with smaller percentage of permanent impairment
- Shortcoming of the loss of earnings capacity approach is the difficulty of assessing capacity
- Findings indicate that the bifurcated award program offers the most adequate and equitable benefits
 - Based on achievement of target rates across strata
 - Based on distribution of earnings replacement across strata
- Other possible reasons for the observed differences, e.g., industrial base, claimant population, and distribution of impairment levels

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