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Examining the adequacy of workers' compensation benefits

**Supplemental Analysis:  
Canada Pension Plan Disability Benefits and WSIB benefits in  
the 1992-1994 NEL/FEL claimant cohort**

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A key objective of workers' compensation programs is to provide adequate compensation for lost earnings to people who experience work-related injury or illness.

A workplace injury or illness can lead to lower post-injury earnings for several reasons, including physical impairment of the worker, disruption of career progression/seniority, a weakened relationship with the employer, and the stigma that may be attached to injured workers.

In this report, we describe the findings of a supplemental analysis of the adequacy of workers' compensation earnings replacement benefits. These analyses supplement the findings of a study recently completed by the Institute for Work & Health (Tomba et al., 2010) that measured the adequacy of earnings replacement benefits for permanently disabled workers under two workers' compensation benefit regimes in Ontario.

In our earlier report, we found that the earnings replacement rate, after taxes, for permanently disabled claimants was at least 90 per cent on average for every category of physical impairment under two workers' compensation benefit programs in Ontario (Ontario pre-1990; Ontario 1990-1997). In addition, within each category of impairment, there was much variation in post-injury earnings. There was also variation in earnings replacement rates, especially for those with less impairment. In the Ontario programs, about one-third of those with less than 50 per cent impairment had an earnings replacement rate of less than 75 per cent. At the same time, a sizeable percentage of claimants had earnings replacement rates above 100 per cent.

In this report, we describe the incidence of disability income security benefits provided by the Canada Pension Plan (CPPD) received by permanent impairment beneficiaries in Ontario. In addition, we estimate the contribution of CPPD benefits to the assessment of the adequacy of wage replacement benefits provided by the Ontario WSIB. CPP disability benefits were not included in the assessment of benefit adequacy in our earlier report.

## **What did we find?**

This study used administrative records of income tax files as the source of information on labour market earnings and CPP disability benefits. The average annual amount provided by a CPP disability benefit is in the range of \$8,000-\$10,000. Although the CPP disability benefit has been available since 1970, the receipt of CPP disability benefit income has been reported on income tax forms only since 1992. Accordingly, the information we describe in this supplemental analysis applies to a sub-set of permanent impairment beneficiaries: those injured in 1992-1994.

In a typical year following a work-related injury resulting in a permanent impairment, approximately 14% of workers' compensation beneficiaries also received CPP disability benefits. In contrast, among a matched control group of workers who did not experience a work-related injury, approximately 2% of workers received CPP disability benefits in a typical year. Among permanent impairment beneficiaries, there was a higher probability of receiving CPP

disability benefits over the nine year period following work injury among workers assessed a higher impairment rating. See Tables 1 to 4 for more details.

The inclusion of CPP disability benefits had a minor influence on the calculation of earnings replacement rates (see the following background information for a definition of the earnings replacement rate). In this cohort of 6,700 permanent impairment beneficiaries, the average earnings replacement rate was 102% excluding CPP disability benefits and 105% including CPP disability benefits (Table 7).

We might have expected that the inclusion of CPP disability benefits would have had a more substantial influence on the group of permanent impairment beneficiaries whose combined labour market earnings and WSIB benefits result in a low earnings replacement rate. This was not what we found. As an example, the proportion of beneficiaries whose combined labour market earnings and WSIB benefits were less than 50% of control group earnings was approximately 14% before the inclusion of CPP disability benefits (Table 5) and was 12% following the inclusion of CPP disability benefits (Table 6).

### **Background:**

#### **Adequacy of Benefits in Ontario's workers' compensation system**

A study recently completed by the Institute for Work & Health, led by Dr Emile Tompa, measured the adequacy of wage replacement benefits for permanently disabled workers under two workers' compensation regimes in Ontario (before and after the 1990 change in the system) For a more detailed discussion of the research, see Tompa, Scott-Marshall, Fang, and Mustard (2010) and see Institute for Work & Health (2011).

Ontario's pre-1990 scheme compensated workers with permanent impairments according to the percentage of physical impairment. Benefits were based on 90 per cent of the pre-injury after-tax earnings multiplied by the percentage of impairment.

The scheme in effect in Ontario from January 2, 1990 to Dec. 31, 1997, involved a two-part benefit for long-term or permanent impairments. First, a non-economic loss (NEL) benefit, usually awarded as a lump sum, was based on the worker's degree of impairment. Second, a future economic loss (FEL) benefit was provided. It was based on replacing 90 per cent of the difference between earnings before injury, and earnings capacity after injury (both figures after taxes). FEL benefits were reviewed at 12, 36 and 60 months post-injury to re-evaluate the calculation of earnings capacity. (As of January 1, 1998, the target changed to 85 per cent of this difference.)

Our analysis used control groups to measure wage loss, and using earnings replacement as the measure of adequacy. The use of control groups provides a better indication than pre-injury earnings of what claimants would have earned had they not been injured. The earnings replacement rate is estimated as the sum of labour market earning and workers' compensation

benefits, divided by the labour market earnings of a control group. As an example, if the average control group labour market earnings was \$50,000, and the permanent impairment beneficiary had labour market earnings of \$35,000 and compensation benefits of \$5,000, the earnings replacement rate would be 80% ( $\$40,000 / \$50,000$ ).

Studies of the adequacy of workers' compensation benefits require the research team to link data from workers' compensation claims to data on the earnings of injured workers (and matched controls) before and after the injury. The IWH study team linked workers' compensation data with earnings data from Statistics Canada's Longitudinal Administrative Databank (LAD). This databank contains information on the earnings of a sample of 20 per cent of Canadian tax filers.

Workers' compensation records for injuries occurring between 1986-1989 and 1990-94 were linked to the LAD data for the pre-1990 and post-1990 Ontario schemes, respectively. In each case, earnings information was available for at least four years prior to, and at least nine years following, the injury year.

The study selected up to 10 controls for each claimant linked to the LAD. The selection of controls was based a number of characteristics, including wage and salary earnings in each of the four years prior to the injury year, gender, age, and province of residence. Most controls had pre-injury labour-market earnings within 10 per cent of their claimant counterparts, and the remainder had earnings within 10-20 per cent of their claimant counterparts.

The before-tax earnings of claimants and control groups were compared annually over a nine-year period after the year of injury, for each of five categories of permanent impairment (under 5 per cent; 5-10 per cent; 10-20 per cent; 20-50 per cent; and over 50 per cent)

On average, claimants in each impairment category in both compensation programs experienced lower levels of labour-market earnings after injury relative to their control counterparts. As expected, those in the higher impairment categories experienced greater earnings losses. For more detailed information on the study's findings concerning post-injury labour market earnings, please refer to Institute for Work & Health, (2011).

The study team calculated earnings replacement rates by adding together after-tax earnings and workers' compensation benefits (note that income from the Canada Pension Plan disability benefit program was not included in the original calculations). This sum was compared with the earnings of the control groups over the 10-year period beginning with the year of injury.

On average, both programs achieved a high level of earnings replacement: over 90 per cent in each impairment category. The lower impairment categories had a somewhat lower earnings replacement rate than did the higher impairment categories. The overall average rate was 99 per cent for the two Ontario programs. The percentage of claimants in the overall sample that achieved at least a 90 per cent earnings replacement rate was 50 per cent for the pre-1990 Ontario program and 54 per cent for the post-1990 Ontario program

The results varied by impairment category and across the three workers' compensation programs. For example, in the pre-1990 Ontario program, in most impairment categories between 60 and 70 per cent of claimants had earnings replacement rates of at least 75 per cent. About three-quarters of those in the 50+ per cent impairment category acquired this level of replacement. These percentages were higher for the post-1990 Ontario program: near 70 for most categories and over 80 for those with a 50+ per cent impairment rating. Both Ontario programs had sizeable percentages of claimants with replacement rates over 100 per cent, especially among those with the highest degree of permanent impairment. For example, in the post-1990 Ontario program, 50 per cent of those with a 50+ impairment rating had an earnings replacement rate of over 100 per cent. On the other hand, in the other impairment categories, replacement rates were below 75 per cent for about one-third of claimants in the two Ontario programs.

## Conclusion

The findings of Tompa et al. indicate that for both Ontario workers' compensation programs, benefits for permanently disabled claimants were adequate on average. For every category of physical impairment, the average after-tax earnings replacement rate was at least 90 per cent. However, there is considerable variation in post-injury earnings within each impairment category. There is also some variation in the earnings replacement rates, especially in the lower impairment categories. For levels of physical impairment of 50 per cent or more, about eight in 10 claimants in the two Ontario programs had an earnings replacement rate of at least 75 per cent, and many had a replacement rate exceeding 100 per cent. However, sizeable numbers in the lower impairment categories had replacement rates below 75 per cent.

These findings suggest that individual and contextual factors are very important to consider in the workers' compensation process. Factors such as gender, age, level of impairment, transferable skills, and labour market conditions may all bear on earnings capacity. Particular attention might be paid to the adequacy of earnings replacement among those with low levels of impairment, as earnings losses appear to be sizeable even for those assessed as having impairment levels of 5 per cent or less.

## References

Institute for Work & Health. Issue Briefing. Examining the adequacy of workers' compensation benefits. January 2011. <http://www.iwh.on.ca/issue-briefings>

Tompa E, Scott-Marshall H, Fang M, Mustard C. Comparative benefits adequacy and equity of three Canadian workers' compensation programs for long-term disability. Working Paper # 350. Toronto, ON: Institute for Work & Health; 2010.

**Table 1**  
**Count of CPPD receipt for claimants by impairment bracket and injury year, Ontario 1990-1994 claimant sample\***

	pre_2 <sup>^</sup>	pre_1 <sup>#</sup>	inj_yr <sup>+</sup>	post_1	post_2	post_3	post_4	post_5	post_6	post_7	post_8	post_9
1-5% impairment (CPPD receipt)	5	20	55	125	175	165	155	145	150	150	145	150
1-5% impairment (present and eligible)	485	1015	1690	2385	2990	2925	2805	2730	2645	2560	2475	2400
6-10% impairment (CPPD receipt)	0	15	60	150	235	225	220	220	205	200	170	170
6-10% impairment (present and eligible)	435	965	1570	2185	2720	2620	2570	2510	2435	2315	2220	2130
11-20% impairment (CPPD receipt)	0	5	130	380	600	580	555	540	510	480	460	425
11-20% impairment (present and eligible)	660	1345	2180	3215	4225	4105	3985	3915	3840	3660	3540	3405
21-50% impairment (CPPD receipt)	0	0	135	420	700	715	705	720	690	665	665	635
21-50% impairment (present and eligible)	485	1000	1490	2080	2740	2660	2600	2525	2455	2375	2315	2185
>50% impairment (CPPD receipt)	0	0	20	50	70	70	70	75	75	70	70	65
>50% impairment (present and eligible)	40	65	100	130	155	145	140	140	140	130	120	115
all claimants (CPPD receipt)	5	40	400	1125	1780	1755	1705	1700	1630	1565	1510	1445
all claimants (number present and eligible)	2105	4390	7030	9995	12830	12455	12100	11820	11515	11040	10670	10235
overall percentage receipt of eligible	<b>0%</b>	<b>1%</b>	<b>6%</b>	<b>11%</b>	<b>14%</b>							

\* CPPD variable available from 1992 onward-- therefore show only data from 1992 onward

<sup>^</sup> Includes only claimants from 1994 included in this column

<sup>#</sup> Includes only claimants from 1993 and 1994 in this column

<sup>+</sup> Includes only claimants from 1992, 1993 and 1994 in this column

**Table 2**  
**Cumulative count of CPPD receipt for claimants by impairment bracket, Ontario 1990-1994 claimant sample**

	CPPD receipt	number eligible	percent receipt
1-5% impairment (count of CPPD receipt)	310	3115	10%
6-10% impairment (count of CPPD receipt)	390	2885	14%
11-20% impairment (count of CPPD receipt)	850	4395	19%
21-50% impairment (count of CPPD receipt)	1035	2850	36%
>50% impairment (count of CPPD receipt)	95	155	61%
all claimants (count of CPPD receipt)	2680	13400	20%

**Table 3****Count of CPPD receipt for controls by claimant impairment bracket and injury year, Ontario 1990-1994 control sample\***

	pre_2 <sup>A</sup>	pre_1 <sup>#</sup>	inj_yr <sup>+</sup>	post_1	post_2	post_3	post_4	post_5	post_6	post_7	post_8	post_9
1-5% impairment (CPPD receipt)	0	10	20	45	60	65	60	65	60	60	60	70
1-5% impairment (present and eligible)	520	1080	1775	2540	3250	3235	3140	3100	3075	2890	2840	2770
6-10% impairment (CPPD receipt)	0	10	25	45	65	65	65	60	60	60	65	65
6-10% impairment (present and eligible)	470	1000	1665	2340	2985	2925	2885	2805	2750	2580	2535	2450
11-20% impairment (CPPD receipt)	0	5	25	55	90	95	100	95	105	105	105	110
11-20% impairment (present and eligible)	690	1400	2310	3465	4655	4595	4505	4425	4405	4140	4075	3955
21-50% impairment (CPPD receipt)	0	0	15	40	60	65	65	60	60	65	65	70
21-50% impairment (present and eligible)	535	1045	1580	2275	3025	2995	2960	2870	2825	2675	2620	2525
>50% impairment (CPPD receipt)	0	0	0	0	0	5	0	0	0	0	0	0
>50% impairment (present and eligible)	35	75	110	160	190	185	185	180	180	165	170	150
all claimants (CPPD receipt)	0	25	85	185	275	295	290	280	285	290	295	315
all claimants (number present and eligible)	2250	4600	7440	10780	14105	13935	13675	13380	13235	12450	12240	11850
overall percentage receipt of eligible	<b>0%</b>	<b>1%</b>	<b>1%</b>	<b>2%</b>	<b>3%</b>							

\* CPPD variable available from 1992 onward-- therefore show only data from 1992 onward

<sup>A</sup> Includes only controls from 1994 included in this column<sup>#</sup> Includes only controls from 1993 and 1994 in this column<sup>+</sup> Includes only controls from 1992, 1993 and 1994 in this column**Table 4****Cumulative count of CPPD receipt for controls by claimant impairment bracket, Ontario 1990-1994 control sample**

	CPPD receipt	number eligible	percent receipt
1-5% impairment (count of CPPD receipt)	125	3135	4%
6-10% impairment (count of CPPD receipt)	125	2870	4%
11-20% impairment (count of CPPD receipt)	195	4435	4%
21-50% impairment (count of CPPD receipt)	130	2865	5%
>50% impairment (count of CPPD receipt)	10	180	6%
all controls (count of CPPD receipt)	585	13485	4%

**Table 5: Distribution of claimant labour market earnings plus WSIB benefits compared to control labour market earnings, by level of impairment**

**FEL/NEL Program 1992-1994**

	Claimants' earnings plus benefits as a percent of control earnings						Count
	<=25%	25-50%	50-75%	75-100%	100-125%	>125%	
NEL 1-5%	6%	11%	15%	25%	24%	19%	1,625
NEL 6-10%	4%	9%	17%	27%	23%	19%	1,485
NEL 11-20%	4%	10%	17%	26%	23%	20%	2,140
NEL 21-50%	2%	11%	19%	25%	22%	21%	1,445
NEL >50%	0%	6%	11%	33%	28%	22%	90
Total	4%	10%	17%	26%	23%	20%	6,785

**Table 6: Distribution of claimant labour market earnings plus WSIB benefits plus CPPD benefits compared to control labour market earnings, by level of impairment**

**FEL/NEL Program 1992-1994**

	Claimants' earnings plus benefits as a percent of control earnings						Count
	<=25%	25-50%	50-75%	75-100%	100-125%	>125%	
NEL 1-5%	4%	10%	17%	25%	24%	19%	1,625
NEL 6-10%	3%	9%	18%	27%	24%	20%	1,485
NEL 11-20%	2%	8%	17%	27%	23%	22%	2,140
NEL 21-50%	2%	7%	16%	26%	24%	25%	1,445
NEL >50%	0%	5%	5%	21%	37%	32%	90
Total	3%	9%	17%	26%	24%	21%	6,785

**Table 7: Average after-tax earnings replacement rates by degree of impairment**

	92-94 without CPPD	92-94 with CPPD
NEL 1-5%	95%	97%
NEL 6-10%	98%	99%
NEL 11-20%	100%	103%
NEL 21-50%	116%	124%
NEL >50%	112%	126%
Total	102%	105%

