

The Productivity Costs of Parents in Ontario with Children who  
Experience Issues Related to Anxiety

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## 1. Introduction

Recent research conducted by Children’s Mental Health Ontario (CMHO) found that 25% of Ontario parents reported missing work to care for their child experiencing issues related to anxiety (Children’s Mental Health Ontario (CMHO), no date). This result was based on a survey<sup>1</sup> conducted by IPSOS Public Affairs<sup>2</sup> that was commissioned by CMHO in 2017.

As a follow-up to this survey, the report authors were commissioned by CMHO to perform an analysis that estimates the productivity costs of Ontario parents who missed work to care for their child experiencing issues related to anxiety. By “productivity costs”, we mean the societal cost of the lost labour time, whether or not the parent was paid for this time (i.e. through the use of paid sick or vacation days).

The productivity costs associated with childhood anxiety may be large, but are difficult to quantify without additional data. For example, although we know the proportion of parents in Ontario who missed work, we do not know how long a leave they needed. These data were not collected as part of the IPSOS survey and are not available publicly in Canada, and so we must rely on other sources of data to approximate the productivity loss.

This report calculates a productivity loss of \$421 million in 2017 for parents with children who experience issues related to anxiety in Ontario. The methodology used to calculate this productivity loss is described in the following sections.

## 2. Data

In order to estimate the productivity loss, we need to compute the number of individuals in Ontario who missed work to care for their children, the average full-time hourly wage paid to employees in Ontario, and the average time taken off in a year to give care. Our methods for obtaining these quantities is described below.

### *2.1 Number of parents who missed work*

Our first step is to calculate the number of Ontario parents who missed work to care for their children with mental health issues. According to the 2016 Canadian Census, there were 1,708,995 couples and 644,975 single-parent private households with children in Ontario (Statistics Canada, 2017). We know from the Ipsos Public Affairs survey data that 1 in 4 Ontario parents missed work to care for their children with mental health issues related to anxiety. To provide a conservative estimate, we assume that in households with couples, only one parent took time off work to care for their child. This gives us a total of 588,493  $((1,708,995 + 644,975) * 0.25)$  estimated individuals in Ontario that missed work to care for their children with mental health issues related to anxiety.

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<sup>1</sup> The survey sample was weighted and is representative of Ontario’s age, gender, and regional characteristics based on the latest census data (CMHO, no date).

<sup>2</sup> For more information on the IPSOS methodology, please see <https://www.ipsos.com/en-ca/news-polls/CMHO-children-and-youth-mental-health-ontario>

## *2.2 Average hourly wage paid in Ontario*

In order to value the lost time due to caring for children, we need a measure of the average cost of this time. For the purposes of this analysis, we used the average full-time hourly wage paid to employees in Ontario, which was \$28.30 in 2017 (Statistics Canada, no date).

## *2.3 Average time lost*

Our final data requirement is the average time lost from work to give care. This proved to be a difficult task, as there is currently no data available in Canada to exactly quantify the average time lost in a year by parents to care for their children experiencing issues related to anxiety. Our methods to estimate this time lost is described below.

### *2.3.1 General Social Survey*

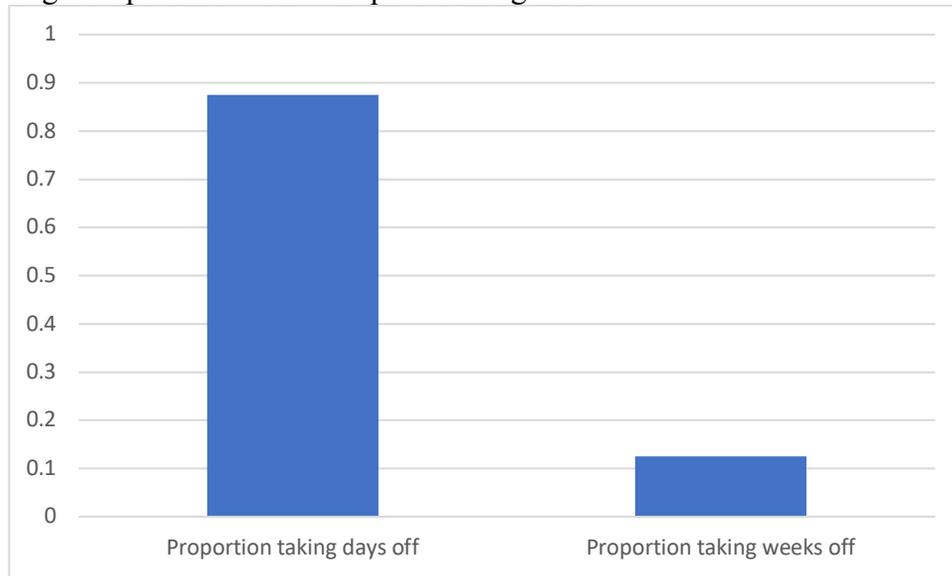
For the purposes of this report, we rely on data from the 2012 General Social Survey (GSS) on Caregiving & Care Receiving conducted by Statistics Canada. This survey focused on care providers and receivers in Canada and covered individuals 15 and over living in private households across the Provinces<sup>3</sup> (Statistics Canada, 2014). We restricted the GSS sample to parent caregivers who were paid workers, took any time off from work to give care, and who's reason for caregiving was because of the "mental illness" of the care receiver (in this case, the child). More details regarding the measure of mental illness in this survey can be found in the discussion section.

In terms of parents who have missed work, some parents may only take a few days off to care for their child, while others may need to take a continuous leave of absence. Using the GSS, we are able to compute the longest reported time off (reported as days, weeks, and months) for the parents in our sample who reported taking time off to give care. These proportions are presented in Figure 1 below for respondents in Ontario.

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<sup>3</sup> For more information on the 2012 GSS survey, please see <https://www150.statcan.gc.ca/n1/daily-quotidien/140827/dq140827f-eng.htm>

Figure 1: Longest reported time off for parent caregivers



Source: 2012 GSS, author’s calculation, Ontario  
Observations weighted using Statistics Canada survey weights

We can see from Figure 1 that the majority of respondents reported taking days off in the past year to give care (87.5%), but a non-trivial proportion (12.5%) reported taking weeks off from work to care for their child experiencing a mental health illness.

For parents who reported taking days off from work to give care, the GSS asks a follow-up question on how many days were taken off in the past 12 months. A similar question was asked regarding how many weeks were taken off in the past 12 months for those who reported taking weeks off<sup>4</sup>. We computed the average time lost for these respondents using the sample restrictions listed previously, which are reported in Table 1 below.

Table 1: Average time lost due to caregiving

	Average days missed	Average weeks missed
Average time lost	1.9	2.4

Source: 2012 GSS, author’s calculation, observations pooled across Canada  
Observations weighted using Statistics Canada survey weights

We observe from Table 1 that parents who miss days from work lose approximately 2 days a year to provide care to their children with mental health issues. For parents who need to take multiple weeks off to provide care, the average time lost is 2.4 weeks.

<sup>4</sup> For individuals who took months off, the survey also asked how many months were taken off in the past 12 months. Since there was no one in Ontario who took months off when our sample restrictions were applied, this question was not relevant for our calculations.

### 3. Productivity Loss

For the purposes of this analysis, we assume that one full day equates to 8 working hours, and one full week equates to 40 working hours. The estimated productivity loss using the data collected in the previous sections is presented in Table 2 below.

Table 2: Calculation of productivity loss

	Parents missing days	Parents missing weeks
Total parents who missed work <sup>^</sup>	514,931	73,562
Average hours lost <sup>^^</sup>	15.2	96
Average hourly wage paid	\$28.30	\$28.30
Yearly cost per individual	\$430.16	\$2,716.80
Subtotal productivity loss	\$221,502,719	\$199,853,242
Total productivity loss	\$421,355,961	
<sup>^</sup> 588,493*0.875 = 514,931; 588,493*0.125 = 73,562		
<sup>^^</sup> 1.9*8 = 15.2; 2.4*40 = 96		

For parents who missed a few days off work in a year to care for their child, the average yearly cost is \$430.16 (15.2\*\$28.30) per individual. Multiplying this by the estimated number of individuals who missed days off work to care for their child (514,931) yields a productivity loss of \$221,502,719. Similarly, for parents who missed multiple weeks off work to care for their child, the average yearly cost is \$2,716.80 (96\*\$28.3) per individual. Multiplying this by the estimated number of individuals who missed weeks off work to care for their child (73,562) yields a productivity loss of \$199,853,242. The total productivity loss is the sum of these two quantities, or \$421,355,961.

### 4. Discussion

This report estimates the productivity loss of Ontario parents who missed work to care for their child experiencing issues related to anxiety. The estimated productivity loss calculated in this report is conservative in many aspects. First, in households with non-single parent (i.e. couple) households, we assume that only one parent missed work to care for the child. Although this may be a reasonable assumption, it is possible that both parents needed to miss work to give care to the child. Without further data, however, it was not possible to quantify the percentage of couple households where both parents took time off work versus households where only one parent took time off. Second, only costs due to absenteeism are calculated. Although beyond the scope of this report, costs due to presenteeism, or the reduction in productivity in parents at work who care for children experiencing issues related to anxiety, may also be substantial. Third, parents whose children suffer from serious anxiety disorders may be less likely to work or to work part-time in order to provide care to their child. Future research may wish to focus on the quantification of

these costs. Fourth, this report only examines the cost of lost labour time. We do not include the cost of treatment of childhood anxiety, which may include behaviour, cognitive behavioural, or pharmacological interventions (Beidel & Alfano, 2011). Future research may wish to explore these treatment costs in greater detail. Finally, this report only calculates productivity costs for one year. Anxiety disorders, however, are generally chronic and can persist from young adulthood to old age (Stein & Lang, 2002). The effects of anxiety, therefore, are likely to be episodic throughout one's life, and so the parent's absenteeism may well extend over many years. This calculation is not straight-forward, however, as children receiving treatment may start to recover after 3-4 years (Stein & Lang, 2002) and thus parents may no longer need to take time off work to care for their child. The \$421 million productivity cost then is the cost of lost time occurring in 2017, whether it was a consequence of a first-time episode of anxiety related illness or a repeat episode. If a significant number of children experience repeat episodes of anxiety related illness then treating them now would tend to reduce the number of episodes and would be expected to reduce future costs to below the \$421 million level. How much below the \$421 million level it would reduce costs will depend on what proportion of episodes are repeat in any given year as well as on the pattern of episodes -that is how many episodes children tend to experience, the efficacy of treatment and what the time pattern of the episodes are over different ages. The calculation of lifetime productivity costs may therefore be a good exercise for future research.

This report suffered from a number of important limitations that are worth noting. First, this report only focuses on parents with children who experience issues related to anxiety, as other types of mental health issues were not asked about in the IPSOS survey. This was, again, beyond the scope of this report, but future research may look into other types of mental health issues on parent's labour force participation. Second, our measures of mental health may not have perfectly aligned with anxiety specifically. In the GSS data, the caregiver is asked to report the main health condition/problem for which the primary care receiver received help. Although there is a "mental illness" category, this option captures many types of mental health (e.g. depression, bipolar disorder, mania, or schizophrenia) that are not disaggregated in the data. For the purposes of this report, we use the impact of the aggregated "mental health" category on parent's labour force participation as a proxy for the impact of anxiety, but recognize that different forms of mental health illness may impact parent's labour force participation in different ways. It is unclear what affect this would have had on the estimated productivity loss as it could have led to an over or under estimate of the parent's lost labour time caring for children. Future research may wish to explore the use of different data with more specific measures of anxiety. The National Longitudinal Survey of Children & Youth (NLSCY), for example, asks the parent about any experiences that caused the child great worry or distress (Statistics Canada, 2010). Unfortunately, only cycles 1 – 3 (1994 - 1998) are available as a Public Use Microdata File (PUMF) and do not contain measures as to how many days the parent missed from work to care for their child. Thus, for the purposes of this study, we were unable to use these files for the analysis. The master survey files, however, can be accessed through the Statistics Canada Research Data Centre (RDC). Future research may therefore wish to explore the childhood anxiety measures in the NLSCY with parent's labour force participation in greater detail.

Despite these limitations, this report aimed to provide, where possible, a conservative estimate of the productivity loss of parents with children experiencing issues related to anxiety in Ontario using the best data publicly available at the time of writing. Nevertheless, the results suggest that

the labour market burden on parents with children who suffer from anxiety disorders in one year alone is quite significant. It is hoped that the results of this report may help with the design of future studies to provide a more comprehensive picture of the productivity costs associated with children's mental health status and parent's labour force participation.

## **References**

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