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Manitoba children affected by parental alcohol abuse and FASD: Health care costs[1]

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This information sheet summarizes an economic analysis of the provincial health care costs of children[2] subjected to parental alcohol misuse in Manitoba, based on a study done by a team led by Don Fuchs and Linda Burnside. The analysis presented here supplements a companion information sheet that looks at the cost of education and subsidized child care for the same population of children.[3]

The research team previously carried out a series of studies on children with disabilities in the care of child and family service agencies in Manitoba, looking particularly at children with Fetal Alcohol Spectrum Disorder (FASD), a disabling condition caused by maternal alcohol consumption during pregnancy.[4,5,6] These earlier studies showed that one third of the children in Manitoba's provincial child welfare system (called "children in care") had disabilities, many of them related to parental alcohol misuse. Seventeen percent of children in care were affected by diagnosed or suspected FASD. Approximately 34% of children in care with disabilities, or 11% of all children in care in Manitoba, had diagnosed FASD. Of the 1,403 children in care with an intellectual disability, 46% had diagnosed FASD.[7]

Little is known of the societal costs of parental alcohol misuse on children in Canada, especially the cost of care for children with FASD who are in the child welfare system. The objective of this study was to compare 2006 provincial health care costs for five groups of children in Manitoba, four of which were children affected by parental alcohol misuse, including three groups of children in care and two groups of FASD-affected children. The fifth group was a sample of children for whom parental alcohol misuse had not been identified, and who were not in child welfare care, used as a comparison population.

The study showed that the highest costs per capita for health care in the five groups studied were accounted for by two groups: children with FASD who were permanent wards (CIC-FASD-PW) and children with open child welfare files who came into care affected by parental consumption of alcohol (CIC-PA).

What is known of the effects of FASD on children?

Fetal Alcohol Spectrum Disorder (FASD) is a serious problem for the child welfare, health, and education systems in North America. The term FASD describes a wide range of disorders caused by women drinking alcohol during pregnancy. These include Fetal Alcohol Syndrome (FAS), Partial FAS, Fetal Alcohol Effects (FAE), Alcohol-Related Neurodevelopmental Disorder (ARND), and Alcohol-Related Birth Defects (ARBD). Characteristics of FASD include growth deficiency, evidence of central nervous system abnormalities that result in intellectual and developmental delay, and changes in the shape of the face. Children with alcohol-related disorders often have cognitive and behavioural difficulties that cause them to have problems in school and society.[8]

How was the current study carried out?

Manitoba has several provincial repositories of child health care data. The provincial Child and Family Services database and the population-based data repository at the

Manitoba Centre for Health Policy were used to identify data for five population groups of children for the year 2006, which together totaled 6,324 children.

Of the five child populations studied, the first general category consisted of three groups of children in the care of provincial child welfare agencies, all of whom were affected by parental alcohol misuse. These three groups are collectively called the Children in Care (CIC) category:

a) Children in care with diagnosed FASD who were permanent wards of the crown; n=603 (CIC-FASD-PW);

b) Children without diagnosed FASD who were permanent wards of the crown and in care due to parental alcohol abuse; n=51 (CIC-PA-PW);

c) Children without diagnosed FASD who were not permanent wards of the crown but in care for some period in 2006 due to parental alcohol abuse; n=587 (CIC-PA) ;

The second general category consisted of children not in provincial child welfare care in 2006, but affected by parental alcohol misuse and diagnosed with FASD by the Clinic for Alcohol and Drug Exposed Children (CADEC) in Winnipeg:

d) Children with diagnosed FASD; n=119 (FASD-CADEC);

The third category was a sample of the general child population:

e) Children in the general population who were not identified as being affected by parental misuse of alcohol and who did not have an open child welfare file; n=4,964 (general population).

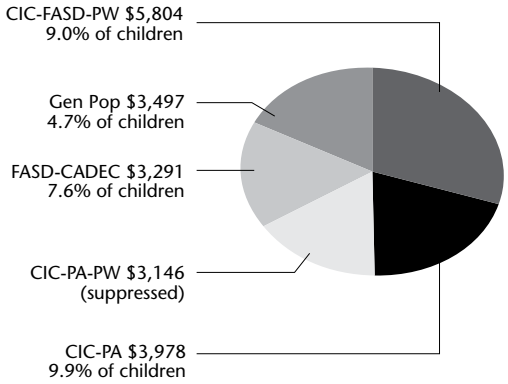
What were the key findings?

1) Children affected by parental alcohol consumption, especially permanent wards with FASD, have higher hospitalization costs than the general population

The group of permanent wards with FASD, and the CIC-PA group, consisting of children in care due to parental alcohol misuse, accounted for the two highest costs per capita for hospital care. Figure 1 summarizes the average hospitalization costs per child using the health care system, as well as the percentage of children in each group who used hospital services in 2006. Of the 6,273 children for whom hospitalization costs were tallied, the four groups of alcohol-affected children made up 20.9% of the total population. However, their hospitalization costs made up 41.1% of total expenditures.

The average hospitalization cost per capita for the CIC-FASD-PW group ($520) was more than three times higher than that of the general population group ($166). The second most expensive group, the CIC-PA children, had an average hospitalization cost per capita of $393, which was more than twice that of the general population group.

Figure 1. Percentage of children in each group using hospital services and average cost per child user



2) Girls affected by parental alcohol consumption incur higher health care costs in mid-to-late adolescence

Table 1 shows the overall average total health care costs per child for each group by gender and age category. Although there are no clear patterns of costs as children grow older, girls in the older age categories (11–15 years and over 16 years) of the four groups affected by parental alcohol misuse had substantially higher costs compared to boys, with the exception of CIC- FASD-PW girls aged 11–15. Conversely, girls in the general population group had lower average costs compared to boys in all age categories except those aged 16 and over.

Table 2 shows utilization of physician services according to gender and age category for the five groups. Females aged 16 and older had a significantly higher number of physician visits compared to males in all age groups, including the general population. This is likely due to female teens accessing physician services for gender-related reasons as they become sexually mature, such as birth control, pregnancy, potential sexually transmitted infections, and the effects of sexual abuse or assault.

3) Children affected by parental alcohol consumption have more physician visits than the general population

Children in the CIC-FASD-PW and CIC-PA groups had a statistically significant higher number of physician visits than the general population group

Table 1: Average total costs per child for hospital, physician visits, and prescription drugs by gender, age category, and group (2006)

Group	Avg costs per child	Age 0–5 $		Age 6–10 $		Age 11–15 $		Age 16+ $	
	$	Male	Female	Male	Female	Male	Female	Male	Female
CIC-FASD-PW	1,403*	692	819*	1,049*	2,968*	1,629*	800*	1,249*	1,594
CIC-PA	737*(1)	819*	548*	247(1)	1,103*(1)	535(1)	837*	311(1)	2,097
CIC-PA-PW	641(1)	276	770	812	92(1)	255(1)	1,268*	109(1)	823
FASD-CADEC	649*(1)	2,751(2)	207	352(1)	376(1)	639(1)	887*	473(1)	1,748(2)
General population	402	493	330	285	238	400	315	325	1,399

* Statistically significant difference with respect to the general population group
(1) Statistically significant difference with respect to the CIC-FASD-PW group
(2) The count is low; therefore, the high estimate could be attributed to one or more outliers
Note: CIC-PA-PW group estimates by age category may not be reliable due to a small sample size (n=51)

Table 2: Average number of physician visits per child by age category, gender, and group (2006)

Group	Average number of visits	Age 0–5 Average # of visits		Age 6–10 Average # of visits		Age 11–15 Average # of visits		Age 16+ Average # of visits	
		Male	Female	Male	Female	Male	Female	Male	Female
CIC-FASD-PW	4.4*	4.7	6.4	4.3*	5.6*	4.0*	3.8*	2.7	7.1*
CIC-PA	5.0*	6.1*	6.5*	2.9(1)	4.3*	3.5*	4.8*	3.6	8.4*
CIC-PA-PW	4.1	5.0	8.0	3.6	1.6(1)	2.5	5.9*	1.5	5.7
FASD-CADEC	3.5	5.7	3.0	3.3	5.0*	3.5*	2.8	2.2	7.2
General pop.	3.0	5.0	4.4	2.4	2.5	2.3	2.4	2.4	3.9

* Statistically significant difference with respect to the general population group
(1) Statistically significant difference with respect to the CIC-FASD-PW group
Note: CIC-PA-PW group estimates may not be reliable due to a small sample size (n=51)

(Table 2). This is not surprising as the physician visits may be related to the abuse and neglect that brought them into child welfare care. Children in the four groups affected by parental alcohol were more likely to visit a physician in 2006 than those in the general population. A higher average number of CIC-PA females visited a doctor in 2006 compared to their male counterparts in all age categories.

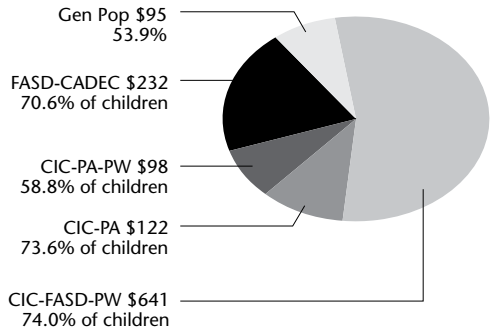
The three main conditions causing hospitalization for the four groups of children affected by parental alcohol misuse (including FASD) were diseases of the digestive system, mental disorders, and diseases of the respiratory system. Only 2.9% of the children in the general population were hospitalized for a mental disorder, compared to 14.3% of the CIC-FASD-PW and 15% of the CIC-PA groups. The leading cause of hospitalization for the general population sample was diseases of the digestive system.

4) Children with FASD are prescribed nervous system drugs at a higher rate than the general population

Children with FASD, whether in care or not, were prescribed nervous system drugs at a higher rate (60%+) than the general population sample (20%). Nervous system drugs were increasingly prescribed to children with FASD as they age. Ritalin and other medications for Attention Deficit Hyperactivity Disorder (ADHD) accounted for a large share of these prescriptions, followed by medications for depression.

Figure 2 shows the average costs of prescriptions per child and the percentage of children taking prescription medications by group. The CIC-FASD-PW children had the highest average total yearly expenditures on prescription drugs ($641.00), and also had the largest percentage of children taking prescription medication (74%). In terms of average yearly expenditures, they are followed by the FASD-CADEC group, then the CIC-PA group.

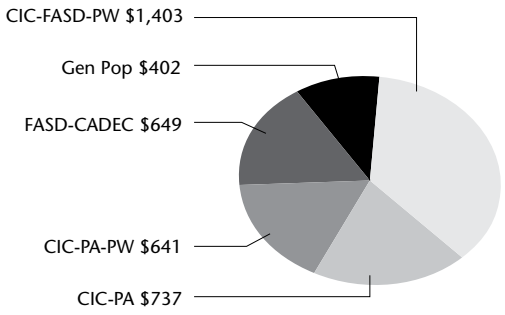
Figure 2: Average costs of prescriptions per child and percentage of children using prescription medications by group (2006)



5) Overall health care costs are much higher for children affected by parental alcohol misuse

Figure 3 illustrates the average costs per child in each group for hospitalizations, physician visits, and prescription drugs. The CIC-FASD-PW and the CIC-PA groups together represented significantly higher levels of per capita health care costs than the other three groups. Cost estimates for both these population groups, as well as the FASD-CADEC group, were significantly different from the general population. The average per capita costs of the CIC-FASD-PW group were 3.5 times higher than the general population. Overall, each FASD-affected permanent ward incurred an additional $1001.00 in health care costs for 2006 compared to a child in the general population. The average per capita costs of children in care affected by parental alcohol (CIC-PA) were 1.8 times higher than children in the general population for hospitalizations, physician visits, and prescription drugs.

Figure 3. Average 2006 costs per child for hospitalizations, physician visits, and prescription drugs



Summary: Children affected by parental alcohol abuse are harmed in ways similar to children with FASD

The study showed that the average costs per capita for health care in the five groups studied were significantly higher for two groups: children with FASD who were permanent wards (CIC-FASD-PW) and children with open child welfare files who came into care affected by parental consumption of alcohol (CIC-PA). The far-reaching economic effects of the harm caused to children by parental drinking is not just seen in FASD-affected children; they are also strikingly apparent in children in care for whom FASD has not been diagnosed.

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References

1 This information sheet is based on the report: Fuchs, D., Burnside, L., De Riviere, L., Brownell, M., Marchenski, S., Mudry, A., & Dahl, M. (2009). *The economic impact of children in care with FASD and parental alcohol issues. Phase II: Costs and service utilization of health care, special education, and child care.* Winnipeg, Manitoba: Faculty of Social Work, University of Manitoba. Available at: http://www.cecw-cepb.ca/sites/default/files/publications/en/FASD_Economic_Impact_Phase2.pdf

2 For the sake of brevity, this document uses the term "children" to refer to children and youth.

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