

# Early Childhood Services and Outcomes for Albertan Children with Disabilities

## EXECUTIVE SUMMARY

Fifteen percent of the 704,890 children in the Alberta school system in 2017 had a disability (e.g., physical, cognitive or social impairments)<sup>1</sup>. Children with disabilities face life-long challenges, with lower rates of educational achievement, less employment, and increased mental health issues compared to those without disabilities<sup>2-6</sup>. Disabilities can also be very costly. Caring for a child with a disability has an estimated average yearly cost of up to \$25,000 to the family for out-of-pocket costs and loss of work hours, and up to \$40,000 a year to the government to fund supports (e.g., health, educational, and other disability support)<sup>7-8</sup>. Addressing the impact of childhood disability, this report reviews the service use of children with and without disabilities in the early years. The early years are key to the support of children with disabilities as resources allocated early on are thought to have a greater impact across the lifespan than later investments<sup>9-11</sup>.

### Table of Contents

Executive summary	1
Analysis notes	2
Findings	3-7
Variable Definitions	8-9
Tables	10-15
References	16
About CYDL	17

## Analysis Overview

This report examined how students' Early Childhood Service (ECS) special education use related to educational achievement (being below or meeting expectations) and mental health service use. Students were defined by their code severity of special education programming services during years where they were eligible for ECS services (3 to 5 years old): no code (not coded for support need), mild code (coded for low or moderate levels of support), and severe code (coded for high levels of support). Analyses also examined how categories of special education codes (e.g., emotional and behavioural, multiple disability, etc.) related to achievement and mental health outcomes, government service use patterns related to outcomes, and children engaged in additional disability support services. A detailed description of the analysis is on page 2 and analysis variables are on pages 8-9.

Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011
Age	3	4	5	6	7	8
Special education use	Special education code early					Achievement?
						Mental health service use?
	Outcomes					

## Finding Summary

1. More children that were assigned severe codes were performing below expectations and used more mental health services than those with mild or no codes. It is concerning when children are below expectations and/or use mental health services early on as these issues may compound as school and life demands increase as children age.
2. The achievement and mental health outcomes of children with disabilities differed by disability category. Children with physical and medical disability were more likely to be below expectations, and children with emotional and behavioural disabilities were more likely to use mental health services (see page 3 for disability code descriptions). This information can be taken into account as support providers consider where additional support may be beneficial to children in the early years.
3. Educational service use patterns (i.e., ECS use length and code severity) strongly predicted achievement, and non-educational service use patterns predicted achievement. Both non-educational and education service use patterns were predictors of mental health service use. The risks to children's achievement and mental health outcomes associated with service use patterns identified in this report may be used to inform decisions on support for children with disabilities, and would benefit from cross-ministry coordination.
4. Families who had a child coded as severe and/or a child not meeting expectations were more likely to use additional disability supports. This shows that families seek additional disability support in times of need. However, families in less advantaged neighborhoods were less likely to use these supports when their child was performing below expectations than families in more advantaged neighborhoods. Less access to additional disability supports during early times of educational need is concerning as it has the potential to affect children's lifelong trajectories.

**Note:** This report is part of the Longitudinal Project by the CYDL in collaboration with partnering Alberta government ministries. Please see the last page for a brief description of the project and go to <https://policywise.com/data/p2/> to access other deliverables.

## ANALYSIS NOTES (variables are described in depth on pages 8 & 9)

This analysis is based on six years of reported service use in Alberta (2005/6 to 2010/11), using data from the PolicyWise for Children & Families: Child and Youth Data Laboratory (CYDL; see page 17 for details on CYDL).

### Target comparison groups

Students were included in this analysis if they were registered with Alberta Education for at least one year from 2005/6 to 2010/11) and had full-time health care registration from 2005/6 to 2010/11. Students were defined by their code severity of special education programming services during years where they were eligible for ECS services (3 to 5 years old) as: no code (not coded as requiring support), mild code (coded for low or moderate levels of educational support; codes 30, 51, 52, 53, 54, 55, 56, 57, 58), or severe code (coded for high levels of educational support; codes 41, 42, 43, 44, 45, 46, 47). Category of code analyses targeted each severe code that had at least 10 individuals per outcome category, as per CYDL agreements on reporting (codes 42, 43, 44, 47). See page 3 for code descriptions.

### Outcomes

The analysis focused on two outcomes: (educational) achievement and mental health service use. Achievement was based on performing below expectations (i.e., having a moderate or higher intellectual, or severe multiple disability code, poor provincial achievement (PAT) scores, or being behind a grade) or meeting expectations (i.e., not having a moderate or higher intellectual, or severe multiple disability code, having satisfactory or above provincial achievement (PAT) scores, or being on time in school based on their age) at the age of 8. This age was targeted as a majority of children were in grade 3 at this time, which increased PAT score availability. Mental health service use was based on having at least one mental health coded visit with Alberta Health from the ages of 6 to 8 (i.e., depression, dissociative, somatoform, anxiety, schizophrenia, conduct, adjustment, bipolar, personality, substance use, self-harm, other psychoses, or other conditions; see page 8 for details). As a limitation of the achievement definition, note that achievement alone does not depict children's ability to participate in society and their overall well-being. The mental health outcome was included to partially mitigate this limitation, as mental health is important to children's participation and well-being.

### Analyses

Analysis 1 & 2: These analyses tested for differences in percentages between special education codes (code severity and category of code) for outcomes. 95% confidence intervals are included in Figures 1-4. Severe multiple disability was not included in the category of code analysis as continued severe multiple disability coding was previously coded as below expectations, and these children might still be doing well in school.

Analysis 3: In this analysis, regression modelling was used to estimate relative risk (using a log-Poisson method) for each of the outcomes. All factors shown in the figure were included simultaneously and in isolation to determine their relative risk with and without the other factors. Factors that were strongly affected by the presence of others were then explored and described to better understand their dependencies. The adjusted relative risk values and 95% confidence intervals are shown in Figures 5-6. In addition, the achievement model was performed removing children with moderate and severe intellectual, and severe multiple disability.

Analysis 4: This analysis tested for differences in percentages between children's special education code in relation to the use of additional disability support services (Family Support for Children with Disabilities; FSCD). It includes 95% confidence intervals in Figure 7. This analysis performed regression modelling to estimate the relative risk to use FSCD based on achievement status and socioeconomic status (SES; the social and economic status of the neighborhood) for children assigned severe special education codes. This model tested SES, achievement, and the interaction of SES and achievement as predictors of FSCD use for children assigned severe disability codes. In addition, an adjusted model was performed that controlled for non-education related factors, as they might have confounding influences (i.e., sex, SES, city size, high cost health, and child intervention). The raw percentages for this model are shown in Figure 8 with 95% confidence intervals. The significance of this model, and non-adjusted and adjusted relative risks are shown in Table 10.



## FINDINGS

### Target comparison groups

- The analysis identified 31,346 students that were 3 years old in 2005/06 and enrolled with Alberta Education for at least one year from 2005/06 to 2010/2011.
  - 26,290 (83.9%) had no special education code, 2,891 (9.2%) had a mild code, and 2,165 (6.9%) had a severe code.
- Further details on the demographics and service use patterns of this cohort are reported in Table 1; page 10.

### Analysis 1. Special education code severity and outcomes

Children that were assigned a severe code were more likely to perform below expectations (Figure 1) and use mental health services than children with less severe codes (Figure 2). Further details are reported in Tables 2 & 3 (page 11).

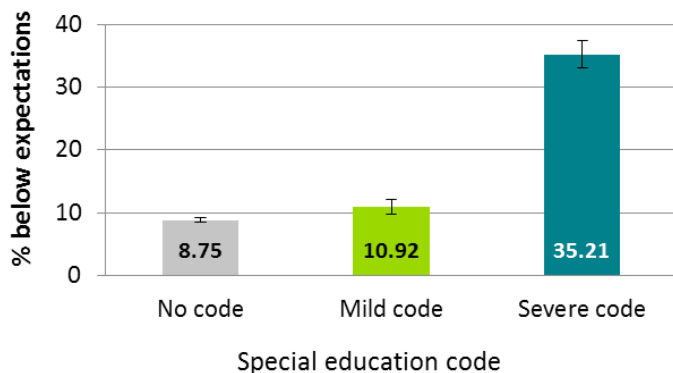


Figure 1. Special education code and achievement



Figure 2. Special education code and mental health

**Implications:** These results provide evidence that children with severe disabilities often have poor outcomes in the early years. Children that are below expectations in achievement and/or use mental health services early on are concerning as these issues may compound as the demands of school and life increase with age.

### Analysis 2. Category of special education code and outcomes

This analysis reports outcome percentages for different categories of special education codes that were represented by at least 10 children per outcome category. Further results of this analysis are reported in Tables 4 & 5 (page 12).

Included categories of special education codes are<sup>12</sup>:

1. Emotional/Behavioural Disability (code 42): displays chronic, extreme and pervasive behaviours and requires close and constant adult supervision, and other intensive support services in order to function.
2. Severe Delay Involving Language (code 47): has difficulty communicating with peers and/or adults because of a severe delay in expressive, receptive or total language.
3. Physical/Medical Disability (code 44): has a medical diagnosis of a physical disability, specific neurological disorder or medical condition which creates a significant impact on ability to function.
4. Multiple Disability (code 43): has two or more non-associated moderate to severe cognitive and/or physical disabilities that, in combination, result in the student functioning at a severe to profound level.

## FINDINGS (continued)

1. **Analysis 2 Summary:** The achievement and mental health outcomes of children with disabilities differed by disability category.

- a. **Achievement:** Children that were assigned any of the severe codes had higher percentages of performing below expectations than children with mild or no codes. Children assigned physical and medical disability codes had the highest percentage of being below expectations, followed by children with severe delays involving language codes (Figure 3).

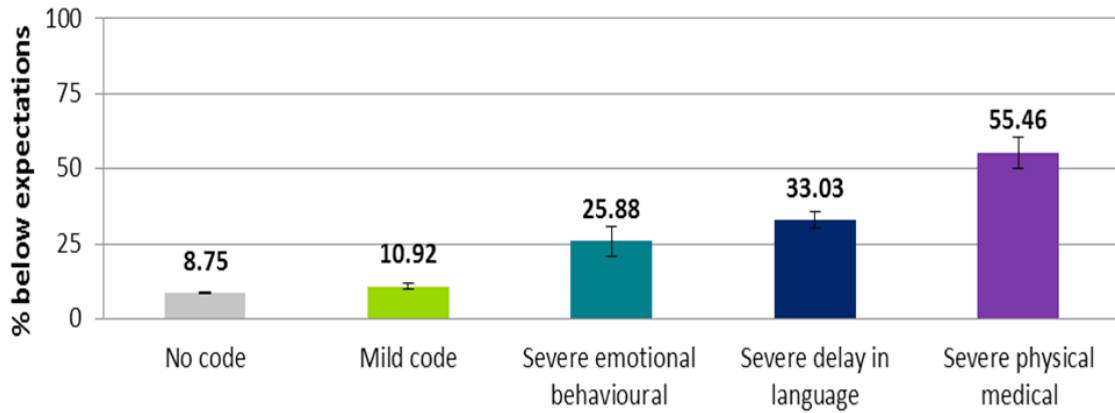


Figure 3. Category of code and achievement

- b. **Mental health:** Children that were assigned any of the severe codes had higher percentages of using mental health services than children with mild or no codes. Children assigned emotional/behavioural disability codes had the highest percentage of children using mental health services, followed by children with physical and medical disability codes (Figure 4).

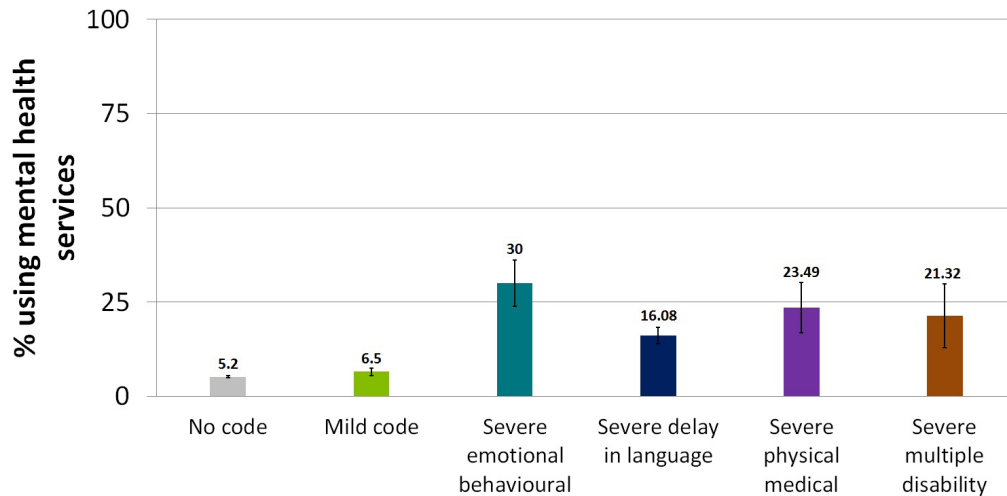


Figure 4. Category of code and mental health

**Implications:** These results provide evidence of where children with different categories of disability continued to struggle after the ECS years. This evidence may be taken into account as support providers consider where additional support may be beneficial to children in their early years.

### Notes

*The use of educational or other disability supports may have led to improvements in the listed outcomes, making the outcomes appear better than if support was not offered during the analysis time frame (2005/06 to 2010/11).*



## FINDINGS (continued)

### Analysis 3. Modeling service use patterns that relate to outcomes

This analysis performed regression modeling to determine how early service use patterns of children (3 to 5 years old) related to later outcomes. The resulting models accounted for other included factors and provide a relative risk number—how much having this factor increases risk for the outcomes. For example, a ‘2’ relative risk means that this factor has approximately twice the risk for the outcome compared to not having this factor, a ‘0.5’ relative risk means half the risk, and a ‘1’ means the same risk. Note that these factors are non-causal. Details of the analysis are discussed on page 2 and numbers of children experiencing each factor are reported in Tables 6 & 7 (pages 13 and 14).

- a. **Achievement:** Educational factors were strongest at predicting being below expectations, with the presence of a severe code and not using ECS being the strongest predictors (Figure 5).

In addition, non-educational factors predicted performing below expectations. FSCD use and Child Intervention involvement were strong predictors of being below expectations.

We should note that longer ECS access (2 or 3 ECS years) was also a predictor, but ECS length was dependent on special education code severity. As such, they appear as minimal risks below. On average, children assigned more severe codes had more ECS years than children with less severe codes (Average ECS years; no code: Mean .96, SD .28; mild code: Mean 1.41, SD .54; severe code: Mean 2.17, SD .72).

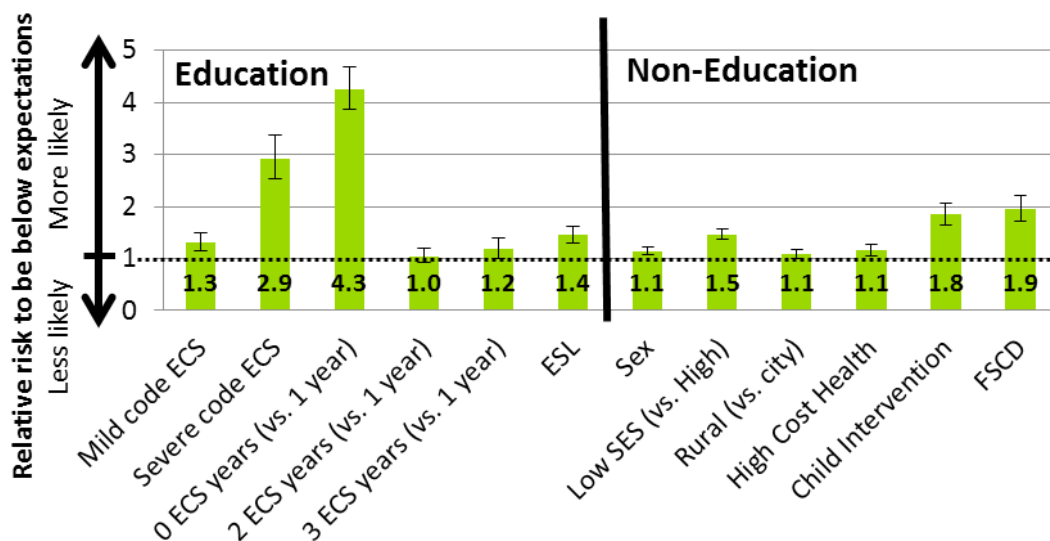


Figure 5. Relative risk, predicting achievement

**Implications:** This analysis provides evidence that educational service use is important to the achievement of children in their early years. The risks to children's achievement associated with service use patterns can be used to inform decisions on additional support. For example, children with disabilities that live in more deprived neighborhoods (low SES) might benefit from additional support, as they are at risk.

Finally, as many supported children with disabilities (e.g., children assigned severe codes and FSCD users) were performing below expectations, this provides evidence that children in need are indeed being supported. However, as many children are still below expectations, they may benefit from further supports that target their needs.

#### Notes

Low SES compares the bottom 40% SES to the top 60% SES, and a model that removed children assigned moderate and severe intellectual, and severe multiple disability codes did not show major changes from the above patterns.

## FINDINGS (continued)

- b. **Mental health:** Both educational and non-educational factors were strong predictors of children’s mental health service use (Figure 6). Child Intervention involvement, FSCD use, high cost health care use, and severe special education codes were strong predictors of increased mental health service use.

On the other hand, children in rural settings and with ESL use were less likely to use mental health services. Cultural, language, and access barriers for these children might partly explain this decrease in mental health service use.

Finally, longer ECS access (2 or 3 ECS years) was also a predictor, but ECS length was dependent on special education code severity. As such, they appear as minimal risks below. On average, children assigned more severe codes had more ECS years than children with less severe codes (Average ECS years; no code: Mean .96, SD .28; mild code: Mean 1.41, SD .54; severe code: Mean 2.17, SD .72).

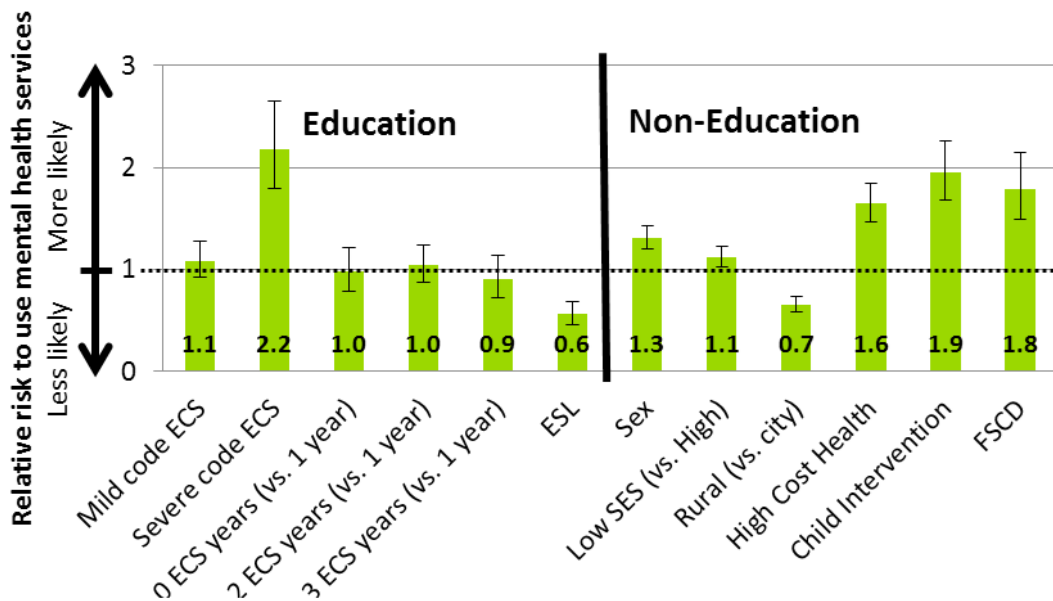


Figure 6. Relative risk, predicting mental health service use

**Implications:** This analysis provides evidence that both educational and non-educational factors play a role in the mental health service use of children in their early years.

These factors may be used to coordinate support service delivery to improve the mental health trajectories of children with disability. Addressing these risks is important to children with disabilities due to their increased risk of mental health issues. As risks cross ministries, coordination between ministries would facilitate this goal. One such coordination program that might be able to address this goal would be the Regional Collaborative Service Delivery program in Alberta, as it has connections with Alberta Education.

### Notes

For more information on the Regional Collaborative Service Delivery program see <https://education.alberta.ca/regional-collaborative-service-delivery/?searchMode=3>.



## FINDINGS (continued)

### Analysis 4. Use of other disability supports

This analysis examined how children with disabilities interacted with additional disability supports (through the Family Support for Children with Disabilities (FSCD) program; See page 9 for a description of the program). First, it examined what percentage of each code severity used FSCD services. See Table 8 for detailed results.

- a. More children that were assigned severe codes used FSCD services than children with less severe codes (Figure 7).

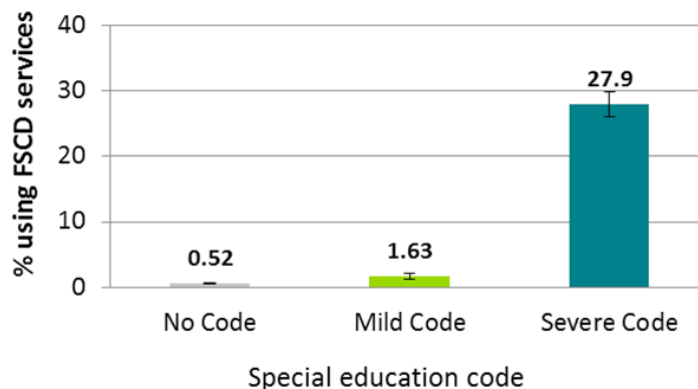


Figure 7. Special education code and FSCD use

This analysis then examined how children assigned severe codes used FSCD services during times of educational need (when they were below expectations at the age of 8). It also examined how the socioeconomic status (SES) of their neighborhood related to FSCD service use. See Tables 9 - 10 for child numbers and the results of the regression.

- b. More families with children that were assigned severe codes used FSCD services when their child was performing below expectations in school than when their child was meeting expectations. However, families with children performing below expectations in high SES neighborhoods (i.e., with better social indicators and higher income) were more likely to access FSCD services, than low SES families (Figure 8).

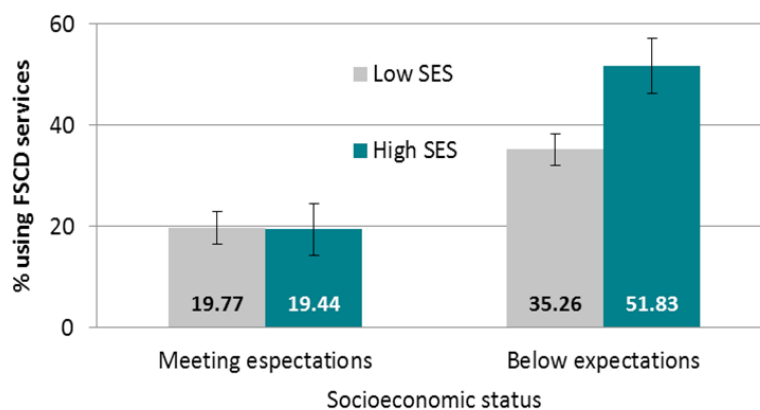


Figure 8. FSCD use for children with severe special needs and achievement

**Implications:** These results provide evidence that educational need plays a role in families' additional disability support use through FSCD. Families made use of these supports when their child had more severe disabilities and when their child was below expectations. The results also suggest different access patterns for families based on the SES of their neighborhood. High SES families were more likely to use FSCD services when their child was below expectations than low SES families. Less use of additional disability supports for low SES families during times of early educational need is concerning as it has the potential to affect lifelong trajectories.

## VARIABLE DEFINITIONS

### Target comparison groups

- Special education code severity was determined by the presence (or absence) of a mild, moderate, or severe special education code during early ECS eligible years (3 to 5 years old). Category of code was determined as the most severe code for each special education code category during this period (e.g., a code 40 [severe code] took precedence over a code 50 [mild/moderate]).

### Outcomes

- Educational achievement was computed by Alberta Education at the age of 8 (most children were in grade 3 in this period) using age, school type, special education codes, provincial achievement test scores, and current grade. Educational achievement was categorized as performing below expectations (i.e., having a moderate or higher intellectual, or severe multiple disability code, unsatisfactory provincial achievement (PAT) scores, or being behind a grade) or meeting expectations (i.e., not having a moderate or higher intellectual, or severe multiple disability code, having satisfactory or above provincial achievement (PAT) scores, or being on time in school based on their age). An educational achievement rating was not available for home-schooled children with no credits.
- Mental health service use was defined by the presence or absence of a mental health diagnostic code in the primary ICD code in Alberta Health databases (Inpatient—Discharge Abstract Database, Ambulatory Care, and Practitioner Payments) in 2008/9 to 2010/11. Diagnostic codes included: depression, dissociative, somatoform, anxiety, schizophrenia, conduct, adjustment, bipolar, personality, substance use, self-harm, other psychoses, or other unspecified mental health conditions, based on Manitoba ICD code definitions. Mental health service use is a proxy for presence of a mental health support need; some children with mental health needs may not have accessed mental health services in Alberta during the year, and some mental health service use may have occurred for children who did not have mental health needs.

### Covariates

Covariates were calculated across the 6-year period for the demographics and service use description (Table 1) and the use of FSCD (Analysis 1, 2, & 4). Covariates were calculated across the first 3 years for the regression models (Analysis 3), to allow for the prediction of later outcomes.

- **ECS years** were determined by the number of years students made use of early childhood services from 2005/6 to 2008/9 (3 to 5 years old). These years were compared to a baseline of 1 ECS year.
- Alberta Education defines the population of **ESL** students as, “Children/students who require English as a Second Language program planning and instructional supports to achieve grade level learning expectations and reach their full potential”<sup>13</sup>. Students receiving ESL instruction must demonstrate challenges in English competencies, including reading, writing, speaking, and/or comprehension. In Alberta, ESL learners include students who have immigrated from countries outside of Canada. In addition, they include students who are Canadian-born, but whose first language is not English, such as students of Indigenous or Francophone descent<sup>14</sup>. ESL use was defined by at least one year of ESL designation.
- Information on **sex** status was provided for each individual by participating programs. In the case of discrepancies between programs for sex, the most common value for an indicator was chosen. In the event of two or more most common values, the value for the indicator was chosen randomly from the most common values.
- Postal codes were used to derive **City size** for the children, with a population of less than 10,000 being classified as rural and a population of 10,000 or more as a city. This definition is based on Statistics Canada definitions<sup>15</sup>. City size was defined as the average city type across the target period.





## VARIABLE DEFINITIONS (continued)

### Covariates (continued)

- **Socio-economic Status (SES)** captures the social and material environments in which youth lived. A youth was assigned a socio-economic status via an index based on the Statistics Canada dissemination area in which he or she resided<sup>16</sup>. Six indicators were included in the index: percent without a high school diploma, the employment rate, average income, percent of single families, percent of persons living alone, and percent of persons separated, divorced, or widowed. SES was defined by the average city type during the target period, with the bottom 40% of neighborhoods being coded as low SES and the top 60% of neighborhoods being coded as high SES.
- **High cost health service use:** Cost estimates were made based on the Canadian Institute for Health Information costs reported for physician visits (general practitioner or specialist), ambulatory care visits (emergency or other ambulatory care), and hospitalizations (by type of service). Estimated costs per visit were summed across all visits for each individual. High cost health users were those in the top 5% of estimated costs for their age groups and genders for at least one of the years.
- The **Family Support for Children with Disabilities (FSCD)** program provides a range of supports and services to families of children with disabilities. Family Support for Children with Disabilities works in partnership with eligible families to provide supports and services based on each child and family's individual assessed needs. Services are meant to help strengthen families' ability to promote their child's healthy development and encourage their child's participation in activities at home and in the community. Participation in the program is voluntary. FSCD use was defined by at least one year of use.
- **Child Intervention (CI)** services are focused on meeting the safety and well-being of children, and helping families and communities to meet these needs. The Child Intervention program provides services to children and youth between the ages of 0 and 17 years who are or may be at risk of being abused, neglected or otherwise in need of intervention. Children and youth may be taken into care, or families may receive services while children remain in the home. Young adults (18 to 22 years of age) may also be eligible for post- intervention supports through the use of support and financial assistance agreements to help them transition to adulthood. CI use was defined by at least one year of use.

## TABLES

Table 1. The demographics and service use of children in this report.

	Sex	Number of children	Percent of children
	Female	15,480	49.4%
	Male	15,866	50.6%
<b>Socioeconomic status (SES)</b>			
	Low SES	12,666	40.4%
	High SES	18,680	59.6%
<b>City Size</b>			
	Rural (below 10,000)	6896	22.0%
	City (at least 10,000)	24,450	78.0%
<b>ECS years</b>			
	0 Years	1640	5.3%
	1 Year	26,281	83.8%
	2 Years	2583	8.2%
	3 Years	842	2.7%
<b>High cost health care</b>			
	Yes	5859	18.7%
	No	25,487	81.3%
<b>Child intervention</b>			
	Yes	1428	4.6%
	No	29,918	95.4%
<b>English as a second language (ESL)</b>			
	Yes	3912	12.5%
	No	27,434	87.5%
<b>Family support for children with disabilities</b>			
	Yes	787	2.5%
	No	30,559	97.5%
<b>Total Population</b>		<b>31,346</b>	<b>100%</b>

The percentage is the sum of all items in the demographic factor are vertically summed (e.g., the sum of males and females for sex).



## TABLES (continued)

Table 2. The number of children by special education code severity and achievement status.

Special education code	<i>Below Expectations</i>	<i>Meeting Expectations</i>
<i>No code</i>	2148 (8.8%)	22,403 (91.2%)
<i>Mild code</i>	287 (10.9%)	2341 (89.1%)
<i>Severe code</i>	657 (35.2%)	1209 (64.8%)

*The percentage of children assigned this special education code severity for each achievement status is listed in parenthesis (%) and percentages are summed horizontally by code severity.*

Table 3. The number of children by special education code severity and mental health service use.

Special education code	<i>Used mental health services</i>	<i>Did not use mental health services</i>
<i>No code</i>	1367 (5.2%)	24,923 (94.8%)
<i>Mild code</i>	188 (6.5%)	2703 (93.5%)
<i>Severe code</i>	410 (18.9%)	1755 (81.1%)

*The percentage of children assigned this special education code severity to use mental health services is listed in parenthesis (%) and percentages are summed horizontally by code severity.*

## TABLES (continued)

Table 4. The number of children by special education code category and achievement status.

Special education code	<i>Below Expectations</i>	<i>Meeting Expectations</i>
<i>No code</i>	2148 (8.8%)	22,403 (91.2%)
<i>Mild code</i>	287 (10.9%)	2341 (89.1%)
<i>Severe emotional and behavioural disability</i>	81 (25.9%)	232 (74.1%)
<i>Severe delay involving language disability</i>	439 (33.0%)	890 (67.0%)
<i>Severe physical and medical disability</i>	198 (55.5%)	159 (44.5%)

The percentage of children assigned this special education code category for each achievement status is listed in parenthesis (%) and percentages are summed horizontally by code category.

Table 5. The number of children by special education code category and mental health service use.

Special education code	<i>Used mental health services</i>	<i>Did not use mental health services</i>
<i>No code</i>	1367 (5.2%)	24,923 (94.8%)
<i>Mild code</i>	188 (6.5%)	2703 (93.5%)
<i>Severe emotional and behavioural disability</i>	105 (30%)	245 (70%)
<i>Severe delay involving language disability</i>	248 (16.1%)	1294 (83.9%)
<i>Severe physical and medical disability</i>	97 (23.5%)	316 (76.5%)
<i>Severe multiple disability</i>	29 (21.3%)	107 (78.7%)

The percentage of children assigned this special education code category to use mental health services is listed in parenthesis (%) and percentages are summed horizontally by code category.



## TABLES (continued)

Table 6. The number of children by achievement status for factors in the regression model.

	Sex	<i>Below Expectations</i>	<i>Meeting Expectations</i>
	<i>Female</i>	1334 (9.2%)	13,084 (90.8%)
	<i>Male</i>	1758 (12.0%)	12,869 (88.0%)
<b>Early socioeconomic status (SES)</b>			
	<i>Low SES</i>	1723 (14.0%)	10,579 (86.0%)
	<i>High SES</i>	1369 (8.2%)	15,374 (91.8%)
<b>Early city size</b>			
	<i>Rural (below 10,000)</i>	778 (12.6%)	5376(87.4%)
	<i>City (at least 10,000)</i>	2314 (10.1%)	20,577 (89.9%)
<b>ECS years</b>			
	<i>0 Years</i>	383 (35.9%)	685 (64.1%)
	<i>1 Years</i>	1992 (8.0)	22,889 (92.0%)
	<i>2 Years</i>	442 (18.8)	1915 (81.2%)
	<i>3 Years</i>	275 (37.2%)	464 (62.8%)
<b>Early high cost health care</b>			
	<i>Yes</i>	522 (17.5%)	2467 (82.5%)
	<i>No</i>	2570 (9.9%)	23,486 (90.1%)
<b>Early child intervention</b>			
	<i>Yes</i>	262 (30.0%)	612 (70.0%)
	<i>No</i>	2830 (10.1%)	25,341 (89.9%)
<b>Early English as a second language (ESL)</b>			
	<i>Yes</i>	340 (13.8%)	2129 (86.2%)
	<i>No</i>	2752(10.4%)	23,824 (89.6%)
<b>Early family support for children with disabilities</b>			
	<i>Yes</i>	269 (49.7%)	272 (50.3%)
	<i>No</i>	2823 (9.9%)	25,681 (90.1%)

Code severity is described in Table 2. The percentage of each factor for each achievement status is listed in parenthesis (%) and percentages are summed horizontally for group (e.g., female).

## TABLES (continued)

Table 7. The number of children by mental health service use for factors in the regression model.

	<i>Sex</i>	<i>Used mental health services</i>	<i>Did not use mental health services</i>
	<i>Female</i>	802 (5.2%)	14,678 (94.8%)
	<i>Male</i>	1163 (7.3%)	14,703 (92.7%)
<b>Early socioeconomic status (SES)</b>			
	<i>Low SES</i>	903 (6.7%)	12,613 (93.3%)
	<i>High SES</i>	1062 (6.0%)	16,768 (94.0%)
<b>Early city size</b>			
	<i>Rural (below 10,000)</i>	320 (4.6%)	6643 (95.4%)
	<i>City (at least 10,000)</i>	1645 (6.8%)	22,738 (93.2%)
<b>ECS years</b>			
	<i>0 Years</i>	82 (5.0%)	1558 (95.0%)
	<i>1 Years</i>	1432 (5.5%)	24,849 (94.5%)
	<i>2 Years</i>	297 (11.5%)	2286 (88.5%)
	<i>3 Years</i>	154 (18.3%)	688 (81.7%)
<b>Early high cost health care</b>			
	<i>Yes</i>	422 (12.8%)	2869 (87.2%)
	<i>No</i>	1543 (5.5%)	26,512 (94.5%)
<b>Early child intervention</b>			
	<i>Yes</i>	170 (16.5%)	861 (83.5%)
	<i>No</i>	1795 (5.9%)	28,520 (94.1%)
<b>Early English as a second language (ESL)</b>			
	<i>Yes</i>	95 (3.5%)	2604 (96.5%)
	<i>No</i>	1870 (6.5%)	26,777 (93.5%)
<b>Early family support for children with disabilities</b>			
	<i>Yes</i>	170 (27.5%)	449 (72.5%)
	<i>No</i>	1795 (5.8%)	28,932 (94.2%)

Code severity is described in Table 3. The percentage of each factor for each mental health service use status is listed in parenthesis (%) and percentages are summed horizontally for group (e.g., female).



## TABLES (continued)

**Table 8.** The number of children by special education code severity and FSCD use.

Special education code	Used FSCD services	Did not use FSCD services
No code	136 (.5%)	26154 (99.5%)
Mild code	47 (1.6%)	2844 (98.4%)
Severe code	604 (27.9%)	1561 (72.1%)

The percentage of children assigned this special education code severity for each FSCD use status is listed in parenthesis (%) and percentages are summed horizontally by code severity.

**Table 9.** The number of children assigned severe codes by achievement status and SES status that are using FSCD services.

SES Status	Meeting Expectations	Below Expectations
Low SES	118 (19.8%) of 597	116 (35.3%) of 329
High SES	119 (19.4%) of 612	170 (51.8%) of 328

The number of children using FSCD is followed by the percentage, listed in parenthesis (%), and the total number of children for the group.

**Table 10.** The relative risks for each outcome (each compared to the low SES, meeting expectations group).

SES Status	Meeting Expectations <i>Unadjusted</i> Relative Risk (95% CI)	Below Expectations <i>Unadjusted</i> Relative Risk (95% CI)	Meeting Expectations <i>Adjusted</i> Relative Risk (95% CI)	Below Expectations <i>Adjusted</i> Relative Risk (95% CI)
Low SES	1.0	1.78 (1.43 - 2.22); <i>p</i> < .001	1.0	1.71 (1.38 - 2.12); <i>p</i> < .001
High SES	0.98 (.78 - 1.24); <i>p</i> = .89	2.62 (2.16 - 3.18); <i>p</i> < .001	0.93 (.74 - 1.17); <i>p</i> = .54	2.45 (2.03 - 2.97); <i>p</i> < .001

95% confidence intervals for the relative risks are listed in italics, with their *p*-values. The unadjusted and adjusted results (controlling for sex, city size, high cost health, and child intervention) are shown, with model significance for the interaction terms listed below the table.

\*The unadjusted interaction of SES and Achievement was significant (*p* = .007), and the adjusted interaction was also significant (*p* = .003).

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## THE CHILD AND YOUTH DATA LABORATORY

The **Child and Youth Data Laboratory's** (CYDL's) Longitudinal Project (Experiences of Albertan Children and Youth over Time, 2005/06 to 2009/10/11) is a joint initiative between PolicyWise for Children & Families and participating ministries in the Government of Alberta. The mandate of the CYDL is to link and analyze administrative data from Government ministries, to provide evidence for policy and program development.

The CYDL is managed by **PolicyWise for Children & Families**. PolicyWise is a not-for-profit organization whose mission is to develop and integrate evidence to inform, identify and promote effective public policy and service delivery to improve the well-being of children, families and communities in Alberta, Canada and internationally.

### THIS PROJECT

The CYDL Longitudinal Project focuses on understanding the experiences of Albertan children and youth as they develop. The focus is service use within and across ministries, as it is related to key indicators and to the passage of time. Studying experiences over several years of development adds a valuable level of richness to an already ground-breaking initiative, providing detailed insight into the factors that help to shape our children and youth as they develop.

### SUGGESTED CITATION

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### OUR PARTNERS

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**Children's Services**

**Advanced Education**

**Justice and Solicitor General**

**Indigenous Relations**

**Community and Social Services**

**Health**

**Education**

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*This study is based in part on data provided by the Government of Alberta. The interpretation and conclusions contained herein are those of the researchers and do not necessarily represent the views of the Government of Alberta. The Government of Alberta does not express any opinion in relation to this study.*