Introduction

Background
• Some children who are entering school lack the skills necessary to succeed in the typical school environment because of:
  1. Special Needs (i.e. Chronic medical, physical or mentally disabling condition)
  2. Functional Impairments (i.e. A problem influencing the child’s ability to work in a regular classroom)
  3. Health Disorder Diagnoses (i.e. A mental or physical illness)
• This creates a lack of equitable access to education.
• The prevalence of these are not currently known for the Canadian population.

Purpose
• To address the knowledge gap by using the Canadian Children’s Health in Context (CCHICS) study EDI (Early Development Instrument) database to estimate the population level prevalence of special needs, functional impairments and health disorder diagnoses among Canadian children entering school.

Methods

The Early Development Instrument
• Population-based measure of children’s developmental health at school entry.
• 103 items across 5 domains: (1) physical health and well-being, (2) social competence, (3) emotional maturity, (4) language and cognitive development, and (5) communication skills and general knowledge.
• Completed for individual children by their kindergarten teachers, these data are then aggregated to the community-level.
• Contains EDI data for 881,896 children collected between 2004-2015 according to the implementation schedule in Figure 1.

The CCHICS Database
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Inclusion Criteria
• (1) Child is at the senior kindergarten (or provincial equivalent) level, (2) the child has been in the classroom for more than 1 month (to insure the teacher has adequate knowledge of the individual child), and (3) the EDI was filled out correctly (EDIs missing more than one domain are considered invalid).

Analysis
• The functional impairment (originally 11 response options) and the health disorder diagnoses (originally 37 response options) were re-coded into separate binary variables (yes/no) indicating the presence or absence of a designation.
• Descriptive statistics were used to determine the prevalence of special needs, functional impairments and disorder diagnosis.

Results

Special Needs Among Canadian Children at School Entry
• According to reports of kindergarten teachers 3.6% (n=29,680) of children have a special need.

Functional Impairments Among Canadian Children at School Entry
• Teacher reports of children estimate that 14.8% (n=75,868) have at least one functional impairment.
• In the sub-population of children with special needs (n=29,680), 85.6% (n=14,476) also have a functional impairment compared to their non-special needs classmates who have a prevalence rate of 12.2% (n=58,781) for functional impairments.

Health Disorder Diagnoses Among Canadian Children at School Entry
• Of the total Kindergarten population eligible for analysis, 7.3% (n=20,988) have at least one health disorder diagnosis as indicated by parent knowledge or medical information.
• In the sub-population of children with special needs (n=29,680), 71.4% (n=8995) of children also have at least one diagnosis, this is compared to their non-special needs counterparts who have a prevalence rate of diagnoses of 4.3% (n=11,959).

Overlap of Special Needs, Functional Impairments and Health Disorder Diagnoses in Canadian Children at School Entry
• While 66.8% (n=220,039) of the total population of students face none of these obstacles, 23.4% (n=74,744) face at least one and 0.7% (n=2110) face all three.

Conclusions

Take Away Message
• Canadian children who have special needs, functional impairments and/or health disorder diagnoses at school entry face more challenges in obtaining equitable education than typically-developing children.
• While these obstacles can exist for all students the sub-population of students with special needs is particularly at risk for facing combination of challenges. They are over 7 times more likely to also have a functional need and over 16 times more likely to have a health disorder diagnosis in addition to their special needs.

Implications
• To facilitate equal and equitable access to education for all children, regardless their health status, it is important to investigate whether the contextual determinants of their development vary according to their health status.
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Strengths & Limitations

Strengths
• EDI data provide population-level assessment.
• EDI data make it possible to compare both across the country and across time.
• With over 35 possible diagnoses and the option to specify others the EDI provides an opportunity to assess special health concerns and diagnoses in detail.

Weaknesses
• Responses reflect teacher knowledge and awareness.
• Teachers may not be aware of a child’s special needs, functional impairments or disorder diagnoses.
• The child may not yet be identified at this early stage.

References