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Keeping Canada's future healthy

Children's health champions gathered in Ottawa recently to form a treatment plan for children's health.

Organized by the Child Health Initiative, an alliance of the Canadian Medical Association, the Canadian Paediatric Society and the College of Family Physicians of Canada, the first-ever Child Health Summit this past April brought together 40 experts, stakeholders and key decision-makers.

Conference participants noted some trends. Childhood obesity rates have significantly increased in two decades and injury remains a leading cause of death. Aboriginal children are at higher risk for suicide than their non-Aboriginal peers. Participants vowed to make children's health a national priority.

Improving the quality of care delivered to children requires high-quality, comparable data. As you'll see inside, the data we collect starts at birth. CIHI just updated the *Giving Birth in Canada* series, and the latest numbers give us a picture of what the average birth weight is for Canadian babies.

CIHI has also gathered information on the most seriously ill children. This issue captures the reasons why they're being hospitalized and how long they're staying.

While much work lies ahead, if Canada's children are to reach their full potential, good information will help us get there.

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From the president

Children are one-fourth of our population—and all of our future.

By tracking factors that contribute to children's health, and providing information on what services are most used by children within the health system, CIHI is striving to support decision-makers in the health system as they improve care for children.

> Children are one-fourth of our population—and all of our future.

At CIHI, we draw data from a variety of our databases to answer questions regarding children, their health and the services they receive. Data from the Discharge Abstract Database and the Hospital Morbidity Database are analyzed and provide insight into how regions across the country compare on low birth weights. The National Ambulatory Care Reporting System enables us to show what conditions are bringing children to emergency departments in Ontario, and data from our trauma registries provide some insight into children and playground, pedestrian and other injuries.

CIHI also looks at and supports research that broadens the public's knowledge of the many factors that impact children's health. For example, CIHI's Canadian Population Health Initiative has looked closely at the correlation between daily fruit and vegetable consumption and a child's weight. We have also examined the relationship between a child's weight and household income.

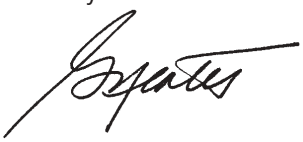
But what you read inside this issue is just part of the story, since most care that children receive takes place outside hospitals. Clearly hospital data alone do not tell us enough about the care children are receiving in this country.

We don't have all the answers—or all the data. Ideally we'd like to be able to complete our understanding through better information from primary care settings. CIHI is also committed to exploring with its many partners ways to improve pediatric data in Canada. And certainly, as CIHI moves forward with filling outstanding data gaps, we expect new opportunities in this area to emerge.

On a different note, I was thrilled to learn that CIHI received an additional $22 million in annual funding in the 2007 federal budget. The boost reflects confidence in CIHI and its information.

I'm also pleased to report that Rick Roger, former CEO of the Vancouver Island Health Authority, recently received the 2007 Award for Distinguished Service from the Canadian Healthcare Association. Rick has indeed made outstanding contributions to Canada's health system—including during his six years on the CIHI board. Congratulations!

A healthy summer to all!



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As of July 2007

Facts-at-a-glance

Young Canadians' health and well-being

- Increase in rates of overweight/obesity among 8- to 11-year-olds, between 1986 and 2002:
  → males: 21% → females: 17%[1]
- Amount of TV that doubles the likelihood of overweight and obesity among 6- to 11-year-olds: more than 2 hours per day[2] (compared to peers with 1 hour or less)
- Average annual number of children with end-stage organ diseases in the last decade who received transplants: 120
  → Who required a second transplant of the same organ: 10%[3]
- Number of hospital patients admitted for cystic fibrosis in 2005–2006 who were under 18 years old: nearly 1 in 2[4]
- Ages at which children are most at risk for summer sports- and recreation-related injuries requiring hospitalization: 5 through 9[5]
- Fevers land children 10 and under in the emergency room most often
  → For those aged 10 to 14, it's hand injuries
  → Among teens aged 15 to 19, it's stomach pain[6]

1 Canadian Population Health Initiative, *Improving the Health of Canadians: Promoting Healthy Weights* (Ottawa: CIHI, 2006).
2 M. Shields, "Nutrition: Findings From the Canadian Community Health Survey," (Issue No. 1), *Measured Obesity: Overweight Canadian Children and Adolescents* (Ottawa: Statistics Canada, 2005), catalogue no. 86.620.MWE2005001.
3 Organ Replacement Registry, Canadian Institute for Health Information.
4 Case Mix Group+, Canadian Institute for Health Information.
5 National Trauma Registry, Canadian Institute for Health Information.
6 National Ambulatory Care Reporting System, Canadian Institute for Health Information.

New patient safety and adverse events information to be released soon by CIHI

Measuring patient safety and adverse events is an essential ingredient for monitoring progress, tracking success and identifying opportunities for improvement. How often are medication errors occurring? How many patients sustain in-hospital hip fractures? How does Canada compare with other countries?

CIHI's *Health Care in Canada 2004* provided the early answers to those questions. In August, CIHI will follow up with *Patient Safety in Canada*, a brief analysis that will look at how often birth and obstetrical traumas, pulmonary embolisms and in-hospital fractures and other events happen.

This will be followed by the first release of hospital standardized mortality ratios (HSMRs) in Canada in November. The ratio, originally developed in the United Kingdom, compares observed versus expected deaths on a hospital-specific basis, adjusted for the age, sex, diagnoses and admission status of patients.

For more information, visit www.cihi.ca.

Sources of pediatric data at CIHI

- Canadian Organ Replacement Registry
- Discharge Abstract Database
- Hospital Mental Health Database
- Hospital Morbidity Database
- National Ambulatory Care Reporting System
- National Trauma Registry
- Ontario Trauma Registry
- Therapeutic Abortions Database

Children under five go to EDs more often than older children

While children in general are regular visitors to Ontario's emergency departments (EDs) and urgent care centres, it is children under five who end up there most often.

Data from CIHI's National Ambulatory Care Reporting System found that, overall, children (aged 19 and younger) accounted for a quarter of all ED and urgent care centre visits in the province in 2005–2006. Of those, slightly more than a third were patients under five.

The reasons for visits varied according to age group. Children under 10 went most frequently because of fever. Among those aged 10 to 14, it was hand injuries, while teens between 15 and 19 went to the emergency rooms most often due to stomach pain.

Children and their parents likely faced the longest waits in the emergency department on Sunday, which was found to be the most common day of the week to bring a child in for urgent care. After-dinner trips were common as well, with most trips happening around 7 p.m. Boys made up the majority of visits among children under 15, but girls between 15 and 19 went more often than boys the same age.

Only 4 in every 100 pediatric emergency visits resulted in a child being admitted to hospital. The vast majority of children—about 90%—were discharged home.

Interested in learning more? CIHI plans to explore the emergency-room experience of children in greater detail over the next few months, including wait time information.

Pediatric patients most likely to need specialized care

Even though children under 18 made up less than 5% of hospitalizations in Canada in 2004–2005, they were more likely than hospitalized adults to have resource-intense special needs.

In its report, *Inpatient Hospitalizations and Average Length of Stay Trends in Canada, 2003–2004 and 2004–2005*, CIHI found that 13% of children were admitted to a special care unit—compared to the overall national average of 11% (excluding Quebec).

Overall, children admitted to hospital stayed an average of 5.1 days, 1.4 days less than the average for all patients.

Pediatric patients in special care units spent more time in the hospital, averaging almost 20 days, compared to 3.4 days for children who didn't need special care.

Newborns were second most likely to be admitted to a special care unit, with 13% receiving such care in 2004–2005. Newborns needing special care stayed an average of 9.6 days in hospital, while those not needing special care averaged 2.1 days.

Although more children were admitted to hospital through the emergency department (58%) than any other means, children not admitted via the ED took up the majority of hospital days (58%) in the pediatric group, which set this group apart from the overall patient population.

This may in part be explained by the fact that the leading causes of pediatric hospitalization are ambulatory care sensitive medical conditions (such as asthma, gastrointestinal disorders, pneumonia and seizures).[i] These are generally more acute conditions, and patients with these conditions have a greater chance of admission via the ED, but require shorter hospital stays than people with chronic conditions such as cancer.

i Robert K. Kanter and John R. Moran, "Recent Trends in Pediatric Hospitalization in New York State," *Journal of Pediatrics* 148, 5 (2006): pp. 637–641.

Children and youth show largest decrease in pedestrian injury hospitalizations

Across Canada, hospital admissions for pedestrian injuries fell by almost a third between 1994 and 2005. Children and youth showed the biggest change, with a drop of 51% for Canadians under 20, and an even bigger drop of 62% for children under five.

"This might be the result of measures such as speed limit reductions around schools and playgrounds, education about walking between parked cars and awareness of children in driveways," says Margaret Keresteci, CIHI's Manager of Clinical Registries. "Car manufacturers have also changed the design of bumpers to make them rounded, which may have reduced the severity of injuries."

The *2006 National Trauma Registry Injury Hospitalizations Highlights Report* showed that in 2004–2005, people younger than 20 made up 16% (30,534 people) of all injury hospitalizations. The most common causes of injury hospitalization were unintentional falls (38% or 11,696 cases) and motor vehicle collisions (17% or 5,251 cases).

Slipping, tripping or stumbling was the most common type of fall (29% of cases) for all age groups, with the exception of children and youth. Their most common type of fall was from one level to another (4,433 cases), representing 38% of all unintentional falls in this age group.

To see more from the report, see "News" under "About CIHI" on CIHI's home page (www.cihi.ca).

Low birth weight rate in Canada increased in 2005–2006

The number of low birth weight babies being born in Canada is increasing. In 2005–2006, 6.1% of all babies born in hospital weighed less than 5.5 pounds, according to new CIHI analysis.

Low birth weight (LBW) has been defined by the World Health Organization (WHO) as weight at birth of less than 2,500 grams (5.5 pounds). There is significant interest in monitoring the rate of babies born with a low birth weight because low birth weight is associated with an increased risk of infant mortality and morbidity.

Looking regionally across Canada, central Manitoba and north Vancouver Island had the lowest rates of low birth weight, at 4.3%. The highest rates were in the Calgary Health Region and the western region in Newfoundland and Labrador, with rates of 7.8% and 7.7%, respectively. Regions with LBW rates over 7.0% were observed in Newfoundland and Labrador, Nova Scotia, New Brunswick, Quebec, Ontario, Alberta and Nunavut.

When looking at all babies across the country—whether or not they were born in hospital—the rate of low birth weights (excluding <500 gram babies) actually declined from 5.7% to 5.5% between 1997 and 2001. Smoking and teenage pregnancy rates during this period also dropped.

The LBW rate has been on the rise since 2002, when the rate began climbing from 5.6% of in-hospital births (excluding <500 gram babies). Reasons for the increasing LBW rate may include high maternal age, multiple births and the use of assisted reproductive technologies.

In the United States, the LBW rates have been consistently on the rise since 1981.

For more information, please visit www.cihi.ca.

Organ transplants for children

the numbers

CIHI's Canadian Organ Replacement Register tracks transplants nation-wide so that treatment, research and patient care can be improved. The register's latest statistics clarify some challenges faced by children requiring these critical operations.

End-stage renal disease: dialysis rates drop

The number of patients on kidney dialysis increased for all Canadian age groups between 1995 and 2004—except for children. Fewer children needed dialysis, with the rate dropping from 20.9 patients per million people in 1995 to 16.4 in 2004.

Kidney transplants: waiting lists shrinking

In 2002, the definition of "pediatric" expanded by three years to include children up to 17 years old—yet the number of children waiting for a new kidney dropped from 57 in 1995 to 32 in 2004.

Between 1995 and 2004, 599 kidney transplants were performed on children in Canada: 70% were between 11 and 17 years old at the time, and there were slightly more boys (53%) than girls (47%). Four out of five living donors were parents of a transplant recipient.

Liver transplantation: demand on the rise

Of all Canadian liver transplantations between 1995 and 2004, 1 of every 10 were performed on children, with the annual number dropping by close to half (44.9%) over the decade. The number of children waiting for a liver transplant fluctuated but grew over the decade from 23 in 1995 to 37 in 2004.

Lung transplants: main cause—cystic fibrosis

Thirty-four children between the ages of 8 and 17 had lung transplants between 1995 and 2004 (including heart–lung). Twenty-eight of those underwent bilateral lung transplants, 21 because of cystic fibrosis.

Heart transplants: fluctuation in number of children waiting

The number of children under 18 who waited for a heart transplant in Canada between 1997 and 2004 fluctuated, with a high of 37 in 2003 and a low of 6 in 2004.

CIHI Portal provides comparable pediatric data

CIHI Portal recently helped a network of academic pediatric health centres create what they say is their best-ever annual report.

Thanks to the web-based tool, the Canadian Association of Paediatric Health Centres—Canadian Paediatric Decision Support Network was able to include reliable and comparative data from all of the network's 16 centres for the first time. Its annual report also included morbidity data (which look at sickness and disability among children) from the Canadian Association of Paediatric Health Centres' four Quebec facilities.

"Before participating in the CIHI Portal, not all of our sites were able to effectively access peer data," says Lisa Gordon, the network's national coordinator. "We had our own private network where we had a database, but it wasn't consistent."

In the past, each centre submitted data from what it considered its pediatric population, but the definition of this group wasn't consistent. Using CIHI Portal, users now report on pediatric data using standard and approved definitions.

"Now all our participating sites have equal access to pan-Canadian data," says Gordon. "We also have access to census data, for the creation of rates according to population, and geographic data."

The 16 participating centres—including the Children's Hospital of Eastern Ontario, the Izaak Walton Killam Hospital in Halifax and BC Children's Hospital—started working with CIHI in 2005.

To learn more about CIHI Portal, please see www.cihi.ca.

Where you'll see CIHI next!

September 2007

16–19 Canadian Public Health Association's 98th annual conference, Ottawa

23–25 Health Statistics Data Users' Conference, Ottawa

October 2007

10–14 The Canadian Healthcare Safety Symposium, Ottawa

11–12 Salon Informatique-Santé, Montréal

22–23 Dynamics 2007: Fields of Change in Critical Care, Regina

November 2007

5–7 OHA HealthAchieve 2007, Toronto

December 2007

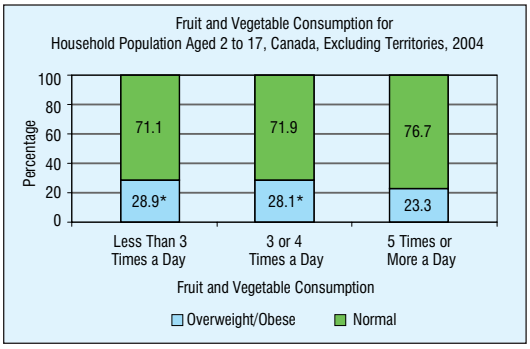
4–6 Health Human Resources 2007: Connecting Issues and People, Ottawa

Children's weight tied to household income

Lower household income is associated with higher body weight among children and youth, according to data from Statistics Canada's Canadian Community Health Survey (2004).

Children and youth whose families earned the highest incomes that year—over $60,000 for a two-person household, or over $80,000 for homes with three people or more—were less likely to be overweight or obese than children in the three middle-income ranges. The lowest-income group—earning less than $10,000 for a household of fewer than five people, or less than $15,000 for a larger household—had a high level of variability and was not significantly different than either the high- or middle-income groups.

Daily fruit and vegetable servings also seem to be related to weight, according to a 2006 Canadian Population Health Intitiative (CPHI) report. Just under a quarter of overweight or obese children and youth were reported to eat fruits and vegetables five times a day or more in 2004, while just over three-quarters of their normal-weight peers were reported to do so.



*Significantly different than the control category (five times or more a day).
Source: 2004 Canadian Community Health Survey (CCHS), Statistics Canada.

The report also notes that parental obesity and eating habits are associated with youth obesity. The highest-income adults had the highest likelihood (36%) of eating vegetables five or more times a day in 2003; all other income groups were significantly lower. By contrast, 24% of the lowest-income group ate five or more servings of fruit and vegetables daily, compared with 22% in the lower-middle income group, 28% in the middle-income group and close to one-third in the upper-middle income group.

To read *Improving the Health of Canadians: Promoting Healthy Weights*, please see www.cihi.ca/cphi.

International RAI conference a success

More than 450 participants from 21 countries convened in Ottawa in early May for *Making the Health Care Connection—Sharing and Caring Beyond Borders*. Care providers, managers, policy-makers and researchers addressed clinical assessment tools and the importance of standardized data and knowledge transfer to improve quality of care and individual lives.

CIHI co-hosted the conference with interRAI, a collaborative network of international researchers committed to improving health care for persons who are elderly, frail or disabled. Three of its tools are supported by CIHI in its continuing care, home care and Ontario mental health databases.

Next year's RAI conference will be held in Edmonton in May. Watch for details at www.interrai.org.

Canadian Public Health Association conference

CIHI's Canadian Population Health Initiative is pleased to partner in the upcoming annual Canadian Public Health Association conference, *Public Health in Canada: From Politics to the People*.

To be held from September 16 to 19 in Ottawa, the conference will highlight the importance of public and population health in Canada and showcase the latest related research.

Keynote speakers include Glenda Yeates (CIHI's President and CEO); Allan Gregg (chairman of The Strategic Counsel, a leading market research and polling firm, and host of TVO's *Allan Gregg in Conversation*); Dr. David Butler-Jones (Canada's first Chief Public Health Officer and head of the Public Health Agency of Canada); Dr. David Salisbury (Medical Officer of Health for the City of Ottawa); and Dr. James Orbinski (former president of Doctors Without Borders).

Other partners for the conference include the Canadian Institute for Health Research's Institute for Population and Public Health, the Public Health Agency of Canada, the Ontario Public Heath Association and GeoConnections.

To learn more please go to www.conference.cpha.ca.

Health human resources conference to be held *in Ottawa*

Join colleagues from across the country at *Health Human Resources 2007: Connecting Issues and People*, December 4 to 6 in Ottawa.

This national conference emphasizes the connections between health human resources (HHR) initiatives at national, provincial, regional and local levels—and will inform participants about current Canadian HHR research, planning, policies and programs. Conference-goers interested in more in-depth discussion may participate in pre-conference workshops as well.

CIHI's partners in this event include Health Canada, the Canadian Institutes of Health Research and the Public Health Agency of Canada. For more information, please contact Deborah Cohen at dcohen@cihi.ca.

Credits

CIHI Directions ICIS is published by the Canadian Institute for Health Information (CIHI). CIHI collects and analyzes information on health and health care in Canada and makes it publicly available. For comments, suggestions or additional copies of this publication, in English or French, please contact the editor, at:

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Recently published reports

Health Indicators 2007

Produced in collaboration with Statistics Canada, this publication provides data for over 40 factors associated with the health of Canadians and the health system for Canada's largest health regions.

Public-Sector Expenditures and Utilization of Home Care Services in Canada: Exploring the Data

Focusing on 1994–1995 to 2003–2004, this report looks at the level and change in public-sector home care expenditures nationally and by jurisdiction. Use of government-sponsored home care services is also discussed.

Treatment of End-Stage Organ Failure in Canada, 1995 to 2004 (2006 Annual Report)

Using data from the Canadian Organ Replacement Registry, this publication highlights information and analysis on end-stage organ failure treatments, as well as patients and donors. The report features a special section on diabetes.

Inpatient Rehabilitation in Canada, 2005–2006

This is the fourth public report based on data collected for the National Rehabilitation Reporting System. Its analyses reflect 33,408 clients at 91 hospitals in seven provinces.

Drug Expenditures in Canada, 1985 to 2006

This publication updates trends in drug spending from retail establishments, in total, by public and private payers and by type of drug. Provincial and territorial comparisons are included.

The Burden of Neurological Diseases, Disorders and Injuries in Canada

CIHI, the Canadian Brain and Nerve Health Coalition and the Public Health Agency of Canada created this report to help explain the epidemiology and impact of selected neurological conditions on Canadian society and the health care system.