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## CSEB Student Conference 2010 abstract winners

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At the May 2010 Canadian Society for Epidemiology and Biostatistics (CSEB) Student Conference, *Chronic Diseases in Canada* (CDIC) announced a student abstract contest: an editorial panel from the Public Health Agency would judge the chronic disease abstracts put forward from this conference and select the top 10 to be published in this, the March 2011, issue of the journal.

Students showed great interest in this contest: 57 abstracts on chronic diseases and injuries were submitted to the journal. The editorial panel of judges comprised:

- Howard Morrison, PhD, Editor-in-Chief, *Chronic Diseases in Canada*, Public Health Agency of Canada;
- Kenneth Johnson, PhD, Senior Epidemiologist, Public Health Agency of Canada;
- Fabiola Tatone-Tokuda, MSc, Editorial Board, *Chronic Diseases in Canada*, University of Ottawa;
- Michelle Tracy, MA, Managing Editor, *Chronic Diseases in Canada*, Public Health Agency of Canada.

The abstracts were judged using the following criteria: (1) originality; (2) clarity; (3) scientific and technical excellence; and (4) potential impact.

Since 2009, CDIC has been collaborating with CSEB to foster publishing opportunities for students. Following the May 2009 CSEB Student Conference, CDIC agreed to publish all of the accepted abstracts at the conference in conjunction with the *Canada Communicable Disease Report*. These abstracts can be viewed online at [http://www.phac-aspc.gc.ca/publicat/cdic-mcc/30-2/cseb\\_01-eng.php](http://www.phac-aspc.gc.ca/publicat/cdic-mcc/30-2/cseb_01-eng.php) for chronic disease and injury topics, and <http://www.phac-aspc.gc.ca/publicat/cdic-mcc/abstract/index-eng.php> for infectious disease topics.

CDIC is pleased to encourage students in their publishing efforts. Congratulations to the winners!

**Michelle Tracy, MA**  
Managing Editor, *Chronic Diseases in Canada*

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# Using childhood Leg Length Index to predict development of adolescent overweight and obesity

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Akseer N. (1); Liu J. (2); Hay J. (3); Faught B. (4); Wade T. (4); Cairney J. (4)

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**Background / Purpose / Objectives:** The increasing prevalence of overweight and obesity (OwOb) in pediatric populations is becoming a public health concern in many countries. Our purpose was to determine if childhood stature components, particularly the Leg Length Index (LLI = [overall height – sitting height]/ height), are useful in assessing risk of OwOb in adolescence.

**Study design / Methods:** Approximately 2360 Niagara Region students had their bodies measured to include sitting and standing height at baseline. Of these,

1167 children (573 girls, 594 boys) had their weight and height measured at the 5<sup>th</sup> year follow-up. OwOb was defined using age- and sex-specific body mass index (BMI; kg/m<sup>2</sup>) with cut-off points corresponding to adults' BMI > 25.

**Results:** Overall, 34% (n = 298) of adolescents were considered as OwOb. The results from logistic regression analysis indicate that with 1 unit increase in LLI, odds of OwOb decreases 24% (OR = 0.76, 95% CI: 0.66–0.87) after adjusting for age, sex and baseline waist circumference.

Further adjusting for early life confounders does not change the relationship.

**Conclusions:** LLI measured at childhood can be used to predict the OwOb risk in adolescents. However, the underlying mechanism is unclear and further study is needed. Mother's BMI and smoking status can modify childhood LLI.

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# Characteristics associated with unmet support needs in families of school-aged children with an autism spectrum disorder

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Brown H.K. (5); Ouellette-Kuntz H. (5); Hunter D. (5); Kelley E. (6)

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**Background / Purpose / Objectives:** Due to the recognized strain on autism services, the objectives of this study were (1) to describe unmet support needs reported by parents of school-aged children with an autism spectrum disorder and (2) to examine these needs in relation to the child's functional independence. We hypothesized that families of children with low or high functional independence would have a greater unmet support needs than families of children with moderate functional independence.

**Study design / Methods:** We conducted a cross-sectional survey of 77 families of children with an autism spectrum disorder using the Family Needs Questionnaire and the Scales of Independent Behaviour—Revised. Children's functional independence was determined by their adaptive skills and problem behaviours. Their average age was 9.6 years (SD = 2.1), and 85.7% were male.

**Results:** Generalized linear modelling showed that, after controlling for other variables, differences in unmet needs between

children with low versus moderate functional independence were not significant (RR = 1.27, 95% CI: 0.67–2.38). Contrary to our hypothesis, children with high functional independence had a significantly lower risk for unmet needs compared to those with moderate functional independence (RR = 0.61, 95% CI: 0.43–0.85).

**Conclusions:** Information about unmet needs may help policy makers and service providers effectively allocate limited resources.

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## Author references

1. Faculty of Applied Health Sciences, Brock University, St. Catharines, Ontario, Canada
2. Department of Community Health Sciences, Brock University, St. Catharines, Ontario, Canada
3. Department of Psychiatry and Behavioural Neurosciences, McMaster University, Hamilton, Ontario, Canada
4. Department of Family Medicine, McMaster University, Hamilton, Ontario, Canada
5. Department of Community Health and Epidemiology, Queen's University, Kingston, Ontario, Canada
6. Department of Psychology, Queen's University, Kingston, Ontario, Canada

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# Screen time and risk behaviours in 10- to 16-year-old Canadian youth

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Carson V. (1); Pickett W. (2,3); Janssen I. (1,2)

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**Background / Purpose / Objectives:** To examine television, computer, and video game use as possible determinants of multiple risk behaviours (MRB) among Canadian youth.

**Study design / Methods:** Results were based on the Canadian 2005/06 Health Behaviour in School-Aged Children survey that included a representative cross-sectional sample of 8215 youth in grades 6 to 10, and a 1-year longitudinal sample of 1424 youth in grades 9 to 10. Participants were grouped into quartiles based on the total hours per week of television, video

games, and computer use. Six risk behaviour variables (smoking, drunkenness, seatbelt use, cannabis use, illicit drug use, non-use of condoms) were combined to form an MRB score. We used ordinal and repeated measure logistic regression models to examine associations between screen time and MRB variables.

**Results:** High computer use is associated with approximately a 50% increased engagement of MRB in both samples. High television use is also associated with modestly increased engagement in MRB in the cross-sectional sample.

**Conclusions:** High computer use is the screen time activity that is most strongly associated with engagement in MRB. Future research should focus on the dose-response relationship between specific screen time activities and adolescent health in an effort to strengthen current screen time guidelines for youth.

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# Prevalence and risk factors of asthma in off-reserve Canadian Aboriginal children

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Chang H.J. (4); Senthilselvan A. (4)

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**Background / Purpose / Objectives:** Asthma is a common chronic disorder among children; however, only a few studies have investigated asthma morbidity in Canadian Aboriginal children. This study aims to determine the prevalence and risk factors for ever and current asthma in this population.

**Study design / Methods:** We used data for children aged 6 to 14 years from the 2006 Aboriginal Peoples Survey. Over 15 000 children living off-reserve

participated in the survey. A child was considered to have asthma if there was a parental report of asthma diagnosis by a health professional.

**Results:** Among Canadian Aboriginal children living off-reserve, the prevalence of ever and current asthma is 14.3% and 5.7%, respectively. Children of Inuit ancestry have significantly lower prevalence of asthma than children of North American Indian and Métis ancestries. Significant risk factors for ever asthma included male sex,

allergy, low birth weight, obesity, dwelling needing repairs and urban residence. The associations between ever asthma and low income family, daycare attendance and psychological problems were borderline significant. The risk factors for current asthma were similar to those for ever asthma.

**Conclusions:** The risk factors for ever asthma observed for off-reserve Aboriginal children in our study were similar to those reported for non-Aboriginal children.

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## Author references

1. School of Kinesiology & Health Studies, Queen's University, Kingston, Ontario, Canada
2. Department of Community Health and Epidemiology, Queen's University, Kingston, Ontario, Canada
3. Department of Emergency Medicine, Queen's University, Kingston, Ontario, Canada
4. Department of Public Health Sciences, School of Public Health, University of Alberta, Edmonton, Alberta, Canada

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# Referral of acute ankle injuries for radiography in Kingston, Ontario: an evaluation of physician adherence to the Ottawa Ankle Rules

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Dowdall H. (1); Nichol M. (1); Brison R. (1,2); Pickett W. (1,2)

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**Background / Purpose / Objectives:** The Ottawa Ankle Rules were established in 1992 as evidence-based clinical decision rules for the ordering of radiography in emergency department settings. We evaluated adherence to these rules over time in two hospital-based emergency departments in Kingston, using a record linkage study.

**Study design / Methods:** In this population-based, retrospective study, we linked records of ankle injuries from Kingston sites of the Canadian Hospitals Injury Reporting and Prevention Program (2001–2007) to

hospital discharge records containing procedural codes. Proportions of ankle injuries referred for radiography were described temporally, and compared with the referral rate in 1993 following implementation of the Ottawa Ankle Rules.

**Results:** Compared with a baseline referral rate of 57.6% (95% CI: 55.3–59.9) following implementation of the Ottawa Ankle Rules, analysis of 7706 acute ankle injuries shows that the proportion of ankle injuries referred for radiography has increased (e.g. 70.3% [95% CI: 67.3–72.9] in 2007).

The proportion of referrals with a diagnosis of fracture remains the same throughout the study period (18.3% to 21.9%).

**Conclusions:** Physicians need to adhere to the Ottawa Ankle Rules in order to reduce costs within the emergency department and to limit patient exposure to radiographic procedures.

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# The relationship between adiposity and Gleason score in men with localized prostate cancer

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Hack E.E. (3); Siemens D.R. (4); Groome P.A. (3)

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**Background / Purpose / Objectives:** The association between adiposity and the aggressiveness of prostate cancer (PCa) is controversial. We investigated the relationship between body mass index (BMI) at the time of PCa diagnosis and malignant phenotype as measured by Gleason score.

**Study design / Methods:** In this cross-sectional study conducted on 1096 PCa patients treated for cure in Ontario, data from an electronic dataset were enhanced by retrospective chart review. BMI was categorized as normal (BMI < 25.0 kg/m<sup>2</sup>), overweight (BMI: 25.0–29.9 kg/m<sup>2</sup>) and

obese (BMI ≥ 30 kg/m<sup>2</sup>). We also investigated the role of diabetic status. We categorized Gleason scores into clinically meaningful categories, 2–4, 5–6, 7 and 8–10.

**Results:** BMI was not associated with Gleason score; 9.7% of those with normal BMI have Gleason scores greater than or equal to 8, and 9.4% in this Gleason score category are overweight or obese ( $p = .73$ ). Of those with diabetes, 11.7% have Gleason scores greater than or equal to 8 compared to 9.3% in the non-diabetic group ( $p = .79$ ). When stratified by age, the Gleason score distribution in the

youngest obese cohort trended toward higher Gleason scores ( $p = .13$ ).

**Conclusions:** Neither elevated BMI nor diabetic status at the time of diagnosis appears to be associated with Gleason score. The effect of adiposity on PCa requires further study with attention to length of exposure to an elevated BMI.

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## Author references

1. Department of Community Health and Epidemiology, Queen's University, Kingston, Ontario, Canada
2. Department of Emergency Medicine, Queen's University, Kingston, Ontario, Canada
3. Division of Cancer Care and Epidemiology, Cancer Research Institute at Queen's University, Kingston, Ontario, Canada
4. Department of Urology, Queen's University, Kingston, Ontario, Canada

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# Discharge against medical advice after traumatic brain injury: is intentional injury a predictor?

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Kim H. (1); Colantonio A. (2); Bayley M. (2); Dawson D. (3)

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**Background / Purpose / Objectives:** Discharges against medical advice (DAMA) are consistently reported as causing worse functional outcomes and frequent hospital readmissions. Our study aims to develop a risk profile of DAMA patients with traumatic brain injury (TBI), to examine factors associated with DAMA occurrence and to examine whether intentional injury is a significant predictor of DAMA.

**Study design / Methods:** We conducted a retrospective cohort study using hospital discharge data from the Minimal Data Set (MDS) of the Ontario Trauma

Registry (OTR) for the years 1993/94 and 2000/01. The MDS review yielded 15 684 cases of TBI; 446 (2.84%) had recorded DAMA events.

**Results:** DAMA is significantly greater in those with intentional TBI compared to unintentional TBI. Patients with intentional injuries are two times more likely to leave hospital against medical advice than those with unintentional injuries controlling for other factors. Younger ages between 25–54 years and history of alcohol/drug abuse are also significantly associated with DAMA.

**Conclusions:** TBI patients who leave hospital against medical advice are a high-risk population. Intentional injury is an important independent factor to consider when modelling DAMA studies. Early identification of patients with intentional TBI could allow implementation of better preventative strategies, thus improving health outcomes and enhancing healthcare delivery.

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# Rehabilitation outcomes after intentional traumatic brain injury: functional changes and discharge destinations

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Kim H. (1); Colantonio A. (2); Bayley M. (2); Dawson D. (3)

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**Background / Purpose / Objectives:** Traumatic brain injury (TBI) due to violence is a major public health issue; a recent report by the Canadian Institute for Health Information (CIHI) indicates that intentional TBI is increasing among young adults. This study aims to investigate functional changes and discharge destinations of intentional TBI patients compared to unintentional TBI patients.

**Study design / Methods:** In this prospective cohort study, we used population-based acute care and inpatient rehabilitation records, the Discharge Abstract Dataset

(DAD) and the National Rehabilitation Reporting System (NRS) from the CIHI. We examined absolute and relative functional gains in motor and cognitive subscales and discharge destinations as rehabilitation outcome measures.

**Results:** People with intentional TBI have significantly lower absolute gains in motor functions and relative gains in cognitive functions in univariate analyses at discharge. Intentional TBI is also associated with lower relative gains in cognitive functions, while controlling for age, gender, alcohol/drug abuse history and other

demographic and clinical variables. People with intentional TBI are less likely to be discharged home, controlling for other independent variables.

**Conclusions:** People with intentional TBI are a distinct population in the rehabilitation setting in Canada. During in-patient rehabilitation, focusing on effective changes in cognitive functions would be more applicable to this population. Different discharge destinations would also imply that more careful discharge planning should be developed.

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## Author references

1. Rehabilitation Science Sector, University of Toronto, Toronto, Ontario, Canada
2. Toronto Rehabilitation Institute, University of Toronto, Toronto, Ontario, Canada
3. Kunin-Lunenfeld Applied Research Unit, Baycrest, Toronto, Ontario, Canada

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# General social support and work social support and the risk of recurrence after a first myocardial infarction: 6-year prospective study

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Thiam A. (1); Brisson C. (1)

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**Background / Purpose / Objectives:** This study evaluated the effect of low general social support (GSS) and low work social support (WSS) on the risk of recurrent coronary heart disease (CHD).

**Study design / Methods:** A cohort of 972 women and men who had had a first acute myocardial infarction was recruited from Quebec hospitals. Three interviews were conducted over the 6 years of follow-up and medical files were examined to identify the following CHD events: a fatal CHD, a non-fatal myocardial infarction and an unstable

angina. We evaluated GSS (emotional or informational support and positive social interaction) using the French version of the medical outcomes study Social Support Survey and WSS (relationships with colleagues and supervisor) using Faucett's questionnaire, based on the Interpersonal Relationships Inventory. We used Cox regression to analyze the data.

**Results:** A total of 206 CHD events occurred during the follow-up period. There was significant moderate association between continuous exposure to low GSS and the

risk of recurrent CHD (adjusted hazard ratio = 1.66, CI: 1.08–2.57). No association was observed between low WSS and risk of recurrent CHD.

**Conclusions:** Our study shows that post-myocardial patients who have little social support in their general environment (but not specifically at work) are at higher risk of recurrent CHD. We also show that there is a need for future studies on this topic.

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# Prevalence and risk factors for underhousing among trans people in Ontario: a cross-sectional study

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Warner A. J. (2); Bauer G. R. (2); Scanlon K. (3); Pyne J. (4)

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**Background / Purpose / Objectives:** Lack of adequate housing and housing discrimination, which occurs in Canada and worldwide, negatively impacts the health and well being of those affected. Trans populations experience disproportionately high rates of homelessness, which may compromise their ability to access safe and stable housing. In this study, we calculate prevalence estimates for underhousing and potential risk factors, and construct an exploratory predictive model of identified risk factors among the trans population.

**Study design / Methods:** Data were obtained from the Trans PULSE survey, a cross-sectional, community-based survey sampling trans people living in Ontario (n = 433). We performed univariate and bivariate analyses using a logistic predictive model for underhousing weighted by probability of recruitment.

**Results:** An estimated 33.1% of Ontario trans people are underhoused. Significant risk factors from the multivariable predictive model are having a personal income less than \$15,000 (odds ratio [OR] = 3.57,

95% CI: 1.18–11.11; ref: > \$30,000), always being perceived by others as trans (OR = 7.14, 95% CI: 1.08–50.00; ref: never), having a high frequency of alcohol use (OR = 2.72, 95% CI: 1.03–7.19; ref: never users).

**Conclusions:** Housing discrimination may be occurring, placing trans communities at high risk for underhousing. Additional study is needed to further improve and re-evaluate services and policies to best serve trans communities.

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## Author references

1. URESP, Centre de recherche FRSQ du Centre hospitalier affilié universitaire de Québec, Québec, Canada
2. Department of Epidemiology and Biostatistics, Schulich School of Medicine & Dentistry, The University of Western Ontario, London, Ontario, Canada
3. The 519 Church Street Community Centre, Toronto, Ontario, Canada
4. Trans PULSE Project, Ontario, Canada