

Concurrent G: Surveillance Injury Innovation Around the World

25

ANALYSIS OF INJURY TRENDS—SHOW ME THE ELBOW!

doi:10.1136/injuryprev-2012-040580b.25

MT Do*, S Mcfaull. *Injury Surveillance Section, Health Surveillance and Epidemiology Division, Public Health Agency of Canada*

Background A cornerstone of surveillance is the timely dissemination of information to those needing to know. However, injury data is often noisy and the qualitative assessment of trends can be problematic making the dissemination of information difficult. A quantitative method is needed to objectively characterise injury trends.

Aims/Objectives/Purpose This study evaluated the applicability of JoinPoint software developed for cancer research to injury data collected by the Canadian Hospitals Injury Reporting and Prevention Programme (CHIRPP). Specifically, JoinPoint regression was used to quantify trends and identify important inflection points (ie, elbows) in a test-dataset.

Methods The test-dataset consisted of all hockey-related brain injuries reported to CHIRPP between 1990 and 2009. Hockey injuries were chosen because the general temporal pattern is well known, which would facilitate evaluation of the method. JoinPoint statistical software was used to quantify injury trends across calendar months. Statistical significance of inflection points was tested using Monte Carlo permutation methods.

Results/Outcomes Between 1990 and 2009, there were 5868 hockey related brain injuries reported to CHIRPP. Given that hockey is a winter sport, 71% of the cases were reported between the winter months. The elbows (inflection points) were found in August where the number of cases began to rise until peaked in November. The average annual percent change of 51% was significantly different from zero at $\alpha=0.05$.

Significance/Contribution to the Field From the methodological perspective, we demonstrated the utility of JoinPoint regression to CHIRPP data on hockey-related brain injuries. Surveillance information extracted using JoinPoint could be used in evidence-based policy and prevention efforts.