

## Health and Disease in the Long Run

Wednesday November 5 at the University of Guelph  
Room 319, J.D. McLachlan Building  
All are welcome to this informal workshop

Chair: Kris Inwood (Economics and History, University of Guelph)

15:00 *Long run changes in the body mass index of adults in Canada*  
John Cranfield (Food, Agriculture and Resource Economics, University of Guelph)

15:45 *Malaria and stature in the 'tropical' countries revisited: evidence from colonial Algeria*  
Laurent Heyberger (histoire, Université de Technologie de Belfort-Montbéliard)

16:30 *The first wave of the 1918 influenza pandemic among soldiers of the Canadian Expeditionary Force (CEF)*  
Alex Rewegan (Anthropology, McMaster), Kandace Bogaert (Anthropology, McMaster), Melissa Yan (Public Health, UBC), Alain Gagnon (démographie, Montréal), and Ann Herring (Anthropology, McMaster)

### Abstracts

*Long run changes in the body mass index of adults in Canada*  
John Cranfield (Food, Agriculture and Resource Economics, University of Guelph) and Kris Inwood (Economics and History, University of Guelph)

A growing literature analyzes rising rates of overweight and obesity using contemporary data (e.g. public health surveys) collected since the 1970s. In this paper we use a broader range of sources to identify the trend in BMI among Canadians from 1900 to the present day. We find that for Canada, unlike other countries, there is no evidence of rising overweight/obesity before World War Two. BMI for men was higher for men than for women in all periods, and the gap widened in absolute and proportional terms during the second half of the 20<sup>th</sup> century. Since the 1950s, the 25-39 year age group for both men and women experienced large gains although, unexpectedly, BMI among women aged 45-49 years appears to have declined.

*Malaria and stature in the ‘tropical’ countries revisited: evidence from colonial Algeria*

Laurent Heyberger (histoire, Université de Technologie de Belfort-Montbéliard)

A number of studies suggest that at the end of the 19<sup>th</sup> century the impact of malaria was sufficiently severe to impair child growth and modify the trends in adult stature (Martínez-Carrión 1994 on Murcia, Bassino and Coclanis 2008 on Burma, Brennan, McDonald and Shlomovitz 1997 on India and, for a more balanced view, A’Hearn 2003 on Italy). Most evidence for the negative impact of malaria on height is based on aggregate data. Thus, we do not know that the shortest were also infected, or that being infected led to stunting. For this, the records of individual are needed. French colonial army records (registres médicaux d’incorporation, RMI) make it possible to check at the individual level the link between disease and stature in Algeria, where malaria was widespread. The medical files for recruits during 1937 suggest that individuals with malaria were taller rather than shorter than average. We hypothesize that this reflects a selection effect: only the strongest and tallest could survive an encounter with malaria in early life. The possibility of a powerful selection effect leads to a reconsideration of conclusions drawn in other studies: the spread of malaria more likely had the effect of increasing rather than diminishing adult stature. Our results also stress that the standards of living are a multidimensional reality and that a height increase need not imply an improvement in the standards of living and should be confronted with other indicators such as mortality rate, morbidity and life expectancy.

*The First Wave of the 1918 Influenza Pandemic among Soldiers of the Canadian Expeditionary Force (CEF)*

Alex Rewegan (Anthropology, McMaster), Kandace Bogaert (Anthropology, McMaster), Melissa Yan (Public Health, UBC), Alain Gagnon (démographie, Montréal), and Ann Herring (Anthropology, McMaster)

Using record-linked death data for soldiers in the Canadian Expeditionary Force (CEF) extracted from the Commonwealth War Graves Commission and from the Canada War Graves Registers Circumstances of Casualty database, this paper presents evidence for the presence of the first, mild wave of the 1918 influenza pandemic in the CEF. Influenza mortality was most prominent among soldiers in the Maritime region of Canada and was fuelled by wartime patterns of contact and transportation. The herald wave of influenza was unlikely to have been limited to soldiers, but most probably also affected civilians. The CEF findings suggest that local, geographic heterogeneity characterized the first wave of the 1918 influenza pandemic in Canada, and illustrates the ways in which well established, historical patterns of cross-border social contact, coupled with the special conditions created by warfare, disproportionately channelled influenza into specific regions.