

## CANADIAN ECD RESEARCH IN 2009

# CASH TRANSFERS, STRESS, DNA METHYLATION AND HEALTH

BY RICHARD E. TREMBLAY, DIRECTOR OF THE CENTRE OF EXCELLENCE FOR EARLY CHILDHOOD DEVELOPMENT (CEECD), AND MICHEL BOIVIN, DIRECTOR OF THE STRATEGIC KNOWLEDGE CLUSTER ON EARLY CHILD DEVELOPMENT (SKC-ECD)

**You may be reading this editorial because you're intrigued by the unlikely association of the words in the title. One common denominator is that they are all topics explored in this *Bulletin*. The other is that recent research suggests that they are all related.**

A decade ago, at a meeting on preventive interventions for poor pregnant women, experienced home-visiting nurses argued strongly against smoking reduction programs. They felt that these women benefited from smoking as a way to considerably reduce their stress. While some of the nurses argued that giving the women more money would also

reduce their stress, others argued that the money would simply be used to buy more cigarettes.

Our Top Ten articles on early childhood development published by Canadian scientists in 2009 will encourage clinicians to rethink the links between stress, smoking and poverty. The articles also demonstrate that funding

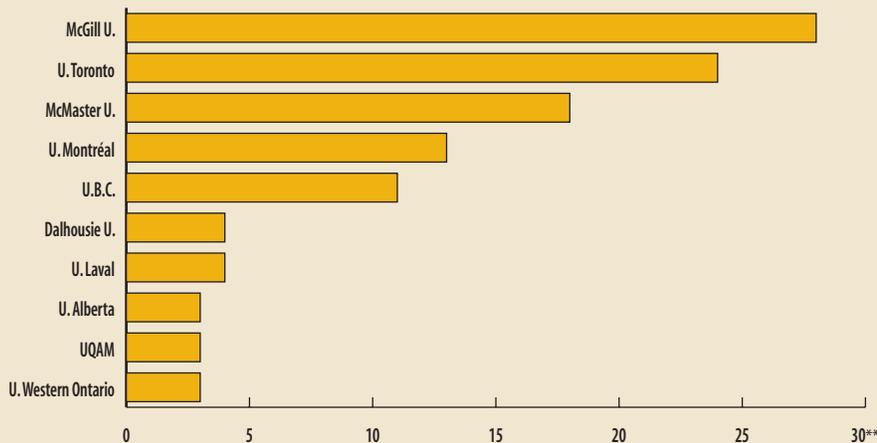
agencies invested their money wisely in the issues that matter most to clinicians seeking to provide the best possible services to young parents who live in difficult circumstances.

Two of the critical reviews in the *Bulletin* summarize the vast amount of evidence confirming that high levels of stress early in life put children on a long trajectory of health and social problems (see pages 7 and 9). A third paper confirms that prenatal stress should not be fought with cigarettes since children whose mothers smoked during pregnancy are at a much higher risk of substance use during adolescence, likely because of damage done to their brain while *in utero* (see page 4). A fourth paper suggests that cash transfers to poor parents can be an effective means of fostering children's healthy development, if the transfers are conditional on the parents using health and social services (see page 6).

Interestingly, we are also starting to unravel the different mechanisms that explain the potential long-term impacts of parents having access to cigarettes and money during their children's early years. The DNA methylation story that we highlighted in the 2004 edition of the Top Ten is gaining momentum (see pages 2 and 3), while the brain development story is getting clearer with early life imaging (see page 8) and longitudinal studies (see pages 4 and 5). However, we still have a long way to go before this knowledge becomes integrated into systematic prevention experiments and, eventually, into widely-used best practices. The critical review on prevention of child maltreatment (see page 10) presents challenges that we must meet with determination and the best scientific tools.

The graph to the left illustrates how well Canadian universities have done over the past nine years in terms of producing top-level knowledge to address these challenges. Notably, for the first time this year, we've included critical reviews in our Top Ten selection. We felt this strategy would be of interest, since articles that review a large number of older papers on a given topic complement articles that report new findings. 🌱

## TOP 90 PAPERS (2001-2009)\*



\* Only shown in this graph: Canadian institutions with at least 3 nominations in the top 90 papers (2001-2009).

\*\* Graph indicates the number of papers with at least one author from a Canadian institution.