

New this year: In addition to the empirical studies usually presented in the *Bulletin*, critical reviews were included in the official selection of the Top Ten Canadian research papers. Six made it into our 2009 edition. They are presented on pages 7 to 12.

## THE CHILDHOOD ROOTS OF HEALTH DISPARITIES

**Early experiences can affect adult health in at least two ways: by cumulative damage over time or by the biological embedding of adversities during sensitive developmental periods. In both cases, there can be a lag of many years, even decades, before early adverse experiences are expressed in the form of disease.**

Based on such evidence, researchers are calling for a new framework for health promotion and disease prevention. *"There's now a sufficiently critical mass of neuroscience research that allows us to provide a set of core principles to guide the way we think about kids and their needs and how we address those needs as a society,"* says Dr. W. Thomas Boyce, professor of Pediatrics at the University of British Columbia and co-author of a review on the childhood roots of health disparities.

Brain research shows that toxic stress early in life can damage the very architecture of the developing brain. Toxic stress refers to strong, frequent and/or prolonged activation of a child's stress-response systems without the buffering protection of adult support. This sets the stage for lifelong patterns of emotionality and stress responsiveness, and can lead to increased rates of heart and respiratory disease, diabetes, cognitive impairment and mental illness.

Major risk factors include extreme poverty, recurrent physical and/or emotional abuse, chronic neglect, severe maternal depression, parental substance abuse and family violence. Children from families and communities with low income and low education levels may be especially vulnerable to the biological embedding of disease risk because of their disproportionate exposure to highly stressful influences.

The review's authors call for policies and programs aimed at reducing significant stressors in young children's daily lives. For example, increasing training and resources for primary care clinicians could be one approach to better identify and tackle child maltreatment, postpartum depression and parental substance abuse. High-quality early childhood

programs offer another potential infrastructure. *"Health, learning and behaviour are highly interdependent,"* Boyce notes. Finally, publicly mandated services to protect children who have been abused or neglected present further opportunities.

### A PUBLIC POLICY PERSPECTIVE

The Honourable Tim Sale, the first Chair of the Healthy Child Committee of Cabinet in Manitoba, says that Dr. Boyce's paper is *"a powerful motivator for public policy."* In the last decade, he notes, research in early child development has had a significant impact on public policy, and the latest findings in neurobiology reinforce this message.

He advocates policies that take a population approach and build on community strengths. *"In Manitoba, we're trying to make the whole notion of investment in early childhood and support for families in the prenatal, postnatal and early years a normative part of how we do business as a society,"* he says. *"If we focus too much on just one factor, such as socioeconomic level, we will miss a larger number of children, because risk extends way into the middle and upper-middle classes."*

Tim Sale is also a strong proponent of grass-roots involvement. For example, Manitoba boasts 26 regionally developed Parent Child Coalitions. Each coalition receives a grant to support programs and services for families with young children. *"Many have engaged community partners such as the Chamber of Commerce,"* he notes. *"They are helping them see that the health of their workers, both present and future, has a lot to do with the health of families."* 🐾

BY EVE KRAKOW

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