are challenged by complex neurodevelopmental disorders, and all would benefit from a properly coordinated and accessible system of intervention and support services. It would be unconscionable if discrepancies existed among children with different kinds of cancer — full support for those with bone cancer but meagre support for those with kidney cancer.

Second, it is true that autism and related disorders are diagnosed in more and more children, but the spectrum is broad. The needs of some children and families are complex, but others have fewer needs. Allocation of resources based on a medical diagnosis ignores this crucial fact.

Many professionals involved in the support of children with neurodevelopmental disorders are advocating for child and family support based on need rather than diagnosis. What we really need are regional total care centres for children with complex neurodevelopmental disorders — all those with complex learning and behavioural problems that elude a simple diagnosis.

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Pharmacogenetic screening

Fernando and Broadfoot raise interesting points with respect to the potential value of pharmacogenetic screening for prevention of severe adverse drug reactions as well as the possibility of a potential common pathophysiology of drug hypersensitivity syndrome.[1] There are conflicting theories as to the pathogenesis of drug hypersensitivity syndrome. The reactive metabolite hypothesis assumes elevated concentrations of toxic reactive drug metabolites serve as the syndrome trigger and has led to clinical applications, including testing potentially hypersensitive patients with the lymphocyte toxicity assay and the in vitro platelet toxicity assay.

We have used both assays to test a patient of Han Chinese origin who is HLA-B*1502 positive and developed Stevens–Johnson syndrome (SJS) after starting a course of carbamazepine (CBZ). The test was negative three and nine months after patient recovery, despite a typical CBZ-SJS reaction. At the same time, the test was positive in a patient who developed a nonbullous type of drug hypersensitivity syndrome to carbamazepine. This finding strongly suggests that carbamazepine-induced severe bullous reactions have different underlying pathophysiology than carbamazepine-induced nonbullous reactions. We agree that genetic testing of potential drug hypersensitivity syndrome patients could be a useful approach to minimize morbidity and mortality of such reactions. However, we believe that until a clear understanding of this disorder's pathophysiology is available, a robust cause–effect relationship between such genetic markers and the disease is not achievable.

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Paramedic-driven research

In every medical specialty, and most aspects of health care, research drives improvements in care and systems.[1] Paramedicine is an emerging health profession. Paramedics have become increasingly involved in conducting important emergency medical services (EMS) research. This has led to publication of scholarly articles changing clinical and operational practice. In Canada, paramedic researchers have struggled to find the right home base to pursue EMS research. It is time to establish a national framework to propel paramedic-driven research forward. Formal training, mentorship, protected time and funding opportunities are essential to the success of paramedic researchers. EMS services must work collaboratively with governments, base hospitals, universities, and other stakeholders to fund paramedic clinician-researchers; this infusion of support will result in a burst of scholarly work specific to paramedic practice that will inform and improve clinical practice and operational performance.

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Research training and residents

A key point highlighted by H. Savolainen comments[1] on M. Laberge's article[2] is the lack of physicians trained in research and conducting interdisciplinary/translational or clinical research. There is an urgent need to train young clinician scientists. Sharing experiences and information on measures used to attract young physicians to research programs is of special interest. This is the practice in France, particularly in pediatrics. Funding is central. France has a national program granting a one-year research training fellowship for resident physicians. Societies, including the French Pediatric Society, organize annual competitions to fund young physicians to maxi-