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The gathering storm

John W Griffin

Nebraska is flat. In such a landscape, the writer Wallace Stegner reflected that at the right time of morning or evening a child can cast a shadow a mile long. In my Nebraska boyhood, storms were entertainment. We children sat at the edge of town, watching black clouds and slanting streaks of rain approach from miles away, gradually effacing and replacing the blue sky. As the storm neared, the winds increased, bringing that mixture of moisture and dust in the air that we knew as 'smelling rain'. When the rain hit it could be slashing. Storms that brought hail and destructive winds could wipe out the year's harvest.

Neurologists and neuroscientists have been watching an oncoming storm and smelling rain for several years. Now the storm has well and truly hit, and it has enormous destructive potential. It provides no entertainment. It threatens to thin profoundly our most precious crop, the next generation of basic and clinical neuroscientists. In the US, the first phases of the storm included a relative decrease in funding from the National Institutes of Health (NIH) and the cutting back of discovery and unrestricted funds by the pharmaceutical industries. For clinician–scientists these stresses have been compounded by the tightening of health-care financing and the increases in the expense of clinical practice and compliance. Clinically derived margins to support neurologists in research pursuits have become rare. With the global economic downturn, these trends could, without intervention, continue and be coupled with the disappearance of venture funding, reduced support from foundations, and a retreat in philanthropy.

The anxiety among young investigators is palpable. They see worthy research fail to secure funding. They sense anxiety in their mentors. With the new uncertainties, they ask, "Can I do it? For how long? And at what cost to my family?" We are seeing extraordinarily talented investigators decide not to enter investigative fields, or elect not to persist after initial grant rejections. This trend is reflected in the falling number of applications for awards that support young clinician–neurologists. In the US, the branch of the NIH that supports neurology and neuroscience has been doing what it can. It has used recisions to maximize the number of research grants, and policies are in place to provide substantial competitive advantages to young investigators applying for their first grants.

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The force of this storm, however, threatens to overpower these mechanisms. Renewed investment by governments in biomedical and neuroscience research and new patterns of partnership between industry and universities are needed to protect our endangered crop. The solutions will require public and political support for the necessary expenditures. If we let the current storm destroy this crop of researchers, if we thereby lose the potential contributions of this generation, then the consequences for our health and for our economies will be profound. Current projections state that over the next 30 years Alzheimer disease will affect 15,000,000 individuals in the US alone, with inestimable financial and social costs. If we delay by even 10 years the capacity to prevent, delay, or treat this and other neurological diseases, we will look back in three decades, burdened by the costs and privations of these illnesses in an aging population, and we will ask, "What if…?"

There are many worthy competitors for the attention of policy makers, from global recession to global warming, but the survival of this generation of biomedical investigators and the continuation of progress in neuroscience research each deserve their places in the discussion.

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Competing interests
The author declared no competing interests.

www.nature.com/clinicalpractice
doi:10.1038/ncpneuro1003