Stroke Progress Review Group sets priorities for future NIH stroke rehabilitation research

March 23 2012

In 2011, the National Institute of Neurological Disorders and Stroke (NINDS) convened the Stroke Progress Review Group (SPRG) to conduct a final 10-year review of the state of stroke research. The goal is to set priorities and shape future NINDS programs and policies. While SPRG found much available data for maximizing stroke rehabilitation outcomes, translation to clinical practice is inadequate. To realize the enormous potential for improving rehabilitation and recovery, more resources should be applied to implementing and directly supporting SPRG's recommendations.

The Final Report of the Stroke PRG is on the NINDS SPRG website: http://www.ninds.nih.gov/find_people/groups/stroke_prg/01-2012-stroke-prg-report.htm.

The working group for rehabilitation and recovery was co-chaired by Anna Barrett, MD, director of Stroke Rehabilitation Research at Kessler Foundation, Pamela Duncan, PT, PhD, Duke Center for Clinical Health Policy Research, with Steven C. Cramer, MD (NINDS liaison co-chair). "The strategic plan and vision set out in the 2002 SPRG was intended for ten-year implementation," said Dr. Barrett. "To assess progress in rehabilitation and recovery, we recruited eleven working group members (John Chae, Leonardo Cohen, Bruce Crosson, Leigh Hochberg, Rebecca Ichord, Albert Lo, Randy Nudo, Randall Robey, R. Jarrett Rushmore, Sean Savitz, and Robert Teasell with assistance from Norine Foley)."

The working group found significant advances at ten-year followup.

"Not only have we addressed the original SPRG priorities (eg, improving stroke deficits, rather than advising compensatory management), noted Dr Barrett, "we have pushed the science of rehabilitation much further forward. For example, the report cites NIH-funded work done at Kessler Foundation using optical prism training to rehabilitate hidden disabilities of functional vision after right brain stroke. This concept of targeting any treatment to a specific brain system had not yet been funded by the NIH ten years ago. Now we need to apply these strategies over large patient groups, since the number of US stroke survivors continues to rise."

Three priorities were identified:

1. Need for studies identifying valid, reliable, affordable, and accessible measurements of neuroplasticity. We need to understand how these measures of brain plasticity can be used to guide and individualize rehabilitation/restorative therapies to achieve optimal outcomes among all persons affected by stroke.
2. Substantial data suggest that brain plasticity after stroke is shaped by experience. We need to determine which experiences are most important, what dose of experience is needed to maximize outcomes, and how to measure these experiences. An improved understanding of biomarkers of recovery and restorative therapies will support achieving these goals.
3. Advances in basic science of brain repair indicate a major opportunity for translating new restorative therapies to address post-stroke disability. Delivery of appropriate treatment requires a team effort, from bench to bedside to health policy reform. Implementation of Specialized Programs of Translational Stroke Research in Recovery (SPOTS-R2) is a priority.

"This report and the top 3 priorities will form a crucial component of the

second phase of our stroke planning process where we will identify the highest priority research goals in each of the major areas of stroke prevention, treatment and recovery," commented NINDS director Story Landis, PhD.

Provided by Kessler Foundation