

Project title: A practice-based network for rehabilitation research (Practice-RRuN) in spatial neglect

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Collaborators and Mentors: Robert L. Johnson, FAAP, MD (Dean, Rutgers New Jersey Medical School); Maria Soto-Greene, MD (Vice Dean, Rutgers New Jersey Medical School); Rodger DeRose, MBA (President and CEO, Kessler Foundation); Sue Kida, PT, MHA (President, Kessler Institute for Rehabilitation); Steven Kirshblum, MD (Chair, Physical Medicine and Rehabilitation, Rutgers New Jersey Medical School; Senior Medical Officer, KIR and Chief Medical Officer, Kessler Foundation); Bruce Gans, MD (Executive Vice-President and Chief Medical Officer of KIR, and National Medical Director for Rehabilitation, Select Medical).

Topic category: Research

Background, significance of project: More than half of stroke and brain injury patients hospitalized for rehabilitation have **spatial neglect**, yet only 20-50% are identified. These people have literally lost the visuo-motor ability to perceive and move adaptively in their 3D world. Spatial neglect prolongs rehabilitation hospital stay up to 10 days, increases fall risk by more than 6x, and decreases the likelihood of successful return home by 50%. Evidence-based spatial neglect treatment is rarely used (estimated < 5% of affected patients). Because so many patients are affected, evidence-based treatment of spatial neglect could greatly improve the quality and value of inpatient rehabilitation.

Purpose/objectives: I am bringing together research, clinical, and institutional priorities to address functional disability and reduce its impact on community health. I addressed four goals.

1. to form a practice-based rehabilitation research network, leveraging the platform of our > 20 previous studies, national thought leadership and international collaborations.
2. to lead training for therapists in effective spatial neglect assessment.
3. to lead implementation of evidence-based prism training: equipment and in-person certification.
4. to forge interorganizational agreements, form a leadership group, and launch systematic outcome recording in an administrative database.

Methods/Approach/Evaluation Strategy:

I recorded via observation and survey: sites approached, enrolled, and network research agreements created, therapists trained in assessment and treatment, sites with designated outcome collection teams, sites tracking implementation in the administrative outcome database, monthly network meetings completed, and barriers and facilitators of implementation identified. With two other founders, I created a leadership committee and defined network medium- and long-term goals.

Outcomes/Results: I cultivated twenty rehabilitation facilities: ten joined the network via research agreements. Over 30 new therapists learned spatial neglect assessment (KF-NAP™), and KF-PAT™ treatment; six sites recorded over 500 patients in the administrative database. Over the course of three network meetings, and two leadership committee meetings, we identified goals and over 20 barriers and facilitators of implementation, including clinical, administrative and personal factors.

Discussion/Conclusion/Statement of Impact: Through this project, Rutgers New Jersey Medical School is positioned as a leader, promoting the quadruple aim in a real-world rehabilitation setting. Database evaluation reveals that over 500 rehabilitation patients received evidence-based assessment within the practice-based research network, a direct translation of science to practice. I and the leadership committee are now analyzing outcomes, to confirm the suspected advantage in cost-efficiency, functional recovery, and community transition with this pathway of care. More than 60 clinicians are now part of a community of practice via the network, to address our long-term goal of creating a set of best practices for spatial neglect care. Over the long term, on the basis of best practices, the network will also support therapists as they implement the most effective neglect interventions. We expect this will improve the clinician experience of care for these vulnerable patients, and opens the door to future work evaluating the real-world impact of spatial neglect care on caregivers, families and the community.