

Spinal Cord Injury

Background

It is estimated that between 225,000 and 296,000 persons in the United States have some type of spinal cord injury (SCI) that significantly affects their life activities. Of these, more than 25,000 Veterans receive primary and specialty care within the VA healthcare system, making it the largest integrated healthcare system in the world for SCI and those with spinal cord disorders (SCI/D). SCI/D is not a single healthcare problem or specific disease, but a lifelong condition. Persons with SCI/D require ongoing management to maintain good health, prevent comorbid conditions, and enhance quality of life.

The VA healthcare system faces challenges related to aging of the Veteran population. Today, people with SCI/D are living longer; more than half of Veterans with SCI/D have been injured for longer than 20 years, and approximately 80% are 50 years of age and older. This increased life expectancy of the SCI/D Veteran population is coupled with greater prevalence of chronic diseases common in older age. Thus, in addition to providing primary and specialty medical care for the impairments associated with SCI/D, it is essential to provide preventive care to promote and maintain healthy aging among Veterans with SCI/D.

Spinal Cord Injury Quality Enhancement Research Initiative

The Spinal Cord Injury (SCI) QUERI uses the QUERI six-step process (see sidebar) to improve quality of care and health outcomes of Veterans with SCI/D. SCI-QUERI's mission is to support

the health, independence, functioning, quality of life, and productivity of Veterans with SCI/D by increasing the use of research findings in healthcare. This is accomplished through the following objectives:

- Enhancing patient self-management;
- Emphasizing disease prevention and early detection of comorbid conditions;
- Offering provider education, advanced training, and decision-support strategies; and
- Improving access to, and delivery of services through new care models using technologies such as MyHealthVet – VA's Internet-based personal health record.

SCI-QUERI also works closely with their clinical partners to identify critical, time-sensitive issues essential for VA operations.

SCI-QUERI Projects and Findings

Pressure Ulcer

Factors such as lack of sensation and immobility increase the risk of pressure ulcer (PrU) development in persons with SCI/D, making PrUs a serious, costly, and lifelong complication. The overall objective of SCI-QUERI's activities in this area is to develop evidence-based parameters for PrU prevention and healing. Specifically, investigators are implementing a standardized SCI/D-specific assessment tool to evaluate pressure ulcer healing. The Pressure Ulcer Management Tool (PUMT), developed by colleagues at the Tampa VA, is being implemented across VA SCI centers. Using a collaborative approach, SCI-QUERI is monitoring implementation

About QUERI

VA/HSR&D's Quality Enhancement Research Initiative (QUERI) currently focuses on ten areas of great importance related to healthcare for Veterans: Chronic Heart Failure, Diabetes, eHealth, HIV/Hepatitis, Ischemic Heart Disease, Mental Health, Polytrauma and Blast-Related Injuries, Spinal Cord Injury, Stroke, and Substance Use Disorder.

Working with health system partners to develop research that speeds improvements in Veterans' healthcare, QUERI utilizes a six-step process to diagnose gaps in performance and identify and implement interventions to address them.

- Identify priority conditions and opportunities for improving the health of Veterans.
- Identify effective practices for improving outcomes for priority conditions.
- Examine variations in existing practices, the sources of variation, and their relation to health outcomes.
- Identify and test interventions to improve the delivery of best practices.
- Evaluate the feasibility, adoption, and impact of coordinated improvement programs to spread best practices.
- Evaluate the effects of improvement programs on Veterans' health outcomes, including quality of life.

through monthly calls with sites. Planned research will examine the impact of using a standardized assessment tool on pressure ulcer treatment and healing rates. A second project is focused on utilizing the SCI annual examination as an opportunity to promote skin health and prevention of skin breakdown.

Obesity

Approximately two-thirds of Veterans with SCI/D are overweight or obese, putting them at increased risk for negative health consequences and chronic conditions. Because mobility limitations result in insufficient levels of daily energy expenditure, it has been established that persons with chronic SCI/D need to participate in weight management strategies, such as physical activity and dietary management to treat obesity. Despite the need, information about effective weight loss strategies are unknown. SCI-QUERI has partnered with the Office of SCI/D Services, the VA National Center for Health Promotion and Disease Prevention, and the VA National Program for Weight Management to conduct a systematic assessment of current weight management treatment and prevention practices, as well as barriers and facilitators for Veterans with chronic SCI/D across the VA SCI/D System of Care. Findings will inform subsequent weight management implementation activities and adaptations necessary for SCI/D care delivery.

MRSA

MRSA (methicillin-resistant staphylococcus aureus) is a frequent cause of infection and is associated with increased morbidity, mortality, and healthcare costs. Patients with SCI/D are at increased risk for MRSA, with colonization or infection rates ranging from 8% to 30%. A long-term goal of SCI-QUERI is to reduce hospital-acquired MRSA infections and transmission of MRSA in SCI Centers. In collaboration with the Office of SCI/D Services and the VA MRSA Prevention Program, a toolkit on educating Veterans

with SCI/D about MRSA has been developed and disseminated to the SCI Centers. Current implementation of the MRSA Prevention Program in SCI Centers also has been assessed, and an implementation project is in development to improve adherence to contact precautions.

Influenza

Individuals with SCI/D are at high risk from respiratory complications due to influenza. Healthcare workers can spread the influenza virus to patients, and unvaccinated workers can be a key cause of outbreaks in healthcare settings. The single most effective way to prevent influenza, or severe consequences from the illness, is vaccination. The VA goal for healthcare workers' vaccination is 85%, yet our recent findings showed a 48% influenza vaccination rate for healthcare workers of Veterans with SCI/D (2009-2010 season). A study is under development to facilitate the use of novel evidence-based implementation strategies to improve influenza vaccination rates among VA healthcare workers.

Cross-Cutting Issues

Access to care is often a problem for Veterans with SCI/D due to mobility impairments and the need for specialized equipment. SCI-QUERI worked with the Office of SCI/D Services, Paralyzed Veterans of America, and the Veterans Consumer Health Office to create a SCI/D healthy living center for MyHealtheVet. The SCI/D center contains educational materials, consumer guides, and other evidence-based tools. SCI-QUERI also developed a promotional campaign to increase enrollment to MHV by Veterans with SCI/D, initially at two SCI Centers. Enrollment doubled at these two sites following the campaign. Further, SCI-QUERI is working with the Office of SCI/D Services to evaluate how best to utilize telehealth care among Veterans with SCI/D.

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The SCI-QUERI Executive Committee

Each QUERI Executive Committee is co-chaired by a research expert and a clinician. The research expert and Director for SCI-QUERI is **Frances Weaver, Ph.D.**, and the clinical co-coordinators are **Barry Goldstein, M.D., Ph.D.** and **Margaret Hammond, M.D.** The Implementation Research Coordinator is **Marylou Guihan, Ph.D., M.A., B.A.** The Executive Committee includes other experts, representatives of service organizations, and consumers in the field of spinal cord injury: Leigh Anderson, M.D.; Barbara Bates-Jensen, Ph.D.; Stephen Burns, M.D.; John Carswell; Fred Cowell, B.S. (Paralyzed Veterans of America); Chester Ho, M.D.; Gail Powell-Cope, Ph.D.; Sunil Sabharwal, M.D.; Arthur Sherwood, P.E., Ph.D. (National Institute on Disability and Rehabilitation Research); and Carol VanDeusen Lukas, Ed.D.

QUERI web link:
www.hsr.d.research.va.gov/queri