# Use of Knowledge-To-Action Model to Implement the Neuro-QoL Across Multi-Site Neurologic Outpatient Rehabilitation Clinics

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## Problem

In 2021, it was identified that patients receiving outpatient rehabilitation for a neurologic diagnosis were typically participating in performance-based outcome measures, occasionally completing a variety of patient reported outcome measures, or no outcome measures at all.

## Background

The Academy of Neurologic Physical Therapy has published information and recommendations related to Knowledge Translation using the Knowledge to Action Framework (see image below).

Advocate Health operates 24 acute care hospitals and over 100 outpatient rehabilitation locations throughout IL and WI.

Centers for Medicare Services is encouraging all patients seeking rehabilitation services to complete a patient reported outcome measure during the course of their care.

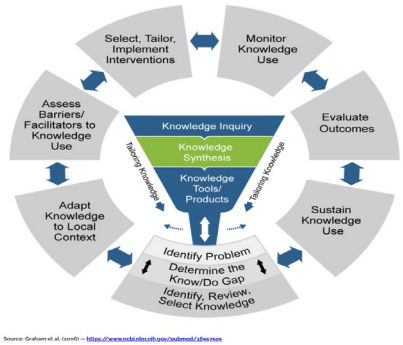


*Figure 1. Graham et al. 2006, sourced from ANPT at Neuropt.org (2025).*

## Objectives

Use of the Knowledge to Action framework to:

- Implement 4 Neuro-QoL short forms in 3 neurologic outpatient rehabilitation sites in IL
- Analyze data collected from the 3 sites to make recommendations for larger implementation.
- Implement the use of 5 fixed length Neuro-QoL short forms across all outpatient rehabilitation clinics within IL and WI.

## Methods

**Identify the Problem & Determine the Know/Do Gap**: It was determined that clinicians were using a variety of outcome measures or none at all for OP neuro rehab.

**Identify, Review, Select Knowledge:** A review of the literature was completed and the following 4 Neuro-QoL short forms were identified: Lower Extremity Function v1.0, Upper Extremity Function v1.0, Cognition Function v2.0, & Communication v1.0
These outcome measures were identified for use as they were patient focused and looked at multiple domains of function, allowing for all 3 therapy discipline (PT, OT, SLP) implementation.

**Adapt Knowledge to Local Context:** In 2022, 3 clinics were identified in IL. These 3 clinics were asked to collect Neuro-QoL data using one of the 4 identified short forms at evaluation and discharge for any patient with a neurologic diagnosis.
Data was collected from May 2022 through December 2023.

## Methods (Continued)

**Assess Barriers/Facilitators to Knowledge Use:** Data collected was analyzed in Jan 2023, July 2023, & January 2024. Education opportunities for front-line clinicians were identified from the 3-clinic implementation project to facilitate a larger scale roll out.

**Select, Tailor, Implement Interventions:** It was identified that there was a large ceiling effect for the Upper Extremity short form. The short form Ability to Participate in Social Roles and Activities v1.0 was added.
The Neuro-QoL short forms were built into the electronic medical record (EMR). Education for front line team members was completed in May 2024.
Use of the EMR Neuro-QoL short forms went live June 6, 2024 for all OP rehabilitation sites in IL & WI.

**Monitor Knowledge Use:** With the Neuro-QoL short forms live in the EMR, data analysis was able to be completed more frequently. Initial data analysis focused on collection rates. Informal rounding with front line champions was completed to facilitate implementation.

**Evaluation Outcomes:** Targeted outcomes looked at collection rates, as determined by rehab diagnosis.

**Sustain Knowledge Use:** A monthly dashboard of the targeted outcomes is updated each month with feedback available by clinic or by clinician.
At monthly meetings, clinicians will bring forward barriers to use of tools and these are individually addressed.

**References**

1. Graham ID, Logan J, et al. 2006. Lost in knowledge translation: Time for a map? *The Journal of Continuing Education in the Health Professions*. 26(1):13-24.
2. Academy of Neurologic Physical Therapy. Introduction to Knowledge Translation. https://neuropt.org/practice-resources/what-is-knowledge-translation. Accessed: August 22, 2025.

## Results

A complete data set had a survey completed at patient's initial evaluation and again at discharge. The data reported here is the number of complete data sets, the total number of patients with a neurologic diagnosis, and collection percentage:
2022: 395 surveys, 998 patients, 39.5%
2023: 998 surveys, 1,627 patients, 61.5%
Large scale roll out to all outpatient sites in both IL and WI June 6, 2024.

June 6th to end of year 2024: 1,719 surveys, 2,850 patients, 60.3%
2025 total as of Sept 17, 2025: 2,111 surveys, 5,687 patients, 37.1%

## Conclusions

The Knowledge-to-Action Model provided leaders with a framework to initially create a pilot implementation project, identify barriers, and improve commitment to the new process. This is the main reason the large-scale implementation reflected a collection rate similar to the second year of the pilot study. The data for 2025 is showing a decline in collection percentage. This is believed to be multifactorial: decreased use for non ambulatory patients or patients that are scoring high on evaluation, and poor collection rates from patients that self discharge.
The Knowledge-to-Action cycle continues to remain relevant as this model includes "sustain knowledge use" which reminds leaders and key stakeholders of the importance of monitoring ongoing objectives as the project moves into the sustainability phase.