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7. Funding Source (if applicable)

none

8. Manuscript Title

Using the RE-AIM framework to evaluate the implementation of standardized cognitive outcome measures within a rehabilitation learning health system

9. Abstract (500 words maximum)

Background: Cognitive impairment is a common sequelae of acquired brain injury and neurodegenerative diseases and negatively impacts rehabilitation outcomes. With the goal of improving evidence-based care and outcomes for clients with cognitive impairments, a large rehabilitation hospital network in Boston implemented a cognitive assessment protocol consistent with clinical guideline recommendations from the American Congress of Rehabilitation Medicine (ACRM). Using the RE-AIM framework, we examined the implementation of this protocol in occupational (OT) and speech-language (SLP) therapy practices. This initiative contributes to a broader institutional goal of establishing a Learning Health System model, where systematically gathered data generates evidence in real-time to guide care.

Methods: A retrospective medical record review was completed for 220 patients with a primary neurologic diagnosis who were seen by OT and/or SLP clinicians at two outpatient sites over a 6-month period. Clinical sites A & B employed implementation strategies of education/training, documentation templates and champions, and site A additionally included auditing and feedback and organizational leadership support. Reach and adoption of the cognitive assessment protocol were evaluated using descriptive statistics and logistic regression models. To understand barriers and facilitators impacting adoption, focus groups with OT and SLP clinicians (n = 15) and site administrators (n = 2) were conducted and analyzed using a content analysis and guided by the Theoretical Domains Framework (TDF).

Findings: Clinical site, where different implementation strategies were utilized, was significantly associated with adoption of OT and SLP cognitive assessment protocols, when controlling for patient factors, $p < .01$. For patient demographic factors, age was significantly associated with adoption of the SLP cognitive assessment protocol with each 1-year increase in age, the odds of non-compliance increased by 7%, $p < .05$. Focus group data captured clinicians' perceptions related to the implementation process and effectiveness of the cognitive assessment protocol within their clinical setting. Clinicians cited barriers related to the TDF construct of 'environmental context and resources', including having clinical tools and resources available within their setting and organizational support. Additionally, the TDF construct of 'social influences', such as patient and caregiver expectations and goals, was important to clinicians' decision-making and influenced their assessment practices.

Implications: These findings provide preliminary evidence for the use of implementation strategies that target both individual and organizational level barriers to promote the adoption of systematic outcome measurement practices in the rehabilitation setting. Clinical decision-making in rehabilitation entails dynamic interactions between multi-disciplinary providers and patients and their caregivers. The role of the patient-provider relationship must be considered within implementation efforts. The collection of systematic data in a Learning Health Systems model can support clinicians in providing client-centered care and generate knowledge to inform evidence-based practice.

10. Key Words (must list at least 1 up to 6 maximum)

- 1 : Cognitive Rehabilitation
- 2 : Implementation Science
- 3 : RE-AIM
- 4 : Learning Health System
- 5 : Outcome Measurement

11. Key Implementation theories or frameworks used in this manuscript

- RE-AIM
- Theoretical Domains Framework (TDF)

2. Thank You!

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