

1.

1. First Name

Joshua

2. Last Name

Johnson

3. Academic Degree(s)

DPT, PhD

4. Department/Institution

Physical Medicine and Rehabilitation / Cleveland Clinic

5. Email Address

johnsoj8@ccf.org

6. Co-author(s) names (first and last) and degrees

Jennifer Sullivan, PhD, MS

Katy Trinkley, PhD, PharmD

Brittany Lapin, PhD, MPH

Sandra Passek, DPT

Gabrielle Jones, BS

Valerie Asp, DPT

Bryan Ford, MPH

Borsika A. Rabin, PhD, PharmD, MPH

7. Funding Source (if applicable)

Learning Health System Rehabilitation Research Network, a research center funded by NICHD and NINR (1P2CHD101895-01)

8. Manuscript Title

Use of the iPRISM webtool in a learning community to assess implementation context and fit of a novel clinical decision support tool for physical therapy triage in acute care hospitals

9. Abstract (500 words maximum)

Introduction

The iPRISM webtool is a recently developed, interactive, publicly available web-based tool designed to aid practitioners and researchers through the process of applying the Practical Robust Implementation and Sustainability Model (PRISM) domains for the systematic assessment of and fit with context. A learning community is a multi-disciplinary group of partners engaged in addressing a complex clinical problem. Our learning community used the iPRISM webtool to conduct a pre-implementation assessment of the Physical Therapy Planned frEqueNcy Clinical decision support tool (PT-PENCIL), a data-derived clinical decision support tool designed to guide utilization of physical therapist services for individual patients in the acute care hospital.

Objective

First, to describe the process of co-designing the PT-PENCIL within the learning community. Second, to describe the use of and findings from the iPRISM webtool to assess pre-implementation perceptions of the context and fit of the PT-PENCIL.

Design

A descriptive research design.

Setting

Thirteen members of the learning community were from three hospitals in one health system and included six full-time practicing physical therapists, three rehabilitation managers, a bioinformaticist, biostatistician, research coordinator, and the principal investigator. Work was conducted both virtually and in-person.

Interventions

N/A

Outcome Measures

Primary quantitative outcomes were individual-level ratings on each of PRISM's context domains and RE-AIM outcomes. Context domains were rated 1 (not aligned) to 6 (well aligned) indicating fit of the PT-PENCIL with expectations of patients, expectations of organizational partners, characteristics of intended patients, characteristics of organizational partners, infrastructure (available resources, staff, current workflow, etc.) and characteristics of the external environment (policies, guidelines, etc.). RE-AIM outcomes were rated 1 (not likely at all) to 6 (very likely) for expected reach, effectiveness, adoption, implementation, and maintenance.

Results

The design of the PT-PENCIL occurred over 13 meetings with the learning community. Topics spanned review of the statistical model underlying the tool through details of its planned design and function within the electronic health record. Eight of the 13 learning community members completed the iPRISM webtool independently. The mean (range) rating scores of fit were 4.6 (3-6) for infrastructure, 4.8 (4-6) for characteristics of the external environment, 5.1 (3-6) for expectations of patients, 5.1 (3-6) for characteristics of organizational partners, 5.5 (4-6) for expectations of organizational partners, and 5.6 (4-6) for characteristics of intended patients. The mean (range) for likelihood of RE-AIM outcomes were 4.2 (1-6) for adoption, 4.6 (4-6) for effectiveness, 4.7 (3-6) for maintenance, 4.8 (2-6) for implementation, and 5.2 (2-6) for reach.

Conclusions

Aided by the iPRISM webtool, we identified that PT-PENCIL implementation is likely to be supported given alignment with the expectations of our patients and organization, but challenged by the current state of our resources, staff, workflow, and external policies and guidelines. We perceived reach will be most likely high, but adoption will be likely low. These findings will be key in guiding our selection of standardized strategies to increase the likelihood of implementation success during a planned stepped-wedge trial. Since the iPRISM webtool is publicly available, this process is generalizable and can be used by others.

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

- 1 : Implementation science
- 2 : PRISM
- 3 : Rehabilitation
- 4 : Physical therapy

11. Key Implementation theories or frameworks used in this manuscript

The Practical Robust Implementation and Sustainability Model (PRISM), used in this study as a newly-developed web-based tool.

2. Thank You!

New Send Email

Feb 28, 2023 16:06:24 Success: Email Sent to: CMendelsohn@aapmr.org,munderwood@aapmr.org
