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Implementing Evidence in Clinical Practice

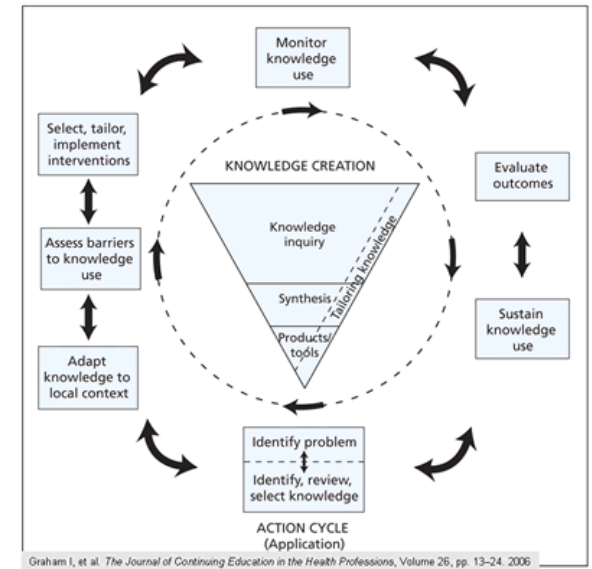
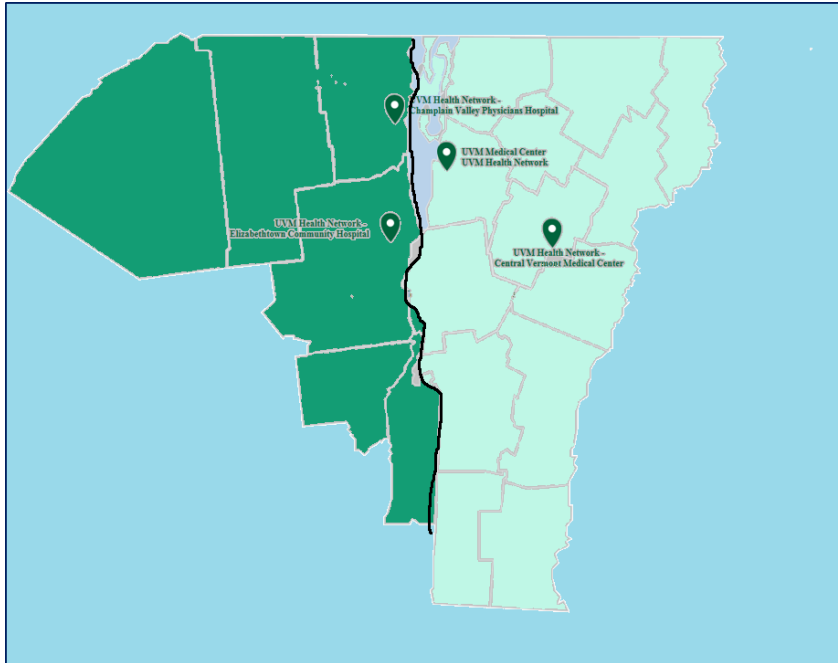
KT Conference McGill University

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Suzanne Lawrence

THE
University of Vermont
MEDICAL CENTER

Background:



Identification of Knowledge

SPECIAL INTEREST ARTICLES

Outcome Measures in Neurological Physical Therapy Practice: Part I. Making Sound Decisions

Kirsten Potter, PT, DPT, MS, NCS, George D. Fulk, PT, PhD, Yasser Salem, PT, PhD, NCS, PCS, and
Lisa Sullivan, PT, DHS

Standardized outcome measures (OMs) are used in evidence-based practice. Despite the recognition of recent evidence suggesting that the use of OMs is limited, selecting the most appropriate OMs for use is a complex process. This article provides a guide to the selection of OMs and discusses the benefits and barriers to their use. The article is the first of a 2-part series on the process of clinical practice. We introduce a decision-making process for the selection of OMs and discuss the purpose of the measure, the type of measure, psychometric factors, and the clinical factors, psychometric factors, and considered when selecting OMs for clinical use. This article is the first of a 2-part series on the process of clinical practice. We introduce a decision-making process for the selection of OMs and discuss the purpose of the measure, the type of measure, psychometric factors, and the clinical factors, psychometric factors, and considered when selecting OMs for clinical use.

Key words: examination, measurement, outcome measures
(*JNPT* 2011;35: 57-64)

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Use of Standardized Outcome Measures in Clinical Practice: Part I. Making Sound Decisions

Diane U Jette, James H...

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Design. The study was a review of the literature. The article is the first of a 2-part series on the process of clinical practice. We introduce a decision-making process for the selection of OMs and discuss the purpose of the measure, the type of measure, psychometric factors, and the clinical factors, psychometric factors, and considered when selecting OMs for clinical use.

Methods. A survey of physical therapists was conducted to determine their use of standardized outcome measures. The article is the first of a 2-part series on the process of clinical practice. We introduce a decision-making process for the selection of OMs and discuss the purpose of the measure, the type of measure, psychometric factors, and the clinical factors, psychometric factors, and considered when selecting OMs for clinical use.

Results. Forty-eight percent of physical therapists reported using standardized outcome measures. The article is the first of a 2-part series on the process of clinical practice. We introduce a decision-making process for the selection of OMs and discuss the purpose of the measure, the type of measure, psychometric factors, and the clinical factors, psychometric factors, and considered when selecting OMs for clinical use.

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Research Report

SPECIAL INTEREST ARTICLES

The Brain Recovery Core: Building a System of Organized Stroke Rehabilitation and Outcomes Assessment Across the Continuum of Care

Catherine E. Lang, Robert Fucetola, Ph.D., Clayton Karr, MSOT

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CASE STUDIES

Supporting Clinical Practice Behavior Change in Neurologic Physical Therapists Through Knowledge Translation

Susan B. Perry, PT, DPT, NCS, Hallie Zeleznik, PT, DPT, NCS

Background and Purpose: Physical therapists tend to underuse research evidence in clinical practice. Emerging research on knowledge translation activities (KTAs) provides guidance to address this problem. We describe a yearlong effort to promote clinical practice behavior change in neurologic physical therapists.

Case Description: Physical therapy stroke and brain injury teams in an inpatient rehabilitation setting implemented a quality improvement project to encourage use of a novel, evidence-supported gait training method (nonsupported gait training [NSGT]) for patients with hemiparesis.

Intervention: The project consisted of multidimensional KTAs, including (1) quarterly staff meetings at which NSGT was introduced, reviewed, and discussed; (2) group and individual dialogue regarding successes, challenges, solutions, and clinical decision-making; (3) ongoing monitoring of and aggregate feedback about appropriate NSGT attempts via chart audit; and (4) ongoing reminders, role modeling, and clinical consultation. Specific staff perceptions about the approach, captured by a mid-year survey, further informed targeted problem-solving and clinical case presentations.

Outcomes: In the first, second, and fourth quarter, 50%, 60%, and 73% of eligible patients were trained with NSGT, respectively. A mid-year survey showed that 19% of therapists were very/moderately familiar with NSGT before the quality improvement project, versus 78% at the 6-month point. Thirty-three percent stated that they used NSGT almost always/often before the project, versus 66% at the 6-month point.

Discussion: Extensive multidimensional KTAs were feasible in inpatient rehabilitation and were accompanied by a moderate increase in documented and self-reported frequency of NSGT attempts. Clinical

Physical Therapy Program, Chatham University, Pittsburgh, Pennsylvania (S.B.P.); and Outpatient Neuro/Vestibular Program (H.Z.) and Stroke Re-

ical teams practice change. **Video Abstracts:** [links.lww.com/pt/2011/35/05/07](#)

Key words: physical therapy

(*JNPT* 2011)

INTRODUCTION
Evidence-based practice (EBP) is a process of using the best available research evidence to guide clinical practice. The process involves identifying a clinical question, searching for the best available research evidence, appraising the evidence for bias and quality, and applying the evidence to the patient. The process is a continuous cycle that involves ongoing evaluation and modification of practice. The process is a continuous cycle that involves ongoing evaluation and modification of practice.

Case Report

Outcome Measures for Individuals With Stroke: Process and Recommendations From the American Physical Therapy Association Neurology Section Task Force

Jane E. Sullivan, Beth E. Crowner, Patricia M. Kluding, Diane Nichols, Dorian K. Rose, Rie Yoshida, Genevieve Pinto Zipp

Background and Purpose. The use of standardized outcome measures (OMs) can support clinicians' development of appropriate care plans, guide educators in curricular decisions, and enhance the methodological quality and generalizability of clinical trials. The purposes of this case report are: (1) to describe a framework and process for assessing psychometrics and clinical utility of OMs used poststroke; (2) to describe a consensus process used to develop recommendations for stroke-related OMs in clinical practice, research, and professional (entry-level) physical therapist education; (3) to present examples demonstrating how the recommendations have been utilized to date; and (4) to make suggestions for future efforts.

Case Description. A task force of 7 physical therapists with diverse clinical and research expertise in stroke rehabilitation used a 3-stage, modified Delphi consensus process to develop recommendations on OM use. An evidence-based systematic review template and a 4-point rating scheme were used to make recommendations on OM use by care setting and patient acuity, for research, and for inclusion in professional education.

Outcomes. An initial list of 77 OMs was developed based on input from numerous professional sources. Screening measures and duplicate measures were eliminated. Fifty-six OMs received full review. Measures spanned the constructs of body structure/function (21), activity (28), and participation (14). Fourteen measures received a rating of "highly recommend."

Discussion. Use of highly recommended OMs may provide a common set of tools enabling comparisons across patients, interventions, settings, and studies. The use of a clearly defined, comprehensive assessment template may facilitate the pooling of data on OMs and contribute to best practice guidelines. Educational recommendations may inform curricular decisions.

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[Sullivan JE, Crowner BE, Kluding PM, et al. Outcome measures for individuals with stroke: process and recommendations from the American Physical Therapy Association Neurology Section Task Force. *Phys Ther*. 2013;93:1383-1396.]

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Identification of Knowledge Gap

Clinician Survey: n=64

- 43 different outcome measures (OM)
- Frequency of reported stroke OM use:

Never	Rarely	Occasionally	Often	Regularly
4.7%	10.9%	28.1%	14.1%	42.2%

Identification of Barriers:

Clinician survey (n=64)

Barrier Categories:	Number of barriers pre implementation
Access	54 (32.5%)
Time	12 (7.2%)
Inconvenience	1 (0.6%)
Lack of knowledge	34 (20.5%)
Lack of training	12 (7.2%)
Lack of resources	3 (1.8%)
Perceived patient factors	50 (30.1%)
Total number of actual barriers	166
Respondents identifying no barriers	14

Identification of Facilitators

Clinician Survey (n=64): “I use OM because....”

Clinically valuable for prognosis	Guide clinical decision making and treatment	Measure patient change	Needed for reimburse	Our facility policy	Evidence-based practice	Quality assurance
50	44	52	15	7	44	11
78.1%	68.8%	81.3%	23.4%	10.9%	68.6%	17.2%

Identification of Knowledge Gap

Clinician pre implementation audits: n=144

Key Metrics	% of Cases with Recommended OM (rOM)
% of cases with at least 1 rOM administered 1x	52.0%
% of cases with at least 1 rOM administered 2x	31.1%

46 different tests were administered

Adaption to Local Context

- QI process and KTA framework
- Evidence
- Decision making
- Measurement
- Benchmarks
- Data management
- Decision rubric -final rOM

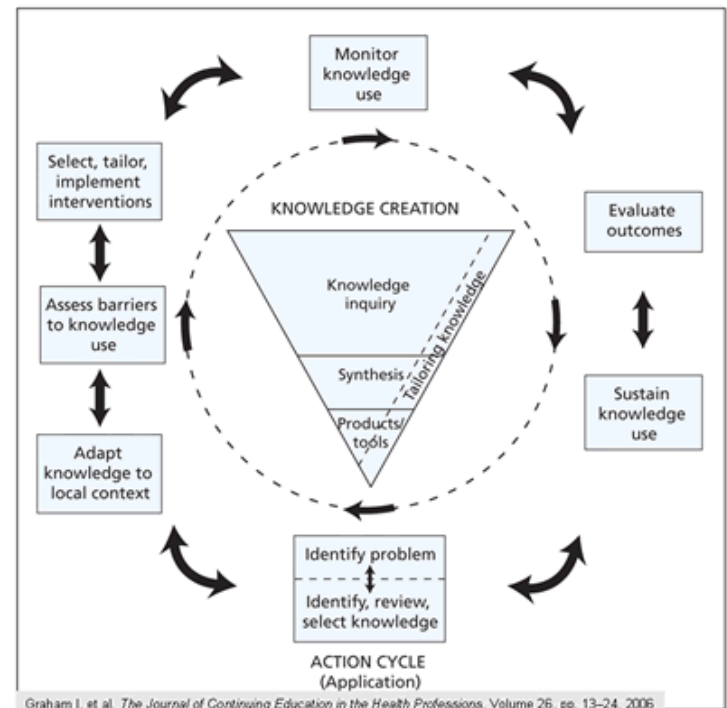
Implementation Plan

Recommended Stroke Outcome Measures Toolbox

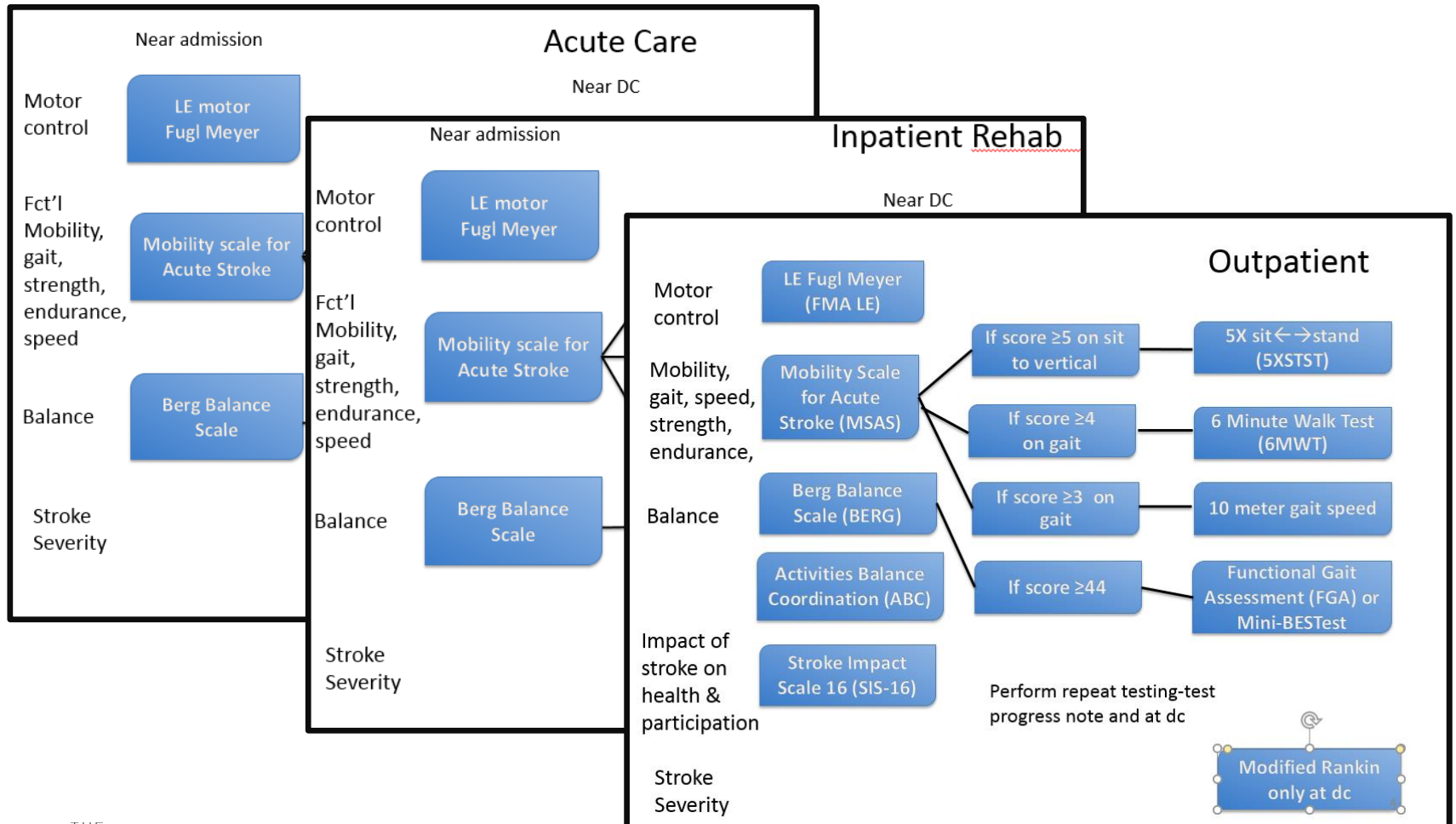
5 - Times Sit To Stand Test	30 - Second Sit to Stand Test
6 - Minute Walk Test	Functional Gait Assessment
10 - Meter Gait Speed	Mini-BESTest
Activity Balance Confidence Scale	Mobility Scale for Acute Stroke
Berg Balance Scale	Modified Rankin Scale
Fugl-Meyer Assessment LE Motor	Stroke Impact Scale - 16

Implementation Plan

- ✓ Knowledge
- ✓ Training
- ✓ Access
- ✓ Time
- ✓ Resources
- ✓ Documentation
- ✓ Patient factors



Implementation Plan



Implementation Plan

Gait Speed (meters/second):

Age/gender normative values (*Bohannon, 2011*):

Age	Gender	95% CI meters/second
60-69	Female	0.97-1.45
70-79	Male	0.95-1.41

Walking categories by gait speed (*Perry 1995*):

Category	Gait speed meters/second
Physiologic	0.10
Limited household	0.23
Unlimited household	0.27
Most limited community	0.40
Least limited community	0.58
Community	0.80

The minimally clinically important difference (MCID) for patients undergoing inpatient rehabilitation after acute stroke is 0.14 meters/second (*Bathuly 2012*) using walking categories as an anchor (*Bohannon 2013*) and for patients 2-5 months post stroke the MCID is .175 meters/second (*Fulk 2011*).

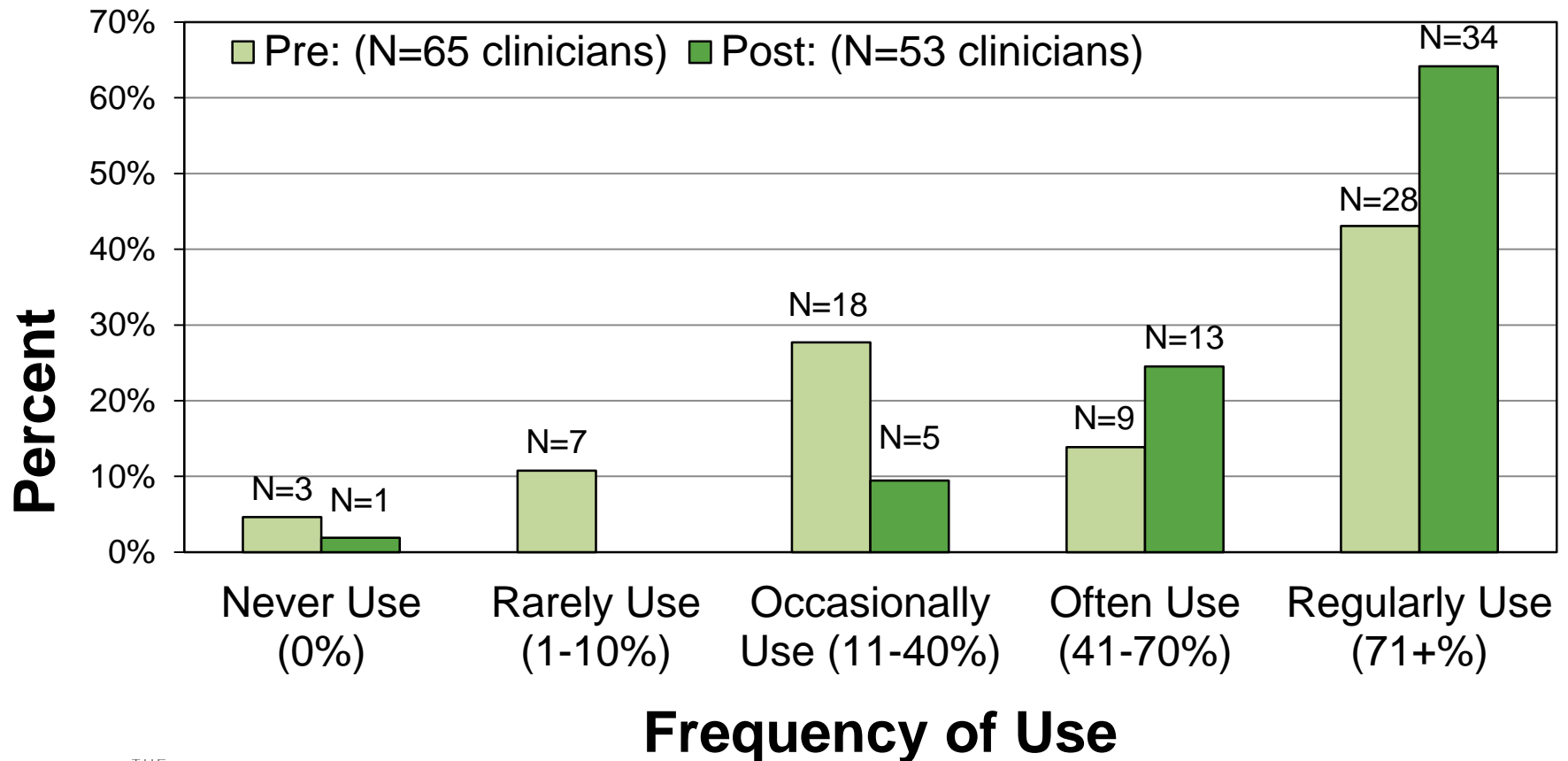
Monitor & Evaluate Outcomes

Post Implementation: Clinician Perception Survey-
reported barriers to rOM use, pre = 64; post = 53

Barrier Categories: (Grouped by Theme)	Number of barriers	
	Pre	Post
Access to medical record and OM	54 (32.5%)	9 (9.0%)
Time it takes to perform, analyze and document a test	12 (7.2%)	12 (11.9%)
Inconvenience	1 (0.6%)	3 (3.0%)
Lack of knowledge	34 (20.5%)	12 (11.9%)
Lack of training	12 (7.2%)	12 (11.9%)
Lack of resources (staffing, automation)	3 (1.8%)	2 (2.0%)
Perceived patient factors: patient acuity, transfer, short length of stay	50 (30.1%)	51 (50.5%)
Total number of actual barriers identified	166	101
Respondents identifying no barriers	14	18

Monitor & Evaluate Outcomes

Post-Implementation Clinician Survey- Reported rOM use:



Monitor & Evaluate Outcomes: Clinician Practice Change

Post-Training Patient Chart Audit: Pre = 144 charts,
Post^{6 mo} = 148 charts, Post^{16 mo.} = 216 charts

Key Metrics	Percent of rOM Used		
	Pre	Post -6 mo.	Post-16 mo.
% of cases with at least 1 rOM administered 1x	52.0%	87.8%	88.4%**
% of cases with at least 1 rOM administered 2x	31.1%	54.7%	59.7%***

** Chi square test for % of cases with at least 1 rOM 1x= 78.27
($p < 0.00001$)

*** Chi square test for % of cases with at least 1 rOM 2x = 29.23
($p < 0.0001$)

Sustainability

1. Build rOM use into standard practice
2. Integrate into everyday routines
3. Integrate into hiring and training process
4. Measure clinician performance against site benchmarks
5. Update rOM literature and psychometric references

Conclusions: Successes

KTA framework was effective:

- Fostered (+) clinician engagement
- Leveraged clinician- researcher- knowledge broker partnership
- Resulted in increased rOM use across all practices

Barriers drove the solutions

Clinicians set local benchmarks

All new standards, tools, processes, and documentation were embedded in local practice

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