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Introduction

- Next-Gen MS is a hybrid improvement-implementation research collaborative influenced and informed by pilot foundational work conducted by the Multiple Sclerosis Continuous Quality Improvement Collaborative (MS-CQI). randomized multi-center study of the use of feed-forward patient reported
- This is the first sub-study of the MS-LINK[™] Outcomes Study and is the first outcomes (PROs) to inform MS clinical care and context-specific system-level quality improvement (QI) interventions.

Figure 1. NextGen MS Study Infrastructure



Objective

We hypothesize that participating sites randomized to intervention (PRO data + QI) will have significantly higher quality of life (HR-QoL) scores and reduced functional progression (via PDDS) compared to "usual care" control sites. We will also explore the associations between PROs and clinical measures.

Table 1. Study Objectives

| Objectives | Endpoints |
|--|--|
| Evaluate if integration of PRO collection with a feed-forward response into the routine care management of adult MS patients changes quality of life | Primary: Significant change Health-Related Quality of Lit QOL-14 number of healthy of forward group vs. control gro Secondary: Proportion with worsening (increase) from b Determined Disease Steps sustained via consecutive 3 months in feed-forward of |
| Evaluate if PROs are reliable assessments of clinical changes | Association between selected outcomes and PROs |





The Next Generation Learning Health System for Multiple Sclerosis (Next-Gen MS): Using patient reported data to improve MS care and outcomes.

Oliver BJ^[1-3], Mehta F^[1], Caon C^[4], Livingston T^[4] et al. for the NextGen MS Investigators

Methods

- Eight (8) MS-LINK sites will participate in Next-Gen MS over 3 years.
- Approximately 2,000 adults with MS (estimated as no less than 250 per site or "cluster") will be recruited and completed written informed consent
- After reaching target recruitment and completing a 6-month preintervention baseline observation period, sites will be cluster-randomized at a 3:1 ratio (intervention vs. control) - 1500 in the intervention group (PRO + QI) and 500 in the control group (usual care) and will be observed over an 18-month period (with time points at 6, 12, and 18 months).
- The analysis of HR-QoL will be conducted using a mixed linear regression and Cox proportional hazards modeling.
- PDDS results will be assessed using a generalized linear regression model.
- Descriptive and correlational statistics will be used for the exploratory analyses.

Figure 2. Study Timeline for Each Cluster



Figure 3. Cluster Randomization 3 to 1 Ratio



Figure 4. Quality Improvement Coaching Model



Figure 4. CHIRP Coaching Model, adapted from MS-CQI Collaborative Coaching Model (2020).







Figure 6. CHIRP Quality Improvement Curriculum Flow Map



Conclusion

- care and outcomes.



• This Study is currently in recruitment phase and awaiting results. • NEXT-GEN MS will provide new evidence about the use of PRO data in MS care and its application to inform system-level efforts to improve MS