

# BCRL Prevention (BCRLp)-Order Set To Prevent Breast Cancer-Related Lymphedema



JOHNS HOPKINS  
SCHOOL of NURSING

Tiffany De Sadier, RN, ANCP-BC; Binu Koirala, PhD, RN  
Margaret Barton-Burke, PhD, RN, Louis Voigt, MD

## Background

- Breast cancer is the most common cancer in women and accounts for 12% of annual cancer cases worldwide.
- The negative outcomes and lifetime burden of BCRL may be preventable through early detection and timely intervention.
- Early preventative measures are available at the site, however, a referral process to specialty clinics is currently not streamlined at the site.



## Methods

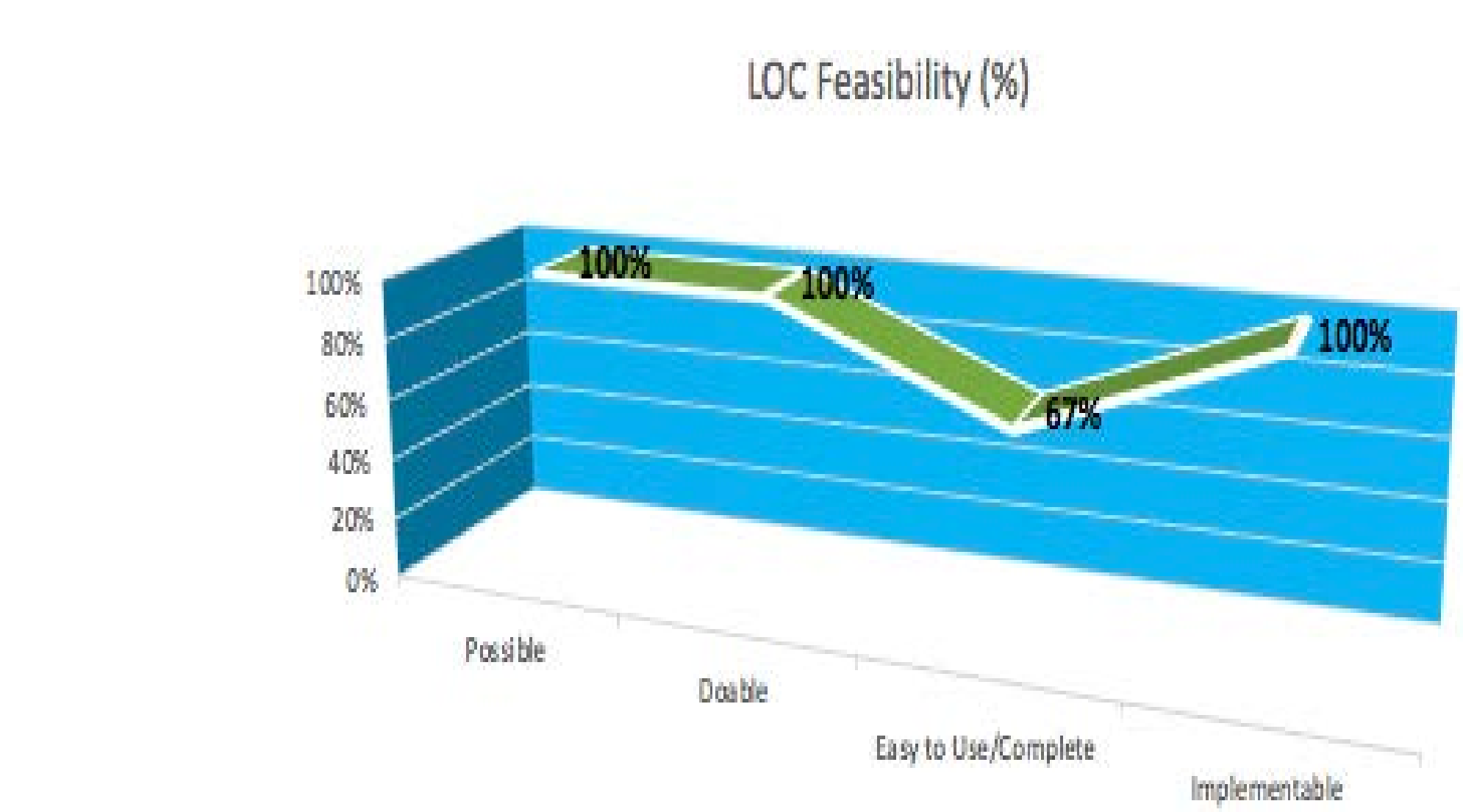
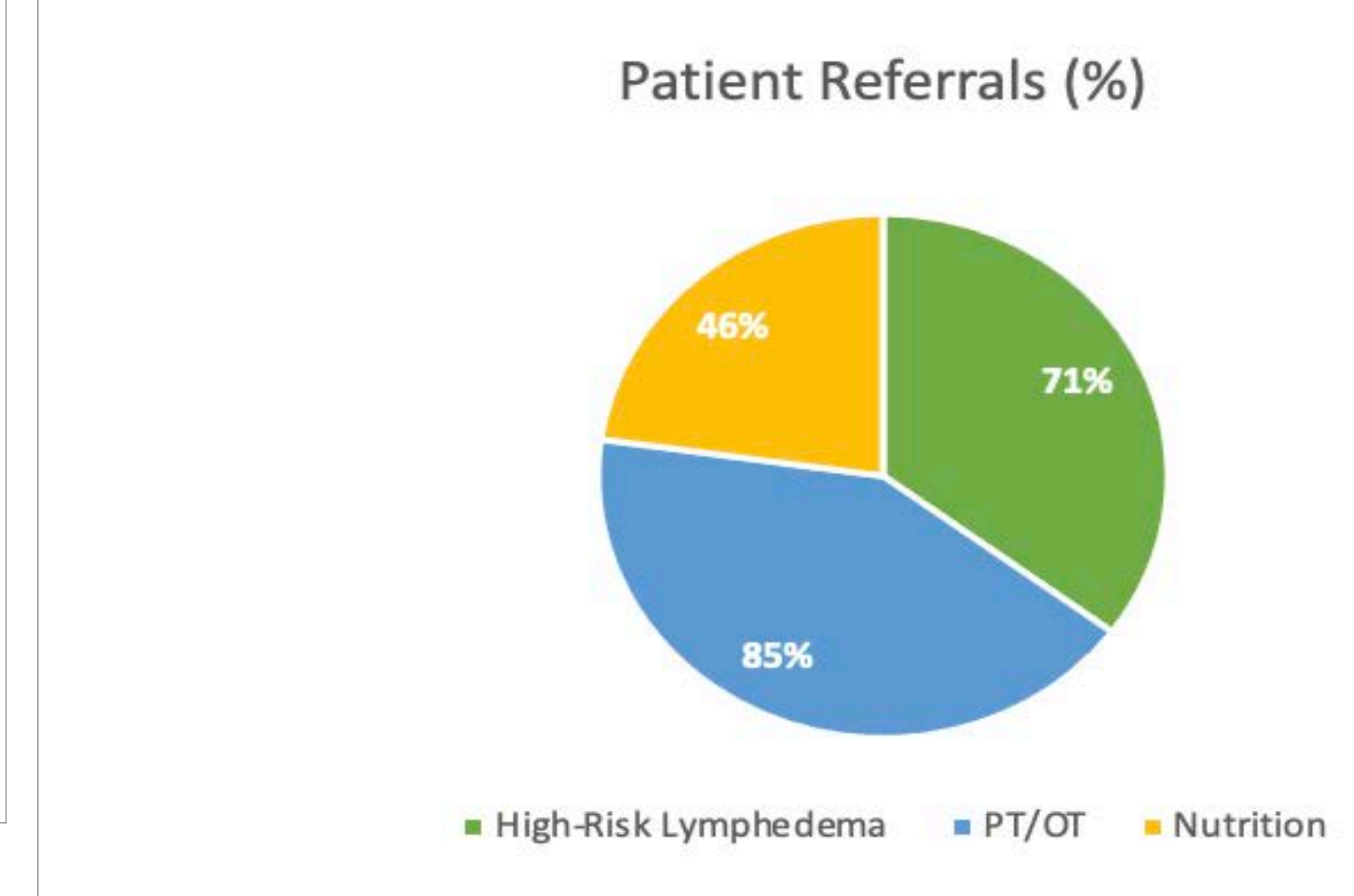
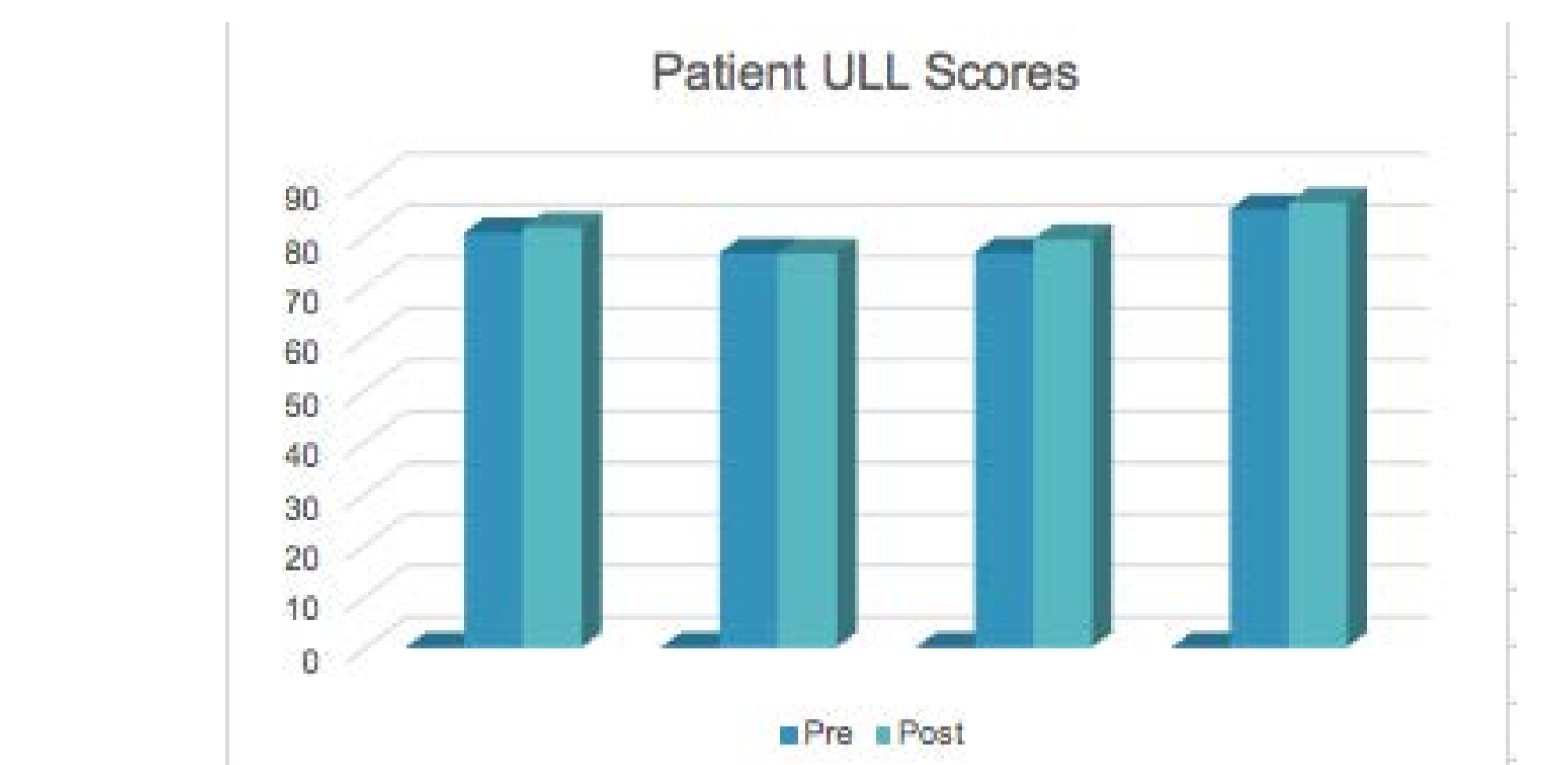
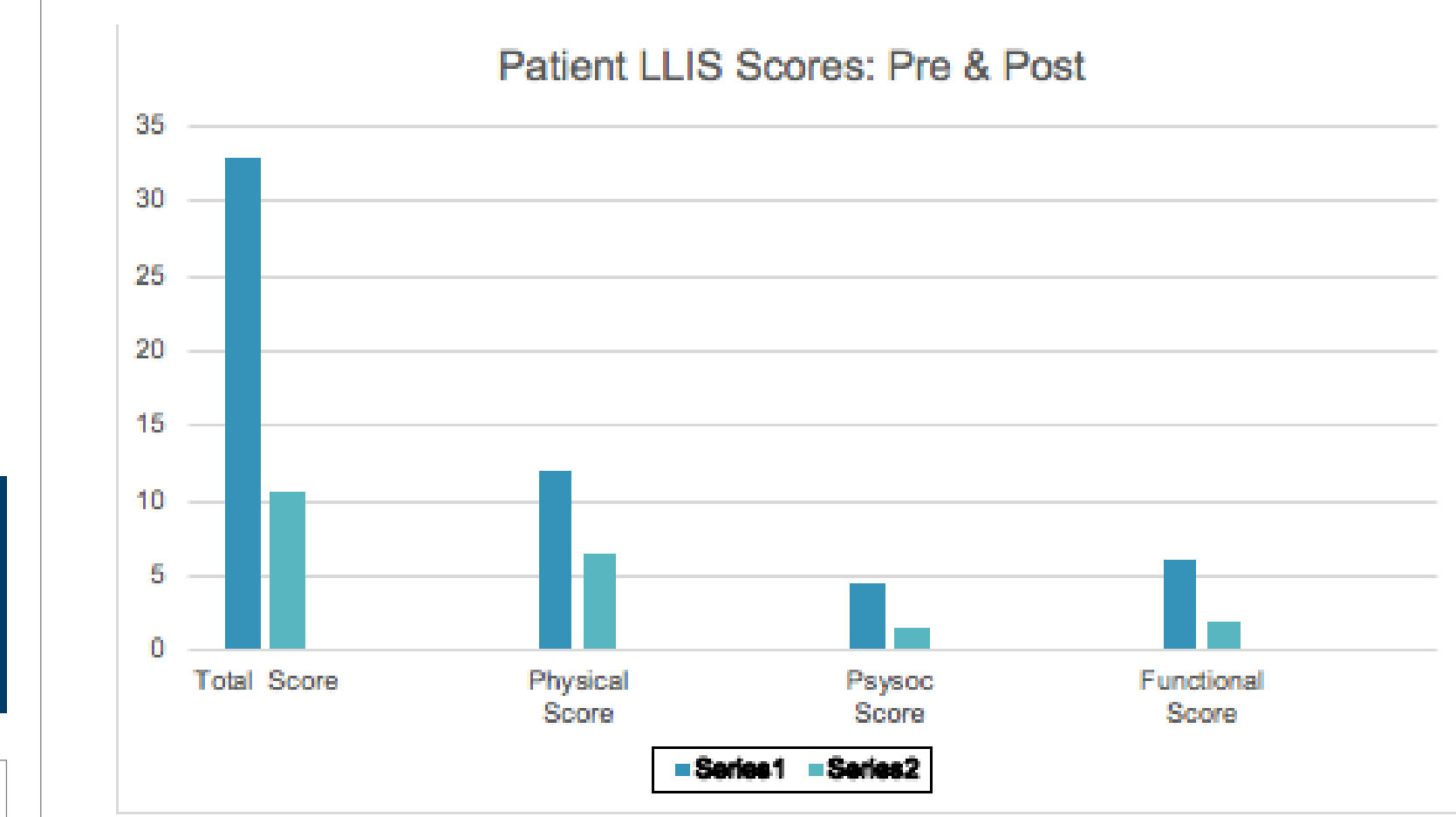
**Design:** Pre and Post QI project.  
**Setting:** Outpatient site at a large cancer center in New York City.  
**Sample:** Oncologists (n=3); High-Risk BCRL Patients (n=14)  
Descriptive Statistics and Wilcoxon sign rank test.

Demographics	N= 14
Age, Mean (SD)	57 (9.6)
Median, IQR	58.2 (9.5)
Female	14
BMI, Mean (SD)	28.8 (2.9)
Surgical History, N (%)	
ALND	8 (57.1)
SLND	6 (42.8)
Ethnicity, N (%)	
Black	5 (35.7)
Latin	7 (50)
White; other	2 (14.3)

SD: Standard Deviation. BMI: Body Mass Index.  
ALND: Axillary Lymph Node Dissection.  
SLND: Sentinel Lymph Node Dissection.

## Results & Data Analysis

- Patients were referred to PT/OT, BCRL, and nutrition clinics.
- Analysis performed using Descriptive Statistics and Wilcoxon sign rank test.
- LLIS median scores: all scores increased in physical, psychosocial, and functional domains (p> 0.05).
- ULL median scores: psychological, social, and total ULL scores demonstrated a slight improvement in status (p> 0.05).
- All providers agreed that *BCRLp-order set* was feasible.
- 67% of provider participants agreed that *BCRLp-order set* was easy to use.



## Purpose

- Using a *BCRLp-order set* to streamline the referral process, the purpose of this project is to increase the use of outpatient specialty clinics in order to prevent or mitigate symptoms of BCRL and determine the impact on quality of life.

## The 12-week EPL intervention

- Patient: Oncologist visit →
- Referral → *BCRLp-orderset* →
- BEP Education Packet →
- QOL Questionnaire (LLIS & ULL) →
- Specialty Clinic Consult →
- Lymphedema Screening, PT/OT, and/or Nutrition Clinics → continued follow-up as needed.
- Feasibility Assessment.

## Project Objectives

- Determine if the number of outpatient specialty consults increases after implementation of *BCRLp-order set*.
- Determine the impact of *BCRLp-order set* on Lymphedema Life Impact Scale (LLIS) scores in patients at high-risk for BCRL.
- Determine the impact of *BCRLp-order set* on Upper Limb Lymphedema (ULL) scores in patients at high-risk for BCRL.
- Evaluate the feasibility of the *BCRLp-order set* as perceived by the providers.

## Conclusion and Implications

- An improvement in QOL scores and effective referral to specialty clinics using *BCRLp-orderset* indicates the potential for durable outcomes with longer follow-up.
- A longitudinal study is recommended to accurately measure changes in QOL.
- Patient demonstrated a slight improvement in QOL after receiving preventative measures for BCRL at specialty clinics for nutrition, physical and occupational therapy, and the high risk lymphedema screening clinic.
- Limitations of the project were largely attributed to structural and organizational changes at the site during the COVID-19 pandemic.
- Overall, provider participants felt this was a feasible intervention with long term potential. In the future, a qualitative study about why patients opted not to complete their pre and/or post questionnaires may also be informative.