



Demonstrated Impact of a VNSNY Orthopedic Intensive Home Rehab Program with a Leading NYC Orthopedic Hospital

*Joint replacement patients who participated in this home-based, post-surgical rehabilitation program **surpassed CMS quality benchmarks in seven out of seven OBQI home healthcare measures and had a rehospitalization rate of 2.8%.***

BACKGROUND

As the rate of total joint replacement surgeries continues to grow in the United States,¹ so do the costs to the healthcare system. These traditionally include the direct cost of the procedure, acute hospitalization costs, rehabilitation in an acute or sub-acute facility, as well as home care.

With the growing adoption of value-based purchasing, along with the incentives built into the Affordable Care Act, providers are under pressure to identify options that maintain the quality of care while reducing its cost.

The clinical basis for this Orthopedic Intensive Home Rehab Program were several studies which found that patients who followed acute hospital care with home care achieved the same or better clinical outcomes and quality of life scores, as compared with those who went to inpatient rehab facilities.^{2,3}

PROGRAM OBJECTIVES

Working in close collaboration with the leadership at a leading New York City orthopedic hospital, the Visiting Nurse Service of New York developed and refined the program to achieve several goals:

- Meet the clinical needs of the joint replacement population
- Reduce the cost of care with a protocol that mimics sub-acute rehab in the home setting
- Help reduce hospital length of stay through early identification of patient needs and a coordinated transition to the home setting, eliminating the need to wait for an available facility bed.

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KEY PROGRAM FEATURES

The Orthopedic Intensive Home Rehab Program has three primary components:

1. Pre-treatment screening. Initiated during the pre-hospital admission phase by the surgeon and/or hospital staff, this assessment leverages patients' clinical and social history to identify individuals who may be eligible for the program and prepare them for discharge into home-based rehab.
2. Patient-centered plan of care. Focused on achieving the patient's functional goals to facilitate an effective return to independent community mobility.
3. Front-loaded services. For patients who meet the clinical criteria, rehabilitation and home health aide services are enhanced during the first two weeks of care, along with skilled nursing and social work services as needed.

PROGRAM SERVICES

Physical therapy (PT) and occupational therapy (OT) are the focus of the program.

The PT regimen centers on addressing musculoskeletal impairments associated with joint replacement surgery:

- Therapeutic joint range of motion exercises
- Strengthening
- Neuromuscular re-education
- Balance and gait training
- Home exercise program prescription and instruction
- Functional mobility training

OT services include training in:

- Home safety
- Activities of Daily Living
- Functional transfers

The first two weeks of care typically include the following, although patient status and progress are reassessed on an ongoing basis to address clinical need and provide an appropriate level of care:

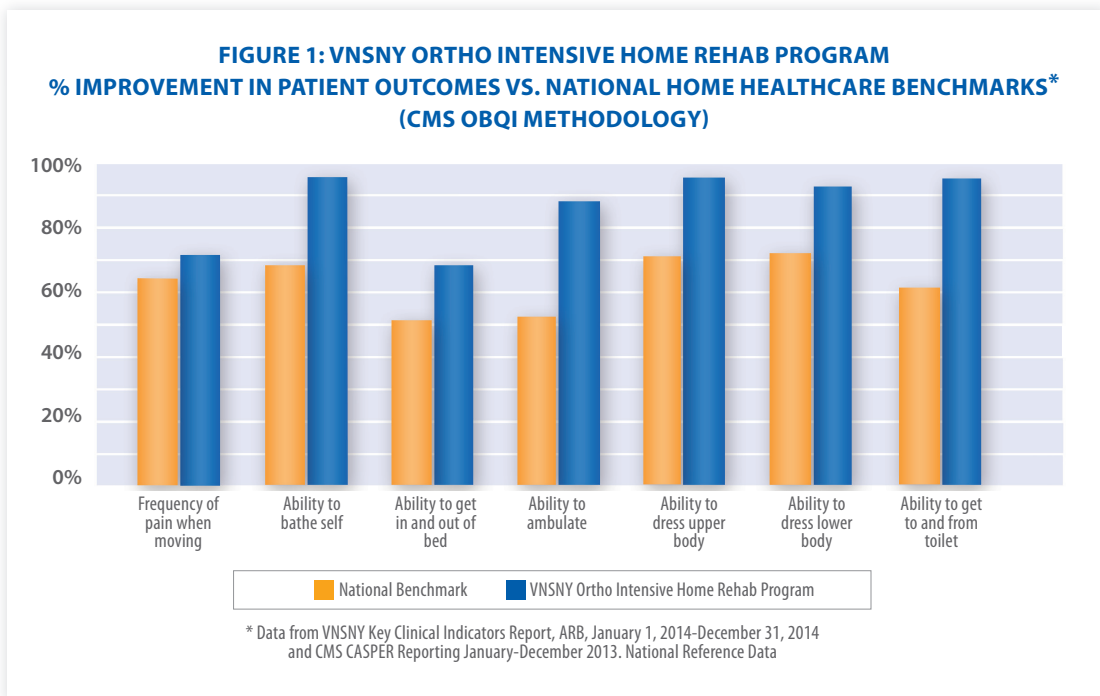
- Front-loaded physical therapy and occupational therapy, with services tapered as patient progresses
- Home exercise program tailored to the patient's functional level and rate of recovery
- Nursing visits for post-surgical care and patient education
- Home health aide assistance based on functional need

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OUTCOMES

From January through December 2014, 780 individuals from the partnering hospital were admitted into the VNSNY Orthopedic Intensive Home Rehab Program. This population included both patients who lived alone and those who had support in the home.



Quality

Data from 2014 demonstrate that patients in this program exceeded national CMS quality benchmarks in seven out of seven OBQI home healthcare measures, on average by 24% (see Figure 1).⁴ Positive outcomes have been sustained over time, with the program having surpassed benchmarks in 2013 as well.⁵

In addition, data indicates that the positive outcomes (as measured by the OBQI) were comparable for those who lived alone as well as for those with support in the home – suggesting that the program can be successful for both groups of patients.⁶

Rehospitalization

From January through December 2014, the program demonstrated a 30-day rehospitalization rate of 2.8%.⁴

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Additional Findings

In a separate evaluation, the VNSNY Research Center analyzed patients in the Orthopedic Intensive Home Rehab Program against a control group of similar patients discharged from the hospital who were not in the program. This analysis showed that patients in the Ortho Intensive Home Rehab Program demonstrated significantly greater improvements in ambulation and bathing relative to those patients not in the program.⁷

Program Expansion

Given the success of the first phase of the Orthopedic Intensive Home Rehab Program, VNSNY has extended the program to nine sites in the past three years, with all programs demonstrating consistently positive early results. Additionally, the program's initial focus on total knee replacements has now been expanded to include total hip replacements.

¹ Kurtz S, Ong K, Lau E, et al. Projections of primary and revision hip and knee arthroplasty in the United States from 2005 to 2030. *J Bone Joint Surg Am.* 2007 Apr; 89 (4):780-5.

² Mahomed NN, Davis AM, Hawker G, et al. Inpatient compared with home-based rehabilitation following primary unilateral total hip or knee replacement: a randomized controlled trial. *J Bone Joint Surg Am.* 2008 Aug; 90(8):1673-80.

³ Mallinson TR, Bateman J, Tseng H-Y, et al. A comparison of discharge functional status after rehabilitation in skilled nursing, home health, and medical rehabilitation settings for patients after lower-extremity joint replacement surgery. *Arch Phys Med Rehabil* 2011; 92:712-20.

⁴ VNSNY Key Clinical Indicators: Intensive Rehab Program (ARB). Jan 1, 2014-Dec 31, 2014.

⁵ VNSNY Key Clinical Indicators: Intensive Rehab Program (ARB). Jan 1, 2012-Sept 30, 2014.

⁶ VNSNY Key Clinical Indicators: Intensive Rehab Program (ARB). Jan 1, 2014-Sept 30, 2014.

⁷ VNSNY Research Center. Evaluation of Intensive Rehab Program (ARB). July 25, 2014.