Steps to Consider on the Pathway to Improving Outcomes Following Lower Limb Arthroplasty

Abstract

The Mater Hospital, North Sydney performs over 1600 lower limb arthroplasties per year, making it one of the largest joint replacement centres in Australia. The authors participated in redesigning the existing program in 2006 using three main steps to improve patient care and outcomes.

The first step was to listen to our patient and staff in relation to suggested areas where the quality of care could be improved. The second was to explore the literature and visit other centres to determine current best practice. Finally, we examined in detail our own practice and implemented changes that would be appropriate to the private sector environment within our patient referral base.

The need for practice change and rejuvenation was highlighted in three distinct areas. These were:
1. Preoperative assessment, screening and education
2. Peri operative and acute care education and practice
3. Rehabilitation options

The first year of operation resulted in a 99% satisfaction rate reported by patients who participated in our alternative (ambulatory) rehabilitation pathway option; demonstrated significant (p<0.01) reduction of hospitalisation of the episode of care for this group of patients; and a new funding model for episode of care. The health outcomes have been comparable to the previous system of care.

Background

The Mater Hospital in Sydney has one of the busiest arthroplasty programs in Australia. Prior to this implementation the existing hospital service was limited to acute care, performing approximately 1600 lower limb (hip and knee) joint replacements annually.

The transfer of patients to other hospitals for inpatient rehabilitation was common practice and had approached 78% of arthroplasty patients by March 2006. While in line with many similar private hospital arthroplasty programs in New South Wales, it was contrary to practice in the other Australian states and abroad (Hensher 1999).

Growing awareness of the need to primarily focus on the ‘patient journey’ (Curry and McGregor, 2005), as well as a desire to maintain reputation, market leadership, and further embrace evidence-based practice, prompted Mater Hospital clinical leaders and administrators to collaborate innovatively to achieve enlightened practice.
At that time, a broader health insurance cover was also being considered within the private health care arena (Department of Health and Ageing 2006).

The proposed changes were focused on extending funding to services which provided care in the community as an alternative to in-hospital care.

Innovation implies change through a process of making improvements by introducing ‘something new’, taking action, and embedding changes into the day-to-day routine within a health care organisation (Plsek 2003). The ‘something new’ to any given situation, can range from using new tools to adopting an innovative concept or perspective.

The implicit goals of innovation are to solve a problem or anticipate future needs. However, to embark on a process of innovation, it is necessary to review the existing status quo. Therefore, focusing on delivering a high standard of healthcare for patients undergoing elective hip and knee arthroplasty an independent clinical efficiency review of existing services provided by our Orthopaedic Unit was carried out.

This review resulted in a remodelling of the pathways of care in line with clinical best practice guidelines and revised strategies towards achieving patient centred outcomes.

Our vision was to implement a revised approach to our joint arthroplasty program aimed at minimising hospitalisation for the entire episode, while at the same time delivering improved patient care which would result in high patient satisfaction levels and improved health outcomes.

Strategies included redesign of the pre-admission process including risk streaming; introduction of both evidenced based clinical pathways and patient education pathways; and redesign of discharge planning and post discharge services.

**Method**

This project aimed at enhancing post discharge services which are patient focused, through a process of review of existing care delivery and implementation of an ambulatory rehabilitation program specifically for patients following hip and knee arthroplasty. The Mater Day Therapy Centre was established in March 2006 to provide an alternate (ambulatory) rehabilitation pathway to inpatient rehabilitation for this group of patients.

General practitioners from the Northern region were invited to attend a 3 hour evening seminar to gain an understanding of their role, orthopaedic surgeon’s current techniques, medical aspects of care and rehabilitation. Surgeons’ secretarial staff were informed through a series of dinner meetings. Presentations were given at the monthly orthopaedic breakfast meeting.

Operational changes were implemented in three key areas:

**Preoperative assessment and screening**

Occupational therapy and physiotherapy were added to existing nursing and medical assessments. Predictions and triage to rehabilitation prior to surgery. Home visits, equipment, and discharge planning were considered in conference with family members and carers.
**Peri operative and acute care**

The ward waiting area was converted to a Gymnasium for patient self implemented ward exercises. A rolling education program for patients was initiated on a daily basis. This patient education was also supplemented by a promotional video shown on the hospital closed circuit network. Rehabilitation Medicine and CNC ward rounds assessed the suitability of patients considering any extra issues not addressed at pre admission.

**Ambulatory day rehabilitation**

Transport was arranged for patients to and from the day program. A checklist of issues was developed which included non orthopaedic conditions eg sleep, bladder and bowel care. The essentials of multidisciplinary care were maintained through weekly case conferences.

**Outcomes**

An overall review of the program was conducted in the first 10 months following implementation, reported a significant reduction in eligible patient transfer to inpatient rehabilitation 78% to 34% over an six month period (p=0.001) and an increase to 37% at 10 months (Sheehan, Wilson, & Vaz 2007).

In the following year this rate remains variable ranging from 34% to 60%. However the rate has not returned to the pre intervention proportion. The first year of operation resulted in a 99% satisfaction rate reported by patients who participated in our alternative (ambulatory) rehabilitation pathway option.

In addition, a collection of patient issues, physical, psychosocial, and emotional, were determined which had previously been unrecognised by hospital staff and subsequently were usually not included in discharge planning discussions.

Deeper insight into patient’s educational needs for effective self-care management, and empowerment of patients to be confident and independent with their rehabilitation have been two further distinguishing features of this program.

**Conclusion**

Three aspects of the orthopaedic service were considered at the outset of this redesign. The first consideration was our patients and their expectation of a quality outcome of recovery. The second was our workforce and their willingness to accept changes to existing patient care management.

The final consideration was the business and funding model to sustain a new approach. The opportunity to develop a new approach and also take advantage of “Broader Health Insurance” (Department of Health and Ageing, 2006) affecting funding of private ambulatory based services was a catalyst for improved patient care.
References


