SW Pilot Study

(a) Objective

- To triage claimants, who were off work 3-4 weeks after an accident or recurrence, into appropriate caremaps based on a comprehensive MSK assessment and P&A screening;
- To apply best practice occupational medicine practices to care being delivered to injured workers;
- To minimize medicalization of non-medical factors;
- To reduce imaging and referrals to orthopaedic surgeons in claimants with little or no objective medical pathology / surgical lesion; and
- To expedite imaging, referrals and surgery in claimants with firm / objective indications of medical pathology / surgical lesion.

(b) Process

- WSNB uses the ACOEM Occupational Medicine Practice Guidelines to guide best practices in care being delivered to injured workers. These guidelines have 5 algorithms for the acute (up to week 4) and subacute (week 4 to 12) MSK injury phases. For case management, these 5 algorithms were condensed into 3 caremaps.
- WSNB worked with an NB Medical Society committee of SW shoulder orthopaedic surgeons to establish criteria for categorizing claimants into 1 of 3 caremaps:
  - Medical-Surgical Caremap
  - Concurrent Rehab-Referral Caremap
  - Rehab-Only Caremap
- Criteria for Medical-Surgical Caremap:
  - Torn biceps tendon
  - Full RTC in worker under age 50
  - Labral tear
  - Grade III ligament tear
  - Dislocation (glenohumeral, AC joint)
  - Fractures
  - Nerve injuries
  - Thoracic Outlet conditions
  - Not just a soft tissue injury => requires physician opinion
- Criteria for Concurrent Rehab-Referral Caremap
  - Full RTC in worker age 50 and over
  - Might benefit from injections
  - AC joint problems
  - Glenohumeral instability
- Criteria for Rehab-Only Caremap
  - Claimants not meeting the above criteria

- The ACOEM guidelines recommend a comprehensive MSK assessment for persons off work at week 4. Most family physicians (FPs) tell WSNB physicians that they do not have time to do a comprehensive MSK assessment and recommend referral to a physiotherapist for assessment of “muscle imbalance syndrome” (Gozna 2006; Gozna 2009). WSNB’s Program Development and Evaluation Department established an expert shoulder injury network of physiotherapists through an RFP accreditation process.
- Claimants off work at 3-4 weeks post-accident or post-recurrence would be transferred to case management and referred to a physiotherapist in the expert shoulder network.
    - The FP would be sent a letter informing them of the process.
- The physiotherapist would perform the comprehensive MSK assessment including muscle imbalance, and mini-functional capacity assessment; and P&A screening. The physiotherapist would then triage the claimant into 1 of the 3 caremaps based on the above criteria.
    - Comprehensive physiotherapist assessment and referral forms were developed.
- Claimants in the Medical-Surgical caremap were to be referred immediately to the orthopaedic surgeon without initiating physiotherapy treatment. The physiotherapist would make the referral directly to the orthopaedic surgeon by phone, followed up by faxing the assessment and referral forms.
- Claimants in the Concurrent Rehab-Referral caremap were to be referred ASAP to the orthopaedic surgeon, while providing appropriate rehab. The physiotherapist would make the referral directly to the orthopaedic surgeon by phone, followed up by faxing the assessment and referral forms.
- Claimants in the Rehab-Only caremap would not be referred to the orthopaedic surgeon unless something changed to put them into one of the other caremaps.
    - Claimants with a P&A score over 139 would be put through the High Risk case management protocol – face-to-face meeting with the case manager, motivational interview, validate high risk for prolonged disability, risk management intervention(s) as indicated.
    - Claimants with a P&A score over 147 would be considered by the case management team for referral to multidisciplinary active functional rehab with cognitive-behavioural therapy and work simulation.
    - Claimants with a P&A score under 148 would remain with the physiotherapist for a course of active functional rehab, unless there were other yellow flags that would warrant referral for the multidisciplinary program.
- Referrals to the orthopaedic surgeon: the consultation fee for referrals by the physiotherapist or WSNB would be paid at the expedited rate. The consultation fee for referrals by the FP would not be paid at the expedited rate. Elective surgery would require prior authorization and decision as to whether it would be paid at the expedited rate.

- Imaging: the orthopaedic surgeons indicated that the gold standard for workers' compensation cases should be an MRI-Arthrogram. Partial RCTs are a common finding on MRIs in the general population over age 45 (Sher, Uribe et al. 1995; Tempelhof, Rupp et al. 1999; Reilly 2006). A positive MRI might be a false positive. Even though physicians might try to reassure the patient, research shows persons given the results have poorer well-being than those who are not told the results (Modic, Obuchowski et al. 2005).
- Evaluation of functional progress: the physiotherapists would use validated functional tools such as DASH to evaluate functional progress. For claimants likely to proceed to surgery, the SF-36 would be done pre-surgery, 3 months post-surgery and 6 months post-surgery.
- Regular meetings were held with the orthopaedic surgeons to review progress and identify issues. The orthopaedic surgeons were asked to contact the medical advisor re: treatment concerns and claimant issues.
    - Some claimants have definite pathology complicated by pain catastrophizing and fear avoidance. Research shows that they will have poorer functional and RTW outcomes (Trief, Grant et al. 2000; Derby, Lettice et al. 2005; Mannion and Elfering 2006; Rosenberger, Jokl et al. 2006; Mannion, Elfering et al. 2007; Sullivan, Tanzer et al. 2009). These claimants need cognitive-behavioural therapy prior to surgery and would likely be better in a multidisciplinary rehab program post-surgery than a uni-disciplinary physiotherapy active rehab program.
    - Research shows that patients with higher pain catastrophizing and fear avoidance scores will pressure physicians to writer notes putting them off active rehab and RTW programs (Swinkels-Meewisse, Roelofs et al. 2003; Gheldof, Vinck et al. 2006; Swinkels-Meewisse, Roelofs et al. 2006; Swinkels-Meewisse, Roelofs et al. 2006b). It would be assumed that this is what we were observing if the orthopaedic surgeon recommended treatment by a physiotherapist outside the expert shoulder network, without first contacting the medical advisor to discuss a concern with a specific physiotherapist.
- The pilot would be evaluated quarterly and at the end of one year. Results would be shared with the NBMS committee of shoulder orthopaedic surgeons.

(c) Outcomes

The pilot was successful in meeting objectives and supporting increased networking between orthopaedic surgeons and WSNB.

Referrals to orthopaedic surgeons dropped from 64% of shoulder injuries to 46% – 16% around week 5 by physiotherapists in the expert shoulder network and 30% by FPs around week 2. The orthopaedic surgeons have asked WSNB to establish a process for them to redirect referrals by FPs to the expert shoulder network for triage. The orthopaedic surgeons have not reported any cases in which FPs were referring claimants who had been treated by the expert shoulder network of physiotherapists. They interpreted this to mean that the Rehab-Only stream of claimants was being managed appropriately.

Imaging dropped from 64% to 27% – 16% by FPs and specialists outside the shoulder orthopaedic network (50% MRIs, 42% MRI-arthrogram, and 8% arthrogram); and 11% by shoulder orthopaedic network (70% MRI-arthrogram, 25% MRI, and 5% arthrogram). Surgery dropped from 20% to 11%, while surgery for firm indications rose from 43% to 71%.

Median claim duration dropped from 32 weeks to 21 weeks for no surgery, 55 weeks to 48 weeks for surgery for firm indications and 79 to 39 weeks for surgery for soft indications. 100% of claimants referred by the physiotherapist had firm indications for surgery, compared with 40% for claimants referred by the FP. Median P&A score for claimants referred by the physiotherapist was 106 (29% had a lot of amber flags), compared with 122 for claimants referred by FP (32% had a lot of amber flags). This supports the recommendation by the orthopaedic surgeons for a process to redirect referrals by the FPs prior to week 4.

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