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Fact Sheet: Orthopedic Surgery Outcome Measures

Total Knee Replacement – Functional Status

Overall

The Total Knee Replacement – Functional Status Measure was developed between 2010 and 2014 by MN Community Measurement as part of the Minnesota Department of Health's Statewide Quality Reporting and Measurement System. This is the first year results have been publicly reported.

More than 700,000 knee replacements are performed each year in the United States. With an aging population staying in the workforce longer, demand for total knee replacement surgery is expected to exceed three million by the year 2030 (*The Journal of Bone and Joint Surgery*). The cost for knee replacement procedures in the Twin Cities ranges from approximately \$20,000 to \$50,000.

Measure Details

The measure assesses the average change between pre-operative and one-year (nine to 15 months) post-operative functional status as measured with the Oxford Knee Score. The patient population is adults age 18 and older who underwent a primary total knee replacement between January 1 and December 31, 2013. Patients who underwent bilateral or sequential knee replacements are included in the measure.

There are no exclusions for this measure.

PRO Tools

The PRO tool used to assess knee function is called the Oxford Knee Score (OKS). It consists of 12 structured questions that focus on pain, intensity, getting in and out of the car, walking, standing after sitting, limping, kneeling, night pain, walking down one flight of stairs and other activities of daily living.

The OKS tool is easy to score and reflected as a total sum, where a higher score indicates better knee function. All twelve questions need to be completed by the patient for the score to be considered valid for use in the measure.

The OKS tool is completed by the patient before and after surgery. It can be administered in a variety of ways, including at the doctor's office, by mail and/or electronically.

Results

Data was reported for more than 10,000 total knee replacement surgeries. From this data set, 2,426 surgeries, qualified for this measure. The patients included in the measure had a primary knee replacement surgery and completed the OKS tool before and after surgery.

The average improvement in functional status for patients was 17.1 on a 48 point scale. At the medical group level, the average change ranged from 12.54 to 18.47 points, where a higher number represents greater improvement after surgery.

Fifteen medical groups are publicly reported on MNHealthScores.org. While some of the medical groups that submitted data didn't have enough volume of patients to have valid, reportable results; others chose not to submit at all.

One medical group's results were significantly above expected, three were significantly below expected and the remaining were as expected.

Spinal Surgery: Lumbar Fusion - Functional Status and Discectomy/Laminotomy - Functional Status

Overall

The Spinal Surgery: Lumbar Fusion - Functional Status and Spinal Surgery: Discectomy/Laminotomy - Functional Status Measures were developed between 2010 and 2015 by MN Community Measurement as part of the Minnesota Department of Health's Statewide Quality Reporting and Measurement System. This is the first year results have been publicly reported.

Acute and chronic neck and lower back pain represents a major health care problem in the United States. An estimated 75 percent of all people will experience back pain at some time in their lives. In fact, the prevalence of spine surgery in patients older than 65 is expected to rise 59 percent to 64 million elderly adults by the year 2025. A recent analysis of 2012 Medicare data showed that the cost of complex spine surgeries varies significantly across the country and can range from \$11,000 to \$37,000 (*Wolters Kluwer Health*).

Measure Details

The Spinal Surgery: Lumbar Fusion - Functional Status measure assesses the average change between pre-operative and one year (nine to 15 months) post-operative functional status as measured with the Oswestry Disability Index, version 2.1a (ODI).

The Spinal Surgery: Discectomy/Laminotomy – Functional Status measure assesses the average change between pre-operative and three months (six to 20 weeks) post-operative functional status as measured with the Oswestry Disability Index, version 2.1a (ODI).

The patient population is adults age 18 or older who underwent one of these procedures between January 1 and December 31, 2103.

The exclusions for The Spinal Surgery: Lumbar Fusion - Functional Status are lumbar spine related cancer, infection, acute fracture, and idiopathic or congenital scoliosis. There are no exclusions for Spinal Surgery: Discectomy/Laminotomy – Functional Status.

PRO Tools

The Oswestry Disability Index (ODI) is used to assess low back function. It consists of 10 structured questions that focus on pain intensity, personal care, lifting, walking, sitting, standing, sleeping, sex life, social life and travel.

The ODI tool is summarized and scored as a percent disability, where the higher the score, the more severely the patient is impacted by low back pain. At least eight of ten questions need to be completed by the patient for the score to be considered valid for use in the measures.

The ODI tool is completed by the patient before and after surgery. It can be administered in a variety of ways, including at the doctor’s office, by mail and/or electronically.

Results

Data was reported for over 2,000 lumbar fusion surgeries. From this data set, 874 surgeries, qualified for this measure. The patients included in the measure completed the ODI tool before and after surgery.

For Spinal Surgery: Lumbar Fusion – Functional Status – The state-wide average improvement in functional status for patients was 16.7 on a 100 point scale. At the medical group level, the average change ranged from 11.17 to 18.95 points, where a higher number represents greater improvement after surgery.

Seven medical groups are publicly reported on MNHealthScores.org. While some of the medical groups that submitted data didn’t have enough volume of patients to have valid, reportable results; others chose not to submit at all.

One medical group’s results were significantly above expected, two were significantly below expected and the remaining were as expected.

Data was reported for over 1,900 Discectomy/Laminotomy surgeries. From this data set, 725 surgeries, qualified for this measure. The patients included in the measure completed the ODI tool before and after surgery.

For Spinal Surgery: Discectomy/Laminotomy – Functional Status – The state-wide average improvement in functional status for patients was 22.0 on a 100 point scale. At the medical group level, the average change ranged from 10.88 to 32.90 points, where a higher number represents greater improvement after surgery.

Eight medical groups are publicly reported on MNHealthScores.org. While some of the medical groups that submitted data didn't have enough volume of patients to have valid, reportable results; others chose not to submit at all.

One medical group's results were significantly above expected, one was significantly below expected and the remaining were as expected.