

Measure ID	Measure Title	Measure Description	Denominator	Numerator	Denominator Exclusions	Denominator Exceptions	Numerator Exclusions
MSSIC1	Pre-surgical screening for depression	The measure reflects the percent of surgical cases that received a formal pre-surgical screening for depression. MSSIC uses the PHQ-2 brief screening instrument	All patients meeting MSSIC inclusion criteria (see attached description of inclusion/exclusion criteria and entered into registry	Patients with a baseline survey completed that includes the PHQ-2.	None	None	None
MSSIC16	Percent of patients achieving MCID for myelopathy	<p>The measures reflects the percent of patients receiving cervical spine surgery who report an improvement in myelopathy that is equal to, or greater than, the standard "Minimum Clinically Important Difference" for the specific measure used in MSSIC to assess myelopathy (the mJOA scale). The MCID value is a standard value obtained from published articles, and is specific to spine surgery. The ideal value for the measure is 100% (all patients got better), but actual values are lower than that and vary significantly from hospital to hospital and surgeon to surgeon.</p> <p>Rates are reported on a risk-adjusted basis, with the risk adjustment model based on a set of demographic and clinical characteristics, as well as case-mix variables (e.g., fusion vs. non-fusion) so that rates are truly comparable from surgeon to surgeon. Although it is a rare situation, patients with baseline scores so low as to not allow for an improvement larger than the MCID are excluded from the rate calculation. (Patients with myelopathy as an indication for surgery, for example, may not have pain.)</p>	All patients meeting MSSIC Inclusion criteria and entered into registry, having cervical spine surgery, with confirmed surgery dates and > 120 days elapsed since surgery an completion of both baseline and 90-day followup assessment	Patients with an improvement of 2 points or more on the 0-10 rating on the modified Japanese Osteopathic Association (mJOA) scale of myelopathy, from baseline to 90-day followup	None	None	None

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MSSIC6	Percent same-day ambulation	The measure reflects the percent of patients receiving spine surgery for whom there is medical record evidence of ambulation (actual movement out of the bed, not just feet dangling out of bed) on the day of surgery. Analysis of MSSIC data in 2016 showed the early ambulation is a significant protective factor for a variety of complications, and that there is currently significant variability among hospitals and surgeons in terms of the percent of patients who do have ambulation on the day of surgery.	All patients meeting MSSIC Inclusion criteria (see attached file) and entered into registry, with confirmed surgery dates and who are >120 days post-surgery	Patients with evidence in the medical record of ambulation on the day of surgery	Patients with durotomy or CSF leak or other clinical contraindication for ambulation	None	None
MSSIC7	Rate of use of Pre-op skin preparation/wash	The measure reflects the percent of patients receiving spine surgery for whom there is medical record evidence of use of evidence-based interventions to prevent surgical site infection (SSI). SSI is a relatively rare but serious complication of surgery, and is preventable to some extent by specific pre-surgical site preparation done by patients the day before surgery. Data from MSSIC suggests significant variability among surgeons and among hospitals in terms of the percent of patients for whom a formal pre-surgical wash preparation is used.	All patients meeting MSSIC Inclusion criteria (see attached file) and entered into registry, with confirmed surgery dates and who are >120 days post-surgery	Patients with medical record evidence of use of recommended or prescribed surgical site wash/preparation in the 24 hours preceding surgery	None	None	None

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MSSIC8	Percent of patients achieving MCID for back or neck pain	<p>The measure reflects the percent of patients receiving spine surgery who report an improvement in back or neck pain that is equal to, or greater than, the standard "Minimum Clinically Important Difference" for the specific measures used in MSSIC to assess back or neck pain. The MCID values are standard values (e.g., 1.75 points or more on a 0-10 rating scale) obtained from published articles, and are specific to spine surgery. The ideal value for the measure is 100% (all patients got better), but actual values are lower than that and vary significantly from hospital to hospital and surgeon to surgeon.</p> <p>Rates are reported on a risk-adjusted basis, with the risk adjustment model based on a set of demographic and clinical characteristics, as well as case-mix variables (e.g., fusion vs. non-fusion) so that rates are truly comparable from surgeon to surgeon. Although it is a rare situation, patients with baseline scores so low as to not allow for an improvement larger than the MCID are excluded from the rate calculation. (Patients with myelopathy as an indication for surgery, for example, may not have pain.)</p>	All patients meeting MSSIC Inclusion criteria (see attached file) and entered into registry, with confirmed surgery dates and > 120 days elapsed since surgery and completion of both baseline and 90-day followup assessment	Patients with an improvement of 1.5 points or more on the 0-10 rating of back pain or 2.5 points or more for neck pain, from baseline to 90-day followup	None	None	None

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MSSIC9	Percent of patients achieving MCID for leg or arm pain	<p>The measure reflects the percent of patients receiving spine surgery who report an improvement in leg or arm pain that is equal to, or greater than, the standard "Minimum Clinically Important Difference" for the specific measures used in MSSIC to assess back or neck pain. The MCID values are standard values (e.g., 1.75 points or more on a 0-10 rating scale) obtained from published articles, and are specific to spine surgery. The ideal value for the measure is 100% (all patients got better), but actual values are lower than that and vary significantly from hospital to hospital and surgeon to surgeon.</p> <p>Rates are reported on a risk-adjusted basis, with the risk adjustment model based on a set of demographic and clinical characteristics, as well as case-mix variables (e.g., fusion vs. non-fusion) so that rates are truly comparable from surgeon to surgeon. Although it is a rare situation, patients with baseline scores so low as to not allow for an improvement larger than the MCID are excluded from the rate calculation. (Patients with myelopathy as an indication for surgery, for example, may not have pain.)</p>	All patients meeting MSSIC Inclusion criteria (see attached file) and entered into registry, with confirmed surgery dates and > 120 days elapsed since surgery and completion of both baseline and 90-day followup assessment	Patients with an improvement of 1.75 points or more on the 0-10 rating of leg pain or 2.5 points or more for arm pain, from baseline to 90-day followup	None	None	None

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MSSIC10	Percent of patients achieving MCID for pain-related disability (ODI/NDI)	<p>The measure reflects the percent of patients receiving spine surgery who report an improvement in pain-related disability that is equal to, or greater than, the standard "Minimum Clinically Important Difference" for the specific measures used in MSSIC to assess back or neck pain. The MCID values are standard values (e.g., 1.75 points or more on a 0-10 rating scale) obtained from published articles, and are specific to spine surgery. The ideal value for the measure is 100% (all patients got better), but actual values are lower than that and vary significantly from hospital to hospital and surgeon to surgeon.</p> <p>Rates are reported on a risk-adjusted basis, with the risk adjustment model based on a set of demographic and clinical characteristics, as well as case-mix variables (e.g., fusion vs. non-fusion) so that rates are truly comparable from surgeon to surgeon. Although it is a rare situation, patients with baseline scores so low as to not allow for an improvement larger than the MCID are excluded from the rate calculation. (Patients with myelopathy as an indication for surgery, for example, may not have pain.)</p>	All patients meeting MSSIC Inclusion criteria (see attached file) and entered into registry, with confirmed surgery dates and > 120 days elapsed since surgery an completion of both baseline and 90-day followup assessment	Patients with an improvement of 13.5 points or more on the ODI (lumbar) or 15 points or more on the NDI (cervical), from baseline to 90-day followup	Lumbar patients with baseline ODI score less than 14. Cervical patients with baseline NDI score of less than 15.	None	None
MSSIC11	Percent Satisfied with Result	The measure reflects the percent of patients receiving spine surgery who report being satisfied with the result of surgery, either in terms of having received the benefit they wanted and expected, or having achieved enough benefit that they would be willing to do the procedure again to achieve the same benefit.	All patients meeting MSSIC Inclusion criteria (see attached file) and entered into registry, with confirmed surgery dates and > 120 days elapsed since surgery and completion of 90-day followup assessment	Patients who responded either "Surgery met my expectations" or " I did not improve as much as I had hoped but I would undergo the same operation for the same results" to question on "Were you satisfied with the results of your surgical procedure?" on 90-day followup survey	None	None	None

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MSSIC12	Risk-adjusted rate of hospital readmission	<p>The measure reflects the percent of patients receiving spine surgery who were readmitted to a hospital within 90 days of surgery. Planned "readmissions" for two-stage procedures or other reasons are not counted. Rates are reported for all-cause readmissions, although the registry allows for separate analysis of spine-related vs. unrelated readmissions.</p> <p>Rates are reported on a risk-adjusted basis, with the risk adjustment model based on a set of demographic and clinical characteristics, as well as case-mix variables (e.g., fusion vs. non-fusion) so that rates are truly comparable from surgeon to surgeon.</p>	All patients meeting MSSIC Inclusion criteria (see attached file) and entered into registry, with confirmed surgery dates and > 120 days elapsed since surgery and completion of 90-day followup assessment	Patients with confirmed dates of surgery who are >120 days post-surgery whose medical records indicate an inpatient hospital admission within 90 days of discharge	Patients without surgeon office records available for medical abstraction. Patients with missing information for any of the included risk factors.	None	None
MSSIC13	Risk-adjusted rate of surgical site infection	<p>The measure reflects the percent of patients receiving spine surgery who had a clinically significant surgical site infection following surgery, requiring treatment.</p> <p>Rates are reported on a risk-adjusted basis, with the risk adjustment model based on a set of demographic and clinical characteristics, as well as case-mix variables (e.g., fusion vs. non-fusion) so that rates are truly comparable from surgeon to surgeon.</p>	All patients meeting MSSIC Inclusion criteria (see attached file) and entered into registry, with confirmed surgery dates and > 120 days elapsed since surgery and completion of 90-day followup assessment	Patients with confirmed dates of surgery who are >120 days post-surgery whose medical records indicate a surgical site infection as defined by CDC criteria, plus those with a superficial SSI in the 30-90 day time window	Patients without surgeon office records available for medical abstraction. Patients with missing information for any of the included risk factors.	None	None

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MSSIC14	Risk-adjusted rate of urinary retention	<p>The measure reflects the percent of patients receiving spine surgery who had a clinically significant issue of urinary retention (residual urine in bladder after voiding, or inability to void) in the immediate post-surgical period.</p> <p>Rates are reported on a risk-adjusted basis, with the risk adjustment model based on a set of demographic and clinical characteristics, as well as case-mix variables (e.g., fusion vs. non-fusion) so that rates are truly comparable from surgeon to surgeon.</p>	All patients meeting MSSIC Inclusion criteria (see attached file) and entered into registry, with confirmed surgery dates and > 120 days elapsed since surgery and completion of 90-day followup assessment	Patients with confirmed dates of surgery who are >120 days post-surgery whose medical records indicate a the presence of urinary retention as defined in the MSSIC manual of operations	Patients without surgeon office records available for medical abstraction. Patients with missing information for any of the included risk factors.	None	None