

## OPERATIONAL DEFINITION

### MEASUREMENT: Readmissions

#### I. Description and Rationale

This measure answers the question: How often do patients get readmitted?

#### II. Population Definition

The patient population for this measure is defined per the patient population operational definition. Inpatient and observational stay patients will be included in the measure.

##### Inclusion criteria

All patients are included who are defined as inpatient or under observation at the hospital.

#### III. Data Source(s)

Each hospital will report data using their own collection methods until specific high detection methods are prescribed by the network.

#### IV. Sampling and Data Collection Plan

Readmissions are assigned the month the discharge occurred.

#### V. Calculations

##### 7 Day Readmissions (National Network Goal)

**Numerator:** Number of readmissions that occur within 7 days of discharge ( $\leq 7$ )

Patients are excluded from the numerator count if they are readmitted for planned scheduled procedures such as patients discharged and readmitted in the psychiatric and rehabilitative units for planned scheduled procedures or for planned and scheduled chemotherapy.

**Denominator:** Total number of discharged patients during time period

**Number of readmissions per 100 discharged patients  
(Numerator/Denominator) X 100**

**30 Day Readmissions**

**Numerator:** Number of readmissions that occur within 30 days of discharge ( $\leq 30$ )

The 30 day count does include the 7 day as well.

Patients are excluded from the numerator count if they are readmitted for planned scheduled procedures such as patients discharged and readmitted in the psychiatric and rehabilitative units for planned scheduled procedures or for planned and scheduled chemotherapy.

**Denominator:** Total number of discharged patients during time period

**Number of readmissions per 100 discharged patients  
(Numerator/Denominator) x 100**

**VI. Data Quality Audit Procedures**

Hospitals should develop their own procedures for auditing data quality until quality auditing procedures are suggested by the network.

**VII. Notes**

N/A

**VIII. Experts/Resources**

N/A

**IX. Attachments**

N/A

**X. Revision History**

Version	Primary Author(s)	Description of Version	Date Completed
Version 1	Karen Zieker	Initial Version	30-Mar-2012
Version 2 Revision	Sharyl Wooton	Addition of 30 day calculation	02-July-2012
Version 3 Revision	Sharyl Wooton	Clarification of exclusion of planned scheduled procedures	06-Nov-2012



# SPS PREVENTION BUNDLE

## Readmissions

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## I. Background & Team

The Readmissions Reduction team was formed in May, 2012 to determine key strategies for reducing readmissions. Readmissions have become the focus of quality improvement efforts in both adult and pediatric medicine.<sup>1-7</sup> Payers, regulatory bodies and government all are encouraging hospitals to reduce readmissions. Typically, pediatric readmission rates have been much lower than those in adults.<sup>1,6,7</sup> It is also not clear the extent to which readmissions are preventable in pediatric patients. One recent study using a 15-day readmission standard suggested that about 20% of pediatric readmissions were preventable.<sup>7</sup> Our preliminary analysis of the hospital data in preparation for this quality improvement effort to reduce readmissions found that at least that many readmissions (using a 7-day readmission standard) were potentially preventable (unpublished data). Therefore, we set our goal for the Collaborative at a 20% reduction in readmissions at 7 days after the initial discharge.

Using data obtained from the Readmissions Cohort and data analysis, the Readmissions team has identified those bundle elements that when reliably implemented are highly likely to result in decreased harm to hospitalized children.

As a result, SPS is stratifying bundle elements based on their level of evidence to assist hospitals in prioritizing their efforts at designing and implementing evidence-based bundles for Readmissions and the other aviator HACs:

- *Standard Element:* Strong evidence suggest that implementation of this element is associated with significant decrease in patient harm; **all SPS hospitals should implement and measure reliability of this element.**
- *Recommended Element:* Preliminary data and clinical expert opinion support the implementation of this element; **SPS hospitals should strongly consider implementing this element.**

### Readmissions Co-Leaders

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## II. Prevention Bundle Elements - Overview

### SPS Standard Elements

- Schedule follow-up medical and post discharge tests/labs appointments prior to discharge
- Identify high risk populations of patients, and develop specialized care coordination plans (e.g. sickle cell, asthma, seizures, etc.)
- Post-discharge follow-up call to reinforce discharge instructions with a standardize script
- Discharge instructions contain a plan on potential problems and what to do if they arise (as in who to call)
- Provide feedback to clinicians on any readmission

## III. Prevention Bundle Elements – Evidence Reviewed

Prevention Bundle Element	Level of Evidence SPS	Evidence Cited (Author(s), Publication, Year, Pages)
<b>Standard Elements</b>		
1. Schedule follow-up medical and post discharge tests/labs appointments prior to discharge	Scenario 1	8, 9
2. Identify high risk populations of patients, and develop specialized care coordination plans (e.g. sickle cell, asthma, seizures, etc.)	Scenario 1	5, 10, 11, 12
3. Post-discharge follow-up call to reinforce discharge instructions with a standardize script	Scenario 1	9
4. Discharge instructions contain a plan on potential problems and what to do if they arise (as in who to call)	Scenario 1	8
5. Provide feedback to clinicians on any readmission	Scenario 1	

SPS Evidence

- **Scenario 1:** Reliably implementing element is associated with statistically significant improvement
- **Scenario 2:** Failing to implement element is associated with statistically significant failure to improve along with the system
- **Scenario 3:** In cases where all hospitals implement, implementing an element without measuring reliability of the element is associated with statistically significant failure to improve along with the system
- **Scenario 4:** Reliably implementing element is not associated with statistically significant improvement; however, literature supports adoption of element as an SPS Standard

IV. Prevention Bundle Elements Care Descriptions

Bundle Element	Care Descriptions
<b>Standard Elements</b>	
Schedule follow-up medical and post discharge tests/labs appointments prior to discharge	<ul style="list-style-type: none"> <li>• <b><u>For weekday discharges:</u></b> Patient's 1<sup>st</sup> follow up appointment scheduled prior to discharge including an exact time, date, location, and care provider.</li> <li>• <b><u>For weekend and holiday discharges:</u></b> The patient's discharge instruction to list the follow up appointment provider, their phone number, and the time frame for the appointment</li> </ul>
Identify high risk populations	<ul style="list-style-type: none"> <li>• Each hospital will identify a population at high risk for readmission.</li> <li>• Develop and implement readmission risk mitigation plan for the identified patient population.</li> <li>• Measure adherence to the plan at the time of discharge.</li> </ul>
Post-discharge follow-up call to reinforce discharge instructions with a standardize script	<ul style="list-style-type: none"> <li>• A follow up phone call within 72 hours of discharge using a standard script and providing direct access to a medical professional, if needed.</li> <li>• A second attempts on a different day should be made if the first call is unsuccessful.</li> <li>• Parents not wanting to talk is considered a successful call.</li> </ul>
Discharge instructions contain a plan on potential problems and what to do if they arise (as in who to call)	<ul style="list-style-type: none"> <li>• Discharge instructions contain a plan including:               <ul style="list-style-type: none"> <li>○ Accurate medication list and instructions</li> <li>○ How to recognize and respond to the patient's clinical changes</li> <li>○ Escalation contact relevant to the situation</li> <li>○ Use "teach-back" method to convey discharge instructions to family</li> </ul> </li> <li>• Measurement of "teach-back" is not required</li> </ul>

Bundle Element	Care Descriptions
<b>Standard Elements</b>	
Provide feedback to clinicians on any readmission	<ul style="list-style-type: none"> <li>• Timely notification to discharging physicians of the readmission</li> <li>• In a non-judgmental fashion, invite the discharging physician to review the case and make recommendations, if appropriate, as to how this readmission might have been prevented.</li> </ul>

V. Measurement- Prevention Bundle Reliability

Measurement	Formula	Standards	Reporting Period
Readmissions Prevention Bundle	Number of audits totally compliant with SPS Prevention Bundle Elements/Number of audits completed* x 100	<ul style="list-style-type: none"> <li>• Your bundle reliability data should include all the SPS Prevention Bundle Standard Elements</li> <li>• Hospitals can choose to include additional elements. Please note that including too many (&gt;5) elements may confuse and overwhelm care providers so proceed with caution</li> <li>• Minimum of 20 audits per month. If procedures are fewer than 20, then include all procedures</li> </ul>	Monthly

## VI. References

1. Jencks SF, Williams MV, Coleman EA. Rehospitalizations among patients in the Medicare fee-for-service program. *N Engl J Med.* 2009;360(14):1418–1428
2. Ashton CM, Del Junco DJ, Soucek J, Wray NP, Mansyur CL. The association between the quality of inpatient care and early readmission: a meta-analysis of the evidence. *Med Care.* 1997;35(10):1044–1059
3. Berry JG, Hall DE, Kuo DZ, Cohen E, Agrawal R, Feudtner C, Hall M, Kueser J, Kaplan W, Neff J: Hospital utilization and characteristics of patients experiencing recurrent readmissions within children's hospitals. *JAMA* 2011, 305(7):682-690.
4. Bloomberg GR, Trinkaus KM, Fisher EB, Jr., Musick JR, Strunk RC: Hospital readmissions for childhood asthma: a 10-year metropolitan study. *Am J Respir Crit Care Med* 2003, 167(8):1068-1076.
5. Feudtner C, Levin JE, Srivastava R, Goodman DM, Slonim AD, Sharma V, Shah SS, Pati S, Fargason C, Jr., Hall M: How well can hospital readmission be predicted in a cohort of hospitalized children? A retrospective, multicenter study. *Pediatrics* 2009, 123(1):286-293.
6. Gay JC, Hain PD, Grantham JA, Saville BR: Epidemiology of 15-Day Readmissions to a Children's Hospital. *Pediatrics* 2011, 127(6):e1505-1512.
7. Hain PD, Gay JC, Berutti, TW, Whitney GM, Wang W, and Saville BR: Preventability of early readmissions at a children's hospital. *Pediatrics* 2012, 131(1):e171-e181.
8. Kripalani, S., Theobald, C. N., Anctil, B., & Vasilevki, E. E. (2014, January). Reducing Hospital Readmission Rates: Current Strategies and Future Directions. *Annual Reviews, 65*, 471-485. doi:10.1146/annurev-med-022613-090415
9. Hansen LO, Young RS, Hinami K, Leung A, Williams MV. Interventions to Reduce 30-Day Rehospitalization: A Systematic Review. *Ann Intern Med.* 2011;155:520-528. doi:10.7326/0003-4819-155-8-201110180-00008.
10. Gay, J. C., Agrawal, R., Auger, K. A., Del Beccaro, M. A., Eghtesady, P., Fieldson, E. S., & Golias, J. (2015, March). Rates and Impact of Potentially Preventable Readmissions at Children's Hospitals. *The Journal of Pediatrics, 166*(3), 613-619.
11. Edmonson, M., Eickhoff, J. C., & Zhang, C. (2015, March). A Population-Based Study of Acute Care Revisits following Tonsillectomy. *The Journal of Pediatrics, 166*(3), 607-612.
12. Berry JG, Hall DE, Kuo DZ, et al. Hospital Utilization and Characteristics of Patients Experiencing Recurrent Readmissions Within Children's Hospitals. *JAMA.*2011;305(7):682-690. doi:10.1001/jama.2011.122.

## VII. Revision History

I. Version	Primary Author(s)	Description of Version	Date Completed
Version 1	Katie Hilbert	Initial Draft	9- Nov - 2012
Version 2	Rob Payne, MD Sharyl Wooton, MS	Added in additional bundle details, references, and recommended approaches.	29- Jan -2012
Version 3	Rob Payne, MD Robyn Strosaker, MD	Updated bundle elements, references and analysis	24-Feb-2016
Version 4	SPS Staff	Contact information updated	5-April-2017

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