RTI INTERNATIONAL | Memorandum

TO: Joel Andress, CMS

FROM: Laurie Coots, Mel Ingber, and Dan Barch, RTI International

DATE: July 21, 2014

SUBJECT: Additional analyses for the LTCH Readmission Measure (NQF #2512)

I. Memo Overview

This memo and analyses were prepared in response to NQF Steering Committee feedback received in May 2014 for the All-Cause Unplanned Readmission Measure for 30 Days Post Discharge from Long-Term Care Hospitals (LTCH) (NQF #2512). The Steering Committee feedback focused on the measure specifications counting readmissions to acute as well as readmissions to LTCH settings. Specifically, the Steering Committee raised concerns over counting readmissions back to LTCH settings. This feedback was related to usability and use criterion, and was identified as a potential unintended consequence.

The purpose of this analytic memo is to provide the conceptual rationale for the measure specifications, and to provide additional analyses demonstrating the low prevalence of readmissions back to LTCHs as a proportion of all readmissions included in the measure. The results also provide analytic support showing that the impact of including these types of readmissions has a minimal impact on facility's overall readmission rates to address Committee concerns regarding the unintended consequences of including readmissions to LTCHs in the measure.

II. Conceptual Rationale for Including Readmissions to LTCHs

This post-LTCH discharge readmission measure was developed as a quality measure to assess LTCHs' discharge planning and care coordination. Unplanned readmissions to an acute care hospital or an LTCH within 30 days of LTCH discharge suggest an opportunity for improving patient care and transitions of care. Thus, readmissions back to the same level of care or a more intense level of care are both relevant to measure. The rationale for including readmissions to acute or LTCHs is based on the premise that LTCHs should be responsible for patients who return to either LTCHs or acute care hospitals, as this indicates a failure of care transitions. For this purpose it is appropriate to include readmissions to either setting.

III. Results of Supplemental Analyses

First, we assessed the numbers and percentages of readmissions post-LTCH discharge in the 30-day window that returned to acute care hospitals (ACHs) compared to readmissions back to LTCHs. See **Table 1**.

- **As a share of all readmissions, the percentage of readmissions to LTCHs in this measure is very low: Less than 4 percent of all readmissions are readmissions back to LTCHs as opposed to readmissions back to acute care hospitals.**

Table 1 reports the total number of unplanned readmissions stratified by readmission setting for 2009/2010 and 2010/2011. Ninety-six percent of all unplanned readmissions within 30-days post-LTCH discharge were readmissions to acute care hospitals. The remaining share of readmissions back to LTCHs was small and represented less than 4 percent of all unplanned readmissions. This analysis shows that 1,876 out of 50,080 unplanned readmissions or 3.7% in 2009/2010 and 1,935 out of 51,438 unplanned readmissions or 3.8% were readmissions to LTCHs.

Table 1: Unplanned Readmissions Following LTCH Discharge by Readmission Setting

Model years	Total number of unplanned readmissions (includes readmissions to ACH & LTCH)	Number (row %) of unplanned readmissions to *ACH only*	Number (row %) of unplanned readmissions to *LTCH only*
2009/2010	50,080	48,204 (96.3%)	1,876 (3.7%)
2010/2011	51,438	49,503 (96.2%)	1,935 (3.8%)

Note: ACH=Acute Care Hospital: LTCH=Long-Term Care Hospital
Source: RTI analysis of Medicare claims data, 2009-2011. (program reference: LC44)

- **Excluding readmissions to LTCH has a small impact on the unadjusted, unplanned readmission rate.**

The unadjusted, unplanned readmission rate for this measure is 24.3 and 24.4 percent for 2009/2010 and 2010/2011, respectively. However, when readmissions to LTCHs are excluded from the measure, the unplanned readmission rate is reduced by roughly one percentage point, as shown in **Table 2**.

Table 2: Unplanned Readmissions Following LTCH Discharge by Readmission Setting

Model years	Number of LTCH stays	Number of unplanned readmissions (ACH or LTCH)	Unplanned readmission rate (ACH or LTCH)	Number of unplanned readmissions to **ACH Only**	Unplanned readmission rate to **ACH only**
2009/2010	205,359	50,080	24.4%	48,204	23.5%

Source: RTI analysis of Medicare claims data, 2009-2011. (program reference: LC44)

We also analyzed whether LTCH readmissions were back to the same index LTCH provider and examined whether there were differences in the number of days to readmission between those readmitted to ACH and those readmitted to LTCH. We found that 75-79 percent of LTCH patients that were readmitted to LTCHs were readmitted to the same LTCH facility. We found minimal differences in the mean days to readmission or distribution of readmissions over the 30-day window between readmissions back to acute and readmissions back to LTCH; the mean number of days to readmission was roughly 13 regardless of readmission setting.

Next, we analyzed the impact of changing the measure specifications on facilities' readmission rates. We compared readmission rates between models including and excluding readmissions back to LTCHs. In

this analysis, we compared two sets of models and resulting facility rates: 1) one model using the current measure specifications (including readmissions to acute and LTCHs); and 2) a second model based on alternative measure specifications counting only readmissions back to acute care hospitals.

- **Excluding readmissions to LTCHs has minimal impact on facilities' relative readmission rates.**

The mean absolute changes in facilities' Risk-Standardized Readmission Rates (RSRRs) are summarized in **Table 3** by volume of LTCH stays, a measure of facility size. The mean score change is very small for facilities regardless of size. For example, among the smallest and largest LTCHs, the mean absolute score change was about one-hundredth of a percentage point.

Table 3: LTCH Mean Absolute Changes of Risk-Standardized Readmission Rates (RSRR) Between Current and Alternative Specifications Stratified by Facility Size: 2010/2011 Data

Patients Included in Denominator	Number of facilities	Mean Absolute Change in % points
1-100	26	0.0120
101-200	42	0.0113
201-300	81	0.0085
301-400	91	0.0070
401-500	71	0.0093
501-600	38	0.0073
601-700	20	0.0087
701-800	23	0.0076
801-900	14	0.0092
901-1,000	11	0.0085
Greater than 1,000	30	0.0110

Source: RTI analysis of Medicare claims data, 2010-2011. (program reference: lc44_2)
Note: Although the overall readmission rate declines when LTCH readmissions are excluded, the re-estimation of the model when LTCH readmissions were not counted resulted in 12 facilities with slightly higher RSRRs.

IV. Summary

This memo demonstrated that including readmissions to LTCHs in addition to readmissions to acute care hospitals fits conceptually with the goals of this measure. This memo also provided analytic support for this rationale by illustrating that the percentage of readmissions to LTCHs is very low, less than 4 percent of all readmissions. We found that excluding readmissions to LTCH has a small impact on the unadjusted, unplanned readmission rate. Lastly, we found that excluding readmissions to LTCHs has minimal impact on facilities' relative readmission rates, about one-hundredth of one percent.

We appreciate the concerns of some Steering Committee members that counting readmissions back to LTCHs may lead to unintended consequences in reducing access to care at the LTCH if readmission is

needed. Any measure of post-discharge readmission rates will have some incentive to reduce same-facility readmissions as well as to improve transitions and coordination of care post discharge. Many discharged LTCH patients will be able to be readmitted to short-term acute care. The example of a ventilator patient not having access to a hospital with ventilator capacity and the LTCH refusing admission is a possible but hopefully rare situation. Such cases may be crafted for any measure with incentives. One may make the case that, if a patient is likely to be readmitted somewhere, and the LTCH readmission rate thus rises a bit, it is better to derive revenue from the readmission than to forgo it under the assumption that no readmission would occur. We feel the overall benefit of this measure to patients outweighs the potential unintended consequence in a few cases.

We also concur with one of the public comments received for this measure stating that the usability and use criterion do not require a passing vote in order for NQF endorsement to be obtained. This comment further recommended that the Steering Committee reexamine the consensus that was achieved for the "must pass" criteria and reconsider this measure. In closing, we would like to state that, though reasonable, the concerns raised under usability and use criterion are not sufficient to prevent this measure from earning NQF endorsement. As measure developers, we propose to conduct ongoing monitoring and evaluation for this potential unintended consequence through annual maintenance for this measure.