Reducing Hospital Utilization and Improving Coordination of Care

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From 18% to 5%
Rainier View Dialysis

• Infection Control

• CVC removal
Hospitalization Reduction Project

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When Medicare eligibility was first extended to beneficiaries with ESRD, only about 10,000 patients were receiving dialysis (Rettig, 2011); this patient group grew to 399,455 by 2014. The US Renal Data System (USRDS) reports that there were 477,476 patients on dialysis in the U.S. as of Dec. 31, 2014.

Even though the ESRD population remained at less than 1% of the total Medicare population, it has accounted for about 7% of Medicare fee-for-service spending in recent years (USRDS ADR, 2016).
ESRD Patient Hospitalization Statistics

- On average, ESRD patients are admitted to the hospital nearly twice a year. About 30% of those have an unplanned re-hospitalization within the 30 days following discharge (USRDS)

- Patients with ESRD experienced re-hospitalization rates of 34.6%, as compared to only 15.3% of older Medicare beneficiaries without a diagnosis of kidney disease

- Hospitalization represents a significant societal and financial burden, accounting for approximately 40% of total Medicare expenditures for dialysis patients (USRDS)
Impact of Reduction in Hospitalizations

- Preventing re-hospitalization in patients with ESRD who are undergoing hemodialysis could improve health outcomes and yield significant cost savings (Erickson et al, 2014)

- Frequent hospital readmissions may contribute to both high mortality rates and poor health-related quality of life for patients with ESRD (Gorodetskaya et al, 2005)

- Hospital readmission brought readmissions of the dialysis population into consideration for a quality metric of the Quality Improvement Program, (QIP) which can affect up to 2% of the Prospective Payment System for dialysis
Evidence for reducing hospitalizations and re-hospitalizations within 30 days of discharge

Patients whose hemoglobin was monitored within the first 7 days after discharge, followed by modification of their erythropoietin dose had a significantly reduced risk for repeat-hospitalization when compared to the patients whose hemoglobin was not checked, nor was the dose of erythropoietin changed.

Similarly, administration of vitamin D within the 7 days following discharge was significantly associated with reduced repeat hospitalization when compared to patients on no vitamin D.

Therefore, it appears that immediate re-evaluation of anemia management orders and resumption of vitamin D soon after discharge may be an effective way to reduce repeat hospitalization (Chan, K. et. al., 2009)
Evidence for reducing hospitalizations and re-hospitalizations within 30 days of discharge

- In a follow-up report to the study by Chan et al., on the previous slide, Wingard et al. further cautioned against a “resume previous orders” approach to patients returning to a dialysis facility after hospitalization and recommended prompt attention to “high-risk domains” for readmission, including anemia management, nutritional status, infection/inflammation, vascular access, dry weight, mineral metabolism, mental status/depression, and medication reconciliation.
Evidence for reducing hospitalizations and re-hospitalizations within 30 days of discharge

- One more visit by physicians (and/or advanced practitioners) to patients undergoing hemodialysis in the month following a hospitalization was estimated to reduce the absolute probability of 30-day hospital readmission by 3.5%. (Erickson et. al, 2014)

- In real numbers that translates to 31,370 fewer hospitalizations and $240 million per year saved (Erickson et. al, 2014)

- A subanalysis of the 30-day readmission of hemodialysis patients regarding the relative frequency of re-hospitalizations within those 30 days indicates that the highest rates of readmission occur within the first 7 days (36%) and gradually decline with subsequent days after the initial hospitalization (Chan, 2009)
Many nephrologists continue to squander their dialysis visits with patients despite increasing evidence that the quality of the interaction is as important as the frequency of the visits. The current incentives may lead to documenting the visit to bill at the highest level for the monthly capitation payment, rather than ensuring that the providers actually listen to the patient and evaluate the clinical data (Wish, 2014)
Evidence for reducing hospitalizations and re-hospitalizations within 30 days of discharge

- A negative correlation exists between depression and anxiety and the HRQoL of chronic kidney patients under hemodialysis. In addition, the mean score on the KDQOL-SF domains was significantly lower in patients with the presence of anxious and/or depressive symptoms when compared to participants without these symptoms (Ottoviani, 2016)

- Depression was associated with increased risks of mortality and hospitalization for hemodialysis patients (Lopes, 2002)
Evidence for reducing hospitalizations and re-hospitalizations within 30 days of discharge

- Lacson et. al., (2014) sought to determine whether an association exists with hospitalization risk.

- Depressive affect in incident hemodialysis patients was associated with higher risk of hospitalization and more hospital days.
Medication Reconciliation

• Effective communication is essential between the hospital and the dialysis provider regarding medications (particularly antibiotics) that need to be continued in the dialysis facility.

• Medication reconciliation is paramount because many hospital-based physicians are often unaware of the complete list of medications dialysis patients are taking before admission.

• One or more episodes of medication reconciliation facilitated by a knowledgeable pharmacist should occur in the dialysis facility after each re-hospitalization (Hackim & Collins, 2014)
### Patient Discharge Diagnoses

<table>
<thead>
<tr>
<th>Source</th>
<th>Baseline - 2015</th>
<th>MachForm - 2016</th>
<th>MachForm - 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Avg. Blood Pressure Rate</strong></td>
<td>0.0%</td>
<td>0.0%</td>
<td>5.8%</td>
</tr>
<tr>
<td><strong>Avg. Broken Bones Rate</strong></td>
<td>2.9%</td>
<td>3.2%</td>
<td>5.9%</td>
</tr>
<tr>
<td><strong>Avg. Cardiovascular Rate</strong></td>
<td>11.7%</td>
<td>12.2%</td>
<td>10.9%</td>
</tr>
<tr>
<td><strong>Avg. DM Complications Rate</strong></td>
<td>3.9%</td>
<td>1.4%</td>
<td>1.4%</td>
</tr>
<tr>
<td><strong>Avg. Dialysis Access Rate</strong></td>
<td>6.8%</td>
<td>8.8%</td>
<td>4.5%</td>
</tr>
<tr>
<td><strong>Avg. Fluid Control Rate</strong></td>
<td>0.0%</td>
<td>1.4%</td>
<td>1.4%</td>
</tr>
<tr>
<td><strong>Avg. Gastrointestinal Rate</strong></td>
<td>5.8%</td>
<td>5.8%</td>
<td>12.6%</td>
</tr>
<tr>
<td><strong>Avg. Infection Airborne Rate</strong></td>
<td>1.9%</td>
<td>6.4%</td>
<td>10.5%</td>
</tr>
<tr>
<td><strong>Avg. Infection Other Rate</strong></td>
<td>7.8%</td>
<td>14.5%</td>
<td>19.6%</td>
</tr>
<tr>
<td><strong>Avg. Mineral (Incl Anemia) Rate</strong></td>
<td>0.0%</td>
<td>5.8%</td>
<td>14.4%</td>
</tr>
<tr>
<td><strong>Avg. Pulmonary Rate</strong></td>
<td>0.0%</td>
<td>2.7%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Avg. Urinary Tract Infection Rate</strong></td>
<td>1.0%</td>
<td>5.6%</td>
<td>7.1%</td>
</tr>
</tbody>
</table>
Current Month's Performance Note:
Your facility's most current Hospitalization Rate has met the Target Rate of a 2% Reduction. Congratulations! Keep up the great work!
**Caveat**

- Hospitalization Rates from Crown Web (CW) include data from our organization.
- When USCD dialysis patients who are UCSD patients go to IR, MRI etc., in our hospital system it is coded as an admission and is imported to CW as an admission.
- True admits cannot be teased out from non-admits—thus the data reported is falsely high.
- The dialysis unit maintains its own records—unfortunately no one will ever see it!
- Our internal records reflect downward trend
Our Interventions were

- Based on the highest discharge diagnoses from the previous period
- Evidenced-based
- Collaborative and interdisciplinary
- Evaluated monthly at our QAPI meetings
Interventions included

• Development of a post hospital discharge summary
• The form contained triggers that could be related to reduction in hospitalizations identified
• Completed by the Nephrologist prior to patients return to the OP Dialysis unit
• Charge nurse reviews discharge summary and assists in identifying occurrences during the patients stay.
Our Interventions included

• Patients are seen within one week by the rounding nephrologist

• Hired a pharmacist to review, identify, reconcile and provide instruction and support.

• Hired a Nephrology Case Manager who assists with high risk patients.

• ESA dosing is reviewed post discharge

• Complimentary Therapies program initiated June 2017

• Exercise Program (Future plan)
Conclusion

• Hospitalization rates and re-hospitalization rates are significant issues in the ESRD population

• Depression, anxiety and perceived quality of life are not adequately addressed.

• Unclear if any of these interventions have impacted UCSD Dialysis hospitalizations
References

- Erickson, K., Physician Visits and 30-Day Hospital Readmissions in Patients Receiving Hemodialysis. *JASN*, Retrieved from http://jasn.asnjournals.org/content/early/2014/05/02/ASN.2013080879.full?sid=3e43cf62-8ddc-4439-a4c0-82abfde6531
- Lacson, E., et. al., 2014 Depressive Affect and Hospitalization Risk in Incident Hemodialysis Patients. Retrieved from http://cjasn.asnjournals.org/content/early/2014/10/01/CJN.01340214.full
References

Thank you!
This study included 450 dialysis patients who completed questionnaires every six months and had their thyroid function assessed.

Poor thyroid function was associated with poorer health-related quality of life, including low energy, increased fatigue, reduced physical function and greater pain.

"Given the high prevalence of thyroid dysfunction and low levels of quality of life in dialysis patients, future research is needed to determine the underlying mechanisms of these associations, and whether thyroid hormone replacement can improve the health-related quality of life of this population," said study author Dr. Connie Rhee, from the University of California, Irvine.
Hypothyroidism

- The study was published online July 13 in the *Clinical Journal of the American Society of Nephrology*.

- "In addition, as the first study in dialysis patients to document an association between [thyroid problems] and low levels of physical function, a strong predictor of death, future studies are needed to determine whether correction of thyroid status ... can improve physical function in this population," Rhee concluded.
Recovery Time

• Survey your patient and see how long it takes post dialysis to feel “normal”

• For those that report not feeling “normal” until the next day, discuss this with IDT
  – Consider reducing fluid removal to 10ml/kg/hr
  – Thyroid Function
  – Impact to daily life
Mach Form Entry

- Admissions
  - List a Admission only in the month that it starts
  - Make sure to complete your July data MACH form by August 9th