Assessing Risk of Readmission

NoCVA Preventing Avoidable Readmission Collaborative
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July 31, 2013
Collaborative Goals

- Reduce readmission rates by 20%
- Increase the number of patients in the pilot unit or population who undergo assessment for risk of readmission to 95%
- Increase the number of patients in the pilot unit or population who are assessed to be at high risk of readmission whose primary care physician is informed of their hospitalization within 48 hours of admission to 80%
- Increase number of patients in the pilot unit or population who are assessed to be at high risk of readmission who are scheduled for a follow-up physician visit within 7 days of discharge from hospital to 80%
- 10% improvement or national 25th percentile in scores on four HCAHPS dimensions
Why assess risk of readmission?

- Limited resources, time and financial, available for care transitions interventions
- Reduce readmissions to improve population health, care experience, and costs (Triple Aim)
Poll / chat

Does your hospital use a tool to assess risk of readmission?

a. Yes, hospital-wide
b. On some units
c. No

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Poll / chat

What types of factors does your readmission risk assessment consider?

a. Clinical factors only
b. Psychosocial factors only
c. Both clinical and psychosocial factors
d. N/A (no readmission risk assessment)
Please chat in some of the predictors (clinical, psychosocial, or both) considered in your hospital’s readmission risk assessment.
Multiple, complicated risk factors

- “inconsistencies regarding which characteristics are most predictive” – STAAR How-to Guide, IHI
- “Efforts are needed to improve the ability to identify the likelihood of readmission…” – RED Toolkit, AHRQ

http://www.ahrq.gov/professionals/systems/hospital/toolkit/redtool2.html#Step4

http://www.ihi.org/knowledge/Pages/Tools/HowtoGuideImprovingTransitionsReduceAvoidableRehospitalizations.aspx

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Multiple, complicated risk factors

Do not let perfect be the enemy of good.

- “high- and low-risk scores were associated with clinically meaningful gradient of readmission rates”
- up to an 0.83 C-statistic (proportion of time a model correctly discriminates a pair of high- and low-risk patients, thus 0.50 is no better than chance)

Characteristics of “good” readmission risk assessments

- Good predictive ability
  - Considers relevant predictors related to both clinical and psychosocial factors of readmission
- Easily interpreted results
  - Stratification of risk groups
  - Targeted interventions
- Time-manageable
- Cost-manageable
Stratification of outcomes

- Each tool analyzes differently
  - Some have two strata, high-risk or not
  - Some use stoplight, three-strata system using “scores”
- Beneficial to identify high-risk patients
  - Include in intensive programs i.e. home visits
How have these been measured?

- Readmission <30-Days
- Post-hospital Care Access
- Diagnosis and Comorbidities
- Patient Activation
- Psychosocial Support

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Variables considered

• Specific medical diagnosis or comorbidity index
• Mental health comorbidities
  o Mental illness
  o Alcohol or substance abuse
• Illness severity
  o Severity index (acuity of admission)
  o Lab results
• Prior use of medical services
  o Hospitalizations (non-elective) or ED visits
  o Clinic visits or missed clinic visits

Variables considered (cont.)

- **Overall functional status**
  - Functional status, ADL dependence, and mobility
  - Cognitive impairment
  - Visual or hearing impairment
  - Self-rated health or quality of life

- **Sociodemographic factors**
  - Age
  - Sex
  - Race/ethnicity

Variables considered (cont.)

- Social determinants of health
  - SES, income, and employment status
  - Insurance status
  - Education
  - Marital status or number of people in home
  - Caregiver ability/other social support
  - Access to care
  - Discharge destination (home, nursing home, SNF, etc.)

Interrelation of factors

- Some predictors used are affected by multiple factors
  - Polypharmacy and problem medications
  - PCP access, relationship, or history
  - Patient or caregiver activation
  - Length of stay
LACE tool

- Length of Stay
- Acuity of Admission
  - Inpatient or outpatient
- Comorbidity
- ER Visits
  - Previous 6 months


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HOSPITAL score

- Hemoglobin level
- Oncology
- Sodium level
- Procedure
- Index admission Type
- no. of Admissions in past year
- Length of stay

Table 3. HOSPITAL Score for 30-Day Potentially Avoidable Readmissions

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low hemoglobin level at discharge (&lt;12 g/dL)</td>
<td>1</td>
</tr>
<tr>
<td>Discharge from an oncology service</td>
<td>2</td>
</tr>
<tr>
<td>Low sodium level at discharge (&lt;135 mEq/L)</td>
<td>1</td>
</tr>
<tr>
<td>Procedure during hospital stay (any ICD-9-CM coded procedure)</td>
<td>1</td>
</tr>
<tr>
<td>Index admission type: nonelective</td>
<td>1</td>
</tr>
<tr>
<td>No. of hospital admissions during the previous year</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1-5</td>
<td>2</td>
</tr>
<tr>
<td>&gt;5</td>
<td>5</td>
</tr>
<tr>
<td>Length of stay ≥5 d</td>
<td>2</td>
</tr>
</tbody>
</table>


SI conversion factors: To convert hemoglobin to grams per liter, multiply by 10; conversion of serum sodium to millimoles per liter is 1:1.

a Maximum score, 13 points.
The 8Ps: Assessing Your Patient’s Risk For Adverse Events After Discharge

<table>
<thead>
<tr>
<th>Risk Assessment: 8P Screening Tool (Check all that apply)</th>
<th>Risk Specific Intervention</th>
<th>Signature of individual responsible for insuring intervention administered</th>
</tr>
</thead>
</table>
| Problem medications (anticoagulants, insulin, oral hypoglycemic agents, aspirin & clopidogrel dual therapy, digoxin, narcotics) | - Medication specific education using Teach Back provided to patient and caregiver  
- Monitoring plan developed and communicated to patient and aftercare providers, where relevant (e.g. warfarin, digoxin and insulin)  
- Specific strategies for managing adverse drug events reviewed with patient/caregiver  
- Follow-up phone call at 72 hours to assess adherence and complications | |
| Psychological (depression screen positive or h/o depression diagnosis) | - Assessment of need for psychiatric aftercare if not in place  
- Communication with aftercare providers, highlighting this issue if new  
- Involvement/awareness of support network insured | |
| Principal diagnosis (cancer, stroke, DM, COPD, heart failure) | - Review of national discharge guidelines, where available  
- Disease specific education using Teach Back with patient/caregiver  
- Action plan reviewed with patient/caregiver regarding what to do and who to contact in the event of worsening or new symptoms  
- Discuss goals of care and chronic illness model discussed with patient/caregiver | |
| Polypharmacy (≥5 more routine meds) | - Elimination of unnecessary medications  
- Simplification of medication scheduling to improve adherence  
- Follow-up phone call at 72 hours to assess adherence and complications | |
| Poor health literacy (inability to do Teach Back) | - Committed caregiver involved in planning/administration of all general and risk specific interventions  
- Aftercare plan education using Teach Back provided to patient and caregiver  
- Link to community resources for additional patient/caregiver support  
- Discuss goals of care and chronic illness model discussed with patient/caregiver | |
| Patient support (absence of caregiver to assist with discharge and home care) | - Follow-up phone call at 72 hours to assess condition, adherence and complications  
- Follow-up appointment with aftercare medical provider within 7 days  
- Involvement of home care providers of services with clear communications of discharge plan to those providers | |
| Prior hospitalization (non-elective; in last 6 months) | - Review reasons for re-hospitalization in context of prior hospitalization  
- Follow-up phone call at 72 hours to assess condition, adherence and complications  
- Follow-up appointment with aftercare medical provider within 7 days | |
| Palliative care (Would you be surprised if this patient died in the next year? Does this patient have an advanced or progressive serious illness?) Yes to either: | - Assess need for palliative care services  
- Identify goals of care and therapeutic options  
- Communicate prognosis with patient/family/caregiver  
- Assess and address bothersome symptoms  
- Identify services or benefits available to patients based on advanced disease status  
- Discuss with patient/family/caregiver role of palliative care services and benefits and services available | |

http://www.hospitalmedicine.org/ResourceRoomRedesign/R_CareTransitions/html_CC/06Boost/03_Assessment.cfm
8Ps

- Problem medications (warfarin, digoxin, insulin, etc.)
- Psychological (depression)
- Principal diagnosis (cancer, stroke, DM, HF, COPD)
- Polypharmacy (>5 medications)
- Poor health literacy (inability to TeachBack)
- Patient support (caregiver absence)
- Prior hospitalization (non-elective, prior 6 months)
- Palliative care (progressive serious illness)
http://www.ihi.org/knowledge/Pages/Tools/HowtoGuideImprovingTransitionstoReduceAvoidableRehospitalizations.aspx
PAM

Level 1
Starting to take a role.
Individuals do not feel confident enough to play an active role in their own health. They are predisposed to be passive recipients of care.

Level 2
Building knowledge and confidence.
Individuals lack confidence and an understanding of their health or recommended health regimen.

Level 3
Taking action.
Individuals have the key facts and are beginning to take action but may lack confidence and the skill to support their behaviors.

Level 4
Maintaining behaviors.
Individuals have adopted new behaviors but may not be able to maintain them in the face of stress or health crises.

Increasing Level of Activation

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Developing new approaches

Developing new approaches

CHECK ALL THAT APPLY:

- Lives at home with limited or no community support
- Requires assistance with medication management
- Polypharmacy (greater than 7 medications)
- History of mental illness
- Issues with health literacy
- Requires assistance with ADL's/IADL's
- Cognitive impairment
- End stage condition
- Diagnosis of CHF/COPD/diabetes/HIV/AIDS
- Incontinent
- Acute/chronic wound or pressure ulcer
- History of falls
- Decreased adherence to treatment plan
- Repeat hospitalizations/ED visits
- Requires assistance in management of Oxygen and/or nebulizer

TOTAL # CHECKED = _______________________

Readmission Risk Assessment Scale

July 31st, 2012

Eva Pittman, RN, MSN, CCRN
PDSA: Develop a Readmission Risk Assessment Scale

**Cycle 1:**
- Retrospective Study: 90% success at predicting readmission
- Concurrent study:
  - 91% accurate with clinical estimate
  - Almost all patients ruled in high risk

**Cycle 2:**
- Retrospective Study: 71% success at predicting readmission
- Concurrent study:
  - 92% accurate with clinical estimate
  - More Selective

**Cycle 3:**
- Retrospective Study: 95% success at predicting readmission
PDSA Cycle 4: Test Readmission Risk Assessment Scale on Other Units

**Nephrology 3rd Floor:**
- Concurrent study
  - 84% accurate with clinical estimate
  - Percent of patient population identified as high risk 65%

**Cape Fear 2nd Floor:**
- Concurrent study
  - 100% accurate with clinical estimate
  - Percent of patient population identified as high risk 37%

**CMTU 8th Floor:**
- Concurrent Study
  - 86% success at predicting readmission
  - Percent of patient population identified as high risk 69%

**Staff Feedback:**
- Psychosocial is the biggest factor for readmissions
- Consider using a Likert Scale
- Add ESRD to scale
- Add Smoking and diet issues to psychosocial as it plays a big part in CHF patients
- Scale easy to use
Common pitfalls

• Unnecessary length / complication – is not feasible to incorporate into existing workflow
• Inappropriate stratification, too high or too low – too few or too many patients categorized as “high risk”
• Deficient criteria – does not cover both clinical and psychosocial factors
• Vagueness in definitions of predictors – affects repeatability and reproducibility
Suggested methods

- Work within feasibility constraints
  - Time, cost, existing workflow for assessment
  - Resources available for interventions from results of assessment
- Include both clinical and psychosocial factors
- Clarify definitions of predictors
- Identify high-risk and target interventions
Going forward...

- Choose, create, and/or reevaluate the pilot unit’s risk assessment tool to identify high-risk patients using the suggested methods
- Apply risk assessment and appropriate process methods (follow up with primary care doc, etc.)

Remember:
- “best choice of model may depend on setting and the population…” (Kansagra et al)
- “assessment… is an ongoing process that requires the multidisciplinary team” (STAAR)

http://www.ihi.org/knowledge/Pages/Tools/HowtoGuideImprovingTrans itionstoReduceAvoidableRehospitalizations.aspx
• Readmission Risk Calculator. Modified LACE tool. Mobile application, 2011. RAADplan.com
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