Meets Nurses + Nurses Enters Admissions Details

Patient Arrives

Patient Meets Doc Team

Intern/Residents /Fellows Meet Patients

Patient Meets Nurses

Admissions Details

Patient First Instructions

Pre-Medication

D1: Nurse discusses surgery/ post surgery instructions

Pre-Medication Delivered before Surgery

Surgery

Surgery occurs usually very early in the morning (scheduling logic)

Patient Second Instructions

D2: Physician discusses post-surgery instructions

Patient recovers from surgery (Third Instructions)

D3: Intense Teaching by nurses using Med-Action Profile / Self Medication/ Teach Back

Patient Fourth Instructions

D4: Nurses teach on dietary restrictions/daily activities/lab works etc

Patient Fifth Instructions

D5: Nurses go over final Midlist to patients

Electronic Medical Record

Discharge Instructions at CTC: Current State Map

Patient Discharge

Di: Discharge Instructions

Avg Patient LOS = 5 days

Pre-Surgery = 24 hrs (1-day)

Post- Surgery = 4 days

FTE=1

FTE=2.5
Cleveland Clinic Patient Experience Empathy Innovation Summit
May 2014

Engaging Patients and Families in the Design and Improvement of Standardized Discharge Work (SDW) – A Study of Kidney Transplant Discharge Process

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Fisher College of Business

1: Chief Quality and Patient Safety Officer
2: Director of CTC
3. Director of Transplant Nursing
Agenda

- Study Background and Research Questions
- Study Design
- Standardized Discharge Work (SDW)
- Teaching SDW
- Preliminary Data and Insights
- Ongoing Work & Discussion
Study Background (1/2)

- In 2010, more than half a million Americans received treatment for permanent Kidney Failure, 18,000 received donor kidneys (USRDS 2012)

- Best treatment for end-stage renal disease (ESRD) is to undergo kidney transplantation

- At OSUWMC, we perform over 250 kidney transplants yearly, including both cadaveric and live donor

- A recent study finds that 3 out of 10 patients receiving kidney transplants are readmitted to hospitals within 30 days (Segev et al. 2012)

- Other complications upon discharge include higher risks for cardiovascular disease, infections and neoplasm (Pontielli 2011)
Study Background (2/2)

- Poor communication between caregivers and patients (families) during the discharge process can affect readmission rates (AHRQ 2010)

- Although there are well established standards on discharge instructions, there is lack of standardized discharge work (SDW)

- At OSUMC, discharge processes are influenced by the EMR, resident education and variability in physicians and nurses

- Even when there is SDW, they are rarely patient-centric (Reilley et al. 2013, Toussaint and Berry 2013)

[RQ1]: What is the effect of standardized discharge work (SDW) designed by discharge nurses and coordinators (with input from patients and families) on patient outcomes compared to a control group with no SDW work?
Other Research Questions (Operations Side)

- Sustaining process improvements (e.g. SDW) in healthcare delivery is extremely challenging (Chandrasekaran et al. 2012)

- Time constraints, process owner attrition and lack of a continuous improvement culture are some of the challenges to sustaining process improvements

[RQ2]: How does a treatment group that is trained to continuously learn from patients and families input perform SDW work when compared to a control group that is not trained to work with patients and families?

[RQ3]: How do patient outcomes differ between the patients discharged by the treatment and control group?
Study Design

- Three year study at the Wexner Medical Center
- Study focused in the kidney transplant discharge process
- Average discharge / year = 250 patients (approx)

1. Pre SDW Design/ Control group 1
   - Map Current Discharge process
   - Collect Patient Data
   - Collect Nurses/Coordinator data
   - Identify Patient/Family group

2. SDW Design
   - NGT with all coordinators and patients
   - Develop SDW work

3. Control group 2
   - No coaching on improvement
   - Track patient and coordinators data

4. Treatment Group
   - Coaching on improvement using patient and families
   - Track patient and coordinators data

5. Treatment Group
   - Stop coaching
   - Track patient and coordinators data

6. Control group 2
   - No coaching on improvement
   - Track patient and coordinators data

7. SDW Design 2
   - NGT led by Treatment team
   - All coordinators are coached on Continuous improvement
   - Refine SDW1 to SDW2

8. Final
   - No coaching
   - Track patient and coordinators data
Standardized Discharge Work (SDW)

- Popularized by the Toyota Production System and has several applications in service delivery (e.g. Ritz Carlton, Thedacare)
- Implies that people who do the work create the standardized work

Components

- Content
  - Set of activities you need to perform to achieve the business goal
- Sequence
  - Sequence of activities
- Timing
  - How long each and overall activity takes
- Output
  - What are you trying to achieve with the process
Evolution of Standardized Work

Evidenced Based Knowledge

Developed by the Scientific Community

Developing Work Standards

Interpreted by the adopting institutions

Standardized Work

Front-line workers designing work specific standards

Improve Standardized Work

Front-line workers improving work specific standards
SDW Example in Kidney Transplant

Medication Instructions (e.g. immunosuppressant)

Guidelines for Medication Instructions (Teaching Booklet, Instructional videos)

Involve patients and nurses to develop SDW work (how often to take? What time of the day? What sequence?)

Improve SDW using patients and nurses (scientific improvement using patient input)
Teaching Standardized Work

- Standardized Work is easier to learn for new team members because work can be broken down into its elements.

- Training Within Industry was developed in World War II to bring new people into industrial jobs vacated by men and women who went to war.

- It remains the basis for teaching standardized work.
# PREPARE
1. Put the learner at ease, and encourage questions.
2. Assess the learner’s prior knowledge.
3. Tell the learner what you will teach.
4. Tell the learner why it is important.

# PRESENT
1. Demonstrate the skill while saying the step numbers, Major Steps and total number of steps.
2. Demonstrate the skill again, while saying the Major Steps, Key Points and Reasons Why.
3. Provide enough information to complete the skill without overwhelming the learner.
4. Provide additional tools or job aids, as needed.

# PRACTICE
1. Ask the learner to demonstrate the skill without saying anything. Provide redirecting feedback as necessary.
2. Ask the learner to demonstrate the skill again, while saying the step numbers and Major Steps.
3. Ask the learner to demonstrate the skill a third time, while saying the Major Steps, Key Points, and Reasons Why.
4. Continue practicing until the learner can demonstrate the skill correctly.
5. Provide reinforcing and redirecting feedback throughout all the steps.

# FOLLOW UP
1. Ask the learner for any remaining questions, and provide answers.
2. Tell the learner where to go for support.
3. Check in with the learner as they perform on-the-job.
4. Provide reinforcing and redirecting feedback as necessary.
Study Phase – Pre-intervention (on-going)
# Patient Descriptives

<table>
<thead>
<tr>
<th>Kidney Transplant Recipient Gender, n (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td><strong>2011</strong></td>
</tr>
<tr>
<td>Female</td>
<td>90 (44)</td>
</tr>
<tr>
<td>Male</td>
<td>114 (56)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>204 (100)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recipient Age Groups, n (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age, years</strong></td>
<td><strong>2011</strong></td>
</tr>
<tr>
<td>18 to &lt; 40</td>
<td>45 (22)</td>
</tr>
<tr>
<td>40 to &lt; 54</td>
<td>80 (40)</td>
</tr>
<tr>
<td>≥ 55</td>
<td>79 (38)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>204</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race of Kidney Recipients, n (% rounded)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Race</strong></td>
<td><strong>2011</strong></td>
</tr>
<tr>
<td>African American/BLK</td>
<td>53 (26)</td>
</tr>
<tr>
<td>Asian</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Other</td>
<td>3 (2)</td>
</tr>
<tr>
<td>Unknown (To Patient)</td>
<td>1 (&lt;1)</td>
</tr>
<tr>
<td>White</td>
<td>145 (71)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>204 (100)</td>
</tr>
</tbody>
</table>
Patient Descriptives

The graph shows the Kidney: ReAdmit Rate over FY-QTR from 2009 Q1 to 2013 Q3. The green line represents the percentage of readmissions, while the red line indicates the target upper limit of 30%. The graph indicates fluctuations in the readmission rate, with some quarters exceeding the target limit.
Current State Process

Discharge Instructions at CTC – The Ohio State University

Diagram showing the current state process with various steps and time frames.
Current State Discharge Instructions Process

- **Issues**

- Inconsistencies were observed in the following,
  - Duration of discharge instructions ("uneven chunks")
  - Time of delivery of discharge instructions. Example, some of the patients received instructions early in the morning, e.g. 4 AM.
  - Low involvement of physicians in providing discharge instructions.
  - Too much information packed in very short time (post-surgery)
  - Outpatient nurses arrive later in the process
# Patients Interviewed

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Descriptives</th>
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<tbody>
<tr>
<td>Sample Size</td>
<td>10 + (ongoing)</td>
</tr>
<tr>
<td>Average Age</td>
<td>54</td>
</tr>
<tr>
<td>Gender</td>
<td>60% Male</td>
</tr>
<tr>
<td></td>
<td>40% Female</td>
</tr>
<tr>
<td>Donor Type</td>
<td>70% Deceased</td>
</tr>
<tr>
<td></td>
<td>30% Living</td>
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<tr>
<td>Ethnicity</td>
<td>70% White</td>
</tr>
<tr>
<td></td>
<td>20% African American</td>
</tr>
<tr>
<td></td>
<td>10% Asian</td>
</tr>
</tbody>
</table>
Summary of Responses

Overall Discharge Experience

Received help quickly

Explanations for Medication

Nurse Communication

Physician Communication

1 = Poor; 5 = Excellent
Next Steps (Summer 2014)

- Collect pre-intervention data from patients through phone survey (in-progress)

- Interview/collection data from all nurses and physicians (in-progress)

- Identify patient/families for NGT

- End of Summer 2014 – plan for the SDW workshop
Breakout Discussions

- Inputs into the study design?

- Barriers and other issues to consider in discharge process

- Other Suggestions regarding patient/family involvement?
Thank You & Feedback
Study Design

- SDW1 will be designed by discharge nurses and coordinators with patient input (facilitated by a nursing/lean expert using a nominal group technique and value stream mapping)

- Once designed, SDW will be used by two different groups: Control Group and Treatment Group

- Control Group: Will continue doing the regular discharge activity

- Treatment Group (a subset of nurses): Will be coached to work with the discharge patients in continuously improving the SDW
Standardized Discharge Work (SDW)

- Patients will be randomly assigned to these groups for discharge for one year.

- Patient satisfaction, patient outcomes, nurse team learning and other measures will be tracked throughout the year across the two groups.

- After a year, the coaching will be stopped for the treatment group. They will be encouraged to continuously improve SDW by themselves.

- Data will be collected from both the treatment and control group for another additional year.

- At the end of 18 months, participants from the treatment group will lead a second workshop for the rest of the discharge team to refine the SDW1.
Benefits from SDW

- Improved patient outcomes and satisfaction for patients getting discharge through the treatment group

- SDW that connects inpatient and outpatient coordination process designed by the nurses

- Improved quality of life and job satisfaction for the care giving teams

- Sustainability of the SDW over time