History of COH Discharge Teaching Research

- Quality of Life studies with HCT pts began at City of Hope in 1991 for Tool validation
- Retrospective Chart Review in 2000 of 100 HCT patients looking at readmission patterns. (published 2005 in ONF)
- Pilot study of 10 patients with an educational intervention 2002-2003
- Caregiver research 2003-2005
- Five Year NCI-Funded Grant (SNIP) for total of 282 patients began in 2005-2010

Preliminary Studies...

Development of QOL measurement and resulting QOL Model
HCT Patients undergoing allogeneic transplant

**Socialdemographic Characteristics**
- Age
- Gender
- Ethnicity

**Disease and Clinical Factors**
- Disease stage
- Comorbidities
- Laboratory values

**Transplant Factors**
- Source of hematopoietic cells
- Graft-versus-host disease

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**Group 1 (SNIP)**
- Assessment
  - Baseline, 100 Days, 6 Months, 12 Months
- Teaching
  - 6 home teaching visits post discharge
  - 9 months telephone reinforcements

**Outcome Measures**
- Quality of life
- Functional status
- Time to first complication
- Total number of complications
- Unscheduled readmissions
- Treatment response

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**Group 2 (Attention Control)**
- Assessment
  - Baseline, 100 Days, 6 Months, 12 Months

**Additional data for Group 1**
1. Post-teaching debriefing information
2. Post-teaching knowledge
3. Referrals/resources provided

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**Intervention Highlights**

Intervention was **tailored**, included **family** and friends, included in-depth **psychosocial** history/strengths, emphasized patient’s and hospitals **resources** for support and referrals, and was **relationship-based** for one year follow-up.

- What were the outcomes?

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**Quality of Life Dimensions**

- **Physical Well-Being**
- **Psychological Well-Being**
- **Social Well-Being**
- **Spiritual Well-Being**
Continued Results

- High Satisfaction Scores
- Mortality: 16% (intervention) versus 25% (control)
- Higher functional Status
- SF-36 Physical Functioning

How To Package and Wrap Housewide?

Identification of Five Roles of Nurses Involved in the Trajectory of Care

- Nurse Coordinators
- Advanced Practice Professionals
- Case Managers
- Inpatient Transplant Unit
- Outpatient Transplant Unit
Five Roles of Nurses Involved in the Trajectory of Care to Build Capacity

- Nurse Coordinators
- Advanced Practice Professionals
- Case Managers
- Inpatient Transplant Unit
- Outpatient Transplant Unit

Pre-Implementation Nurse Coordinators Role

**STABLE ROLE ELEMENTS**
- New patient screening and scheduling
- Pre-admission Care Coordination
- Protocol Management

**ROLE ELEMENTS NEEDING CHANGE**
- Patient and Family Education
  - Varied between nurse
  - Hand-off at the time of admission inconsistent
  - No continued follow-up after admission

Nurse Coordinators Role Change Implementation

1. Established a Baseline level of Knowledge
   - Initiated monthly articles on Hematology
2. Created a Standard Educational template (next slide) as a part of an entire teaching trajectory
3. Initiation of an ongoing class taught by transplant coordinators on “Preparing for Transplant”
   - Taught each day for patients and families
4. Increased the length of relationship with the patient and family
   - Throughout transplant until 100 days
5. Assessed for psychosocial issues
   - Referrals to social work, psychiatry
Nurse Coordinators Role

“Topics to Teach”

- Pre-Transplant Education
  - Treatment Plan/work-up schedule including discussion of disease and rational for regimen.
  - Protocol/transplant consent with expected side effects.
- Educational tools provided (Blood and Marrow Stem Cell Transplant Binder).
- Teaching on countdown, side effects, engraftment, and discharge criteria.

Period of Admission Planning
- Caregiver contract and caregiver education.

Transplant Admission
- Follow-up Phone call after discharge.
- Post transplant overview, resources, and long-term follow-up.

Post Transplant

Nurse Coordinators Role

Change Implementation Measurement

- Established a Baseline Level of Knowledge
  - Online Survey to measure competency in 16 areas: 61% were proficient with 39% beginner.
- Created a Standard Educational template
  - Teaching was observed and feedback given per Rubric Tool x 4 areas: 88% mean score on performance.
  - Performance Evaluation includes teaching competent as a measurement.
- Other aspects of role not affected by increasing teaching capacity
  - Transplant Essential data requirements are captured (TED): 100%.

Identification of Five Roles of Nurses Involved in the Trajectory of Care

- Nurse Coordinators
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Pre-Implementation APP Role

**STABLE ROLE ELEMENTS**

- APP Staff of 20: 4 PAs and 16 NPs with a focus on both Inpt and Outpt Hem/transplant coverage
- Five teams of MDs with approximately 3-4 APPs on each team

**ROLE ELEMENTS NEEDING CHANGE**

- Patient and Family Education for Discharge varied between APPs with Long Term follow-up information sporadic

APPs Role Change Implementation Measurement

- Established a Baseline Level of Knowledge
- Two-session “Educational topics” intervention
- Created a Standard of Practice for discharge teaching for all APPs
- Instituted a Yearly test to establish baseline performance for all NPs
- Made long-term follow-up 6mo, 12mo and 2 year printouts easily assessable to staff
- Started a bi-monthly class with social work in the inpatient setting for family and patient about home transition.
- Done twice a month
- Instituted a “Day 10 Huddle” on the inpatient unit
  - With social work and case management to discuss discharge

Advanced Practice Professional Role “Topics to Teach”

- Trajectory teaching
- Regimen related side effect management
- Day 10 huddle with social worker/case manager on barriers to discharge
- Knowledge of line care
- Fatigue conservation
- Symptoms to impart and why
- Sexual issues
- Depression risk
- Caregiver attends psychosocial class

- Seven Days Pre-discharge
  - Infection precautions
  - Discharge meds
  - Pets/home
  - Follow-up psychosocial topics

- 48 Hours before Discharge
  - Medication reconciliation
  - Review of content
  - Next follow-up appointment

- Discharge Day
  - Medication reconciliation
  - Review of content
  - Next follow-up appointment
Advanced Practice Professional Role Change Implementation Measurement

- Measurement of weekly educational episodes after implementation:
  - General teaching < 30 minutes: 8 episodes
  - General teaching > 30 minutes: 3 episodes
  - Discharge teaching < 30 minutes: 7 episodes
  - Discharge teaching > 30 minutes: 2 episodes

Identification of Five Roles of Nurses Involved in the Trajectory of Care

- Nurse Coordinators
- Advanced Practice Professionals
- Case Managers
- Inpatient Transplant Unit
- Outpatient Transplant Unit

Pre-Implementation Case Manager Role

<table>
<thead>
<tr>
<th>STABLE ROLE ELEMENTS</th>
<th>ROLE ELEMENTS NEEDING CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Management staff with varying transplant knowledge</td>
<td>No follow-up of patients after discharge from hospital by case manager</td>
</tr>
<tr>
<td>Role of consisting of pharmacy authorizations equipment coordination securing housing Assignment by MD teams</td>
<td>No discharge teaching done by the case manager</td>
</tr>
<tr>
<td></td>
<td>Little communication with the inpatient service except at time of discharge</td>
</tr>
</tbody>
</table>
Established a Baseline Level of Knowledge
Two-session “Educational topics” intervention on trajectory expectations for their role
Instituted comprehensive Standard of Practice
With expected professional behaviors per a timeline reflecting the regulatory guidelines of their role
Discussion of expansion of their nursing role to include
Early discharge planning assessment,
With early identification of potential barriers, and educational needs
Weekly progress notes,
Family conferences, and
Follow-up phone calls.

Within 24-48 hours after Admission
• Discuss CM role,
• Initial assessment to barriers,
• Caregiver plan
Within 72 hours and establishment of weekly notes
• Barrier assessment: identification of physical, psychosocial, insurance-related, transportation, financial, lodging, other

Within 24-72 hours of discharge
• Who to call,
• How to manage VAD,
• Diet,
• Exercise
• Caregiver has attended class
• Review discharge medications

After Discharge Follow-up Phone call
• meds
• symptoms,
• support at home,
• need help with coordination
Identification of Five Roles of Nurses Involved in the Trajectory of Care

- Nurse Coordinators
- Advanced Practice Professionals
- Case Managers
- Inpatient Transplant Unit
- Outpatient Transplant Unit

Pre-Implementation Inpatient Staff RN Role

<table>
<thead>
<tr>
<th>STABLE ROLE ELEMENTS</th>
<th>ROLE ELEMENTS NEEDING CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff of 180 for two 36-bed units</td>
<td>Some variation with discharge teaching</td>
</tr>
<tr>
<td>Autologous</td>
<td>Not clear distinct roles of discharge care between the case manager,</td>
</tr>
<tr>
<td>Allogeneic</td>
<td>Midlevel, and staff nurse</td>
</tr>
<tr>
<td>Mix of both seasoned staff and new grads</td>
<td>Some variation with discharge teaching</td>
</tr>
<tr>
<td>Some variation with discharge teaching</td>
<td>Not clear distinct roles of discharge care between the case manager,</td>
</tr>
<tr>
<td>Not clear distinct roles of discharge care between the case manager, Midlevel, and staff nurse</td>
<td></td>
</tr>
</tbody>
</table>
Established a baseline expectation of teaching
Discussed at several staff meetings about the comprehensive approach to discharge teaching
Created 4 teaching videos for staff to access outlining the expected time from admission to discharge and covering both content and expected behaviors
Created an interdisciplinary carepath as a poster of the trajectory of teaching behaviors displayed in the conference rooms
Outlined roles of all health care professionals who see inpatients in the inpatient transplant admission
Created accompanying flow sheets for charting the teaching behaviors

Inpatient RN Role “Topics to Teach”

**First week of stay**
- Orientation to transplant schedule
- Orientation to transplant activities (calendar of activities)
- Orientation to support personnel (CSW, chaplain, rehab, dietician)
- Transplant Education focused on inpatient needs (admission to discharge prep)
- Trajectory of transplant
- Regimen discussion and expected side effects:
  - Common Medications
  - Expected transplant-related symptoms: rash, GVHD, immune issues
- Assess for psychosocial distress (use distress thermometer and refer to appropriate support personnel)

**Within 7 days of discharge**
- Diabetic teaching
- Begin diet teaching
- Home preparations
- Fatigue conservation
- VAD care
- Trajectory of transplant
- Discuss psychosocial topics of sexuality, depression, caregiver fatigue, role and family disruption, and assess for refer if needed
- Nurse Practitioners

**72 hours Prior to discharge**
- VAD care
- Neutropenia and infection precautions
- Reportable symptoms
- Psychosocial topics of role changes, family, and social support
- Pets

**Discharge**
- Discharge medications
- Follow-up appointments
- Village coordination
- Medication reconciliation
- Finalize prescriptions
- Long-term survivorship teaching*
Inpatient Change Implementation Measurement

- None = EMR has arrived

Identification of Five Roles of Nurses Involved in the Trajectory of Care

- Nurse Coordinators
- Advanced Practice Professionals
- Case Managers
- Inpatient Transplant Unit
- Outpatient Transplant Unit

Pre-Implementation Outpatient Transplant Staff RN Role

<table>
<thead>
<tr>
<th>STABLE ROLE ELEMENTS</th>
<th>ROLE ELEMENTS NEEDING CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outpatient Day Hospital 10 beds New staff</td>
<td>Multidisciplinary Team to break down tasks of needed information for patients</td>
</tr>
<tr>
<td>1. Research/Quality protocol</td>
<td></td>
</tr>
<tr>
<td>2. Nurse Education</td>
<td></td>
</tr>
<tr>
<td>3. Policy and Procedure support</td>
<td></td>
</tr>
<tr>
<td>4. Day Hospital Forms</td>
<td></td>
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<tr>
<td>5. Patient and Caregiver Education</td>
<td></td>
</tr>
</tbody>
</table>
Quality Data on
- Clinical, operational, quality
- Communication with MDs
- Inclusion and discharge criteria

Nurse Education
- Both clinical and educational competency

Supportive Documentation
- Forms including algorithms and flowsheets

Patient and Family Education
- Off hours problems solving
- Flowsheet for caregiver for symptom management

Outpatient Transplant Staff Change Implementation

Outpatient RN Role
“Topics to Teach”

First week of stay
- Orientation to transplant schedule
- Orientation to transplant activities (patient calendar)
- Orientation to support personnel (CSW, chaplain, rehab, dietician)
- Transplant Education focused on inpatient needs (admission to discharge prep)
- Trajectory of transplant
- Regimen discussion and expected side effects:
  - Common Medications
  - Expected transplant-related symptoms: rash, GVHD, immune issues
  - Assess for psychosocial distress (use distress thermometer and refer to appropriate support personnel)

Within 7 days of discharge
- Diabetic teaching
- Begins diet teaching
- Home preparations
- Outpatient discharge education
- VAD care
- Teaching on symptoms and what symptoms to report
- Discuss psychosocial topics of sexuality, fatigue, role and family disruption, and counsels for referral if needed

72 hours prior to discharge
- VAD care
- Nutritional and side effect medications
- Psychosocial topics of sexuality, fatigue, role changes, family disruption, help for children
- Skin
- Care routine

Discharge
- Discharge medications
- General discharge instructions
- Follow up appointment through the transplant team
- Medication and DME authorization
- Care Management
- Village coordination
- Medication reconciliation
- Follow up clinic appointment
- Long term medications

Outpatient Requirement for Daily Discharge

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Yes</th>
<th>No</th>
</tr>
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<tbody>
<tr>
<td>Afebrile</td>
<td></td>
<td></td>
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<tr>
<td>Pain score less than 4</td>
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<tr>
<td>Alert, orientated and x 3</td>
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<td></td>
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<tr>
<td>BP, HR and RR WNL</td>
<td></td>
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<tr>
<td>Clear lungs</td>
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<tr>
<td>Heart rate regular rate and rhythm</td>
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<tr>
<td>Able to drink without vomiting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Last check of chem-7 Electrolytes WNL or treated</td>
<td></td>
<td></td>
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<tr>
<td>Last check of urine - Electrolyte, pH, urate</td>
<td></td>
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<tr>
<td>Blood gas outside the lab 3 hours</td>
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<tr>
<td>Specific medications times above 10:30 a.m.</td>
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</tbody>
</table>

Staff RN
72 hours prior to discharge
- VAD care
- Neutropenia and infection precautions
- Fatigue conservation
- Reportable symptoms
- Psychosocial topics of sexuality, fatigue, role changes, family disruption
- Pets
- Clinic routine

Discharge
- Discharge medications
- Formal discharge instructions
- Follow up appointment through the transplant team
- Medication and DME authorization
- Care Management
- Village coordination
- Medication reconciliation
- Follow up clinic appointment
- Pets
- Long term medications
30-day and 100 day treatment-related mortality,
Infections, incidence and severity
GI-related complications and symptoms
Admissions within 100 days
Length of stay in the day hospital
Engraftment data
Evidence of DVT
Readmissions within 100 days
Reasons for readmissions
Evidence of charted patient and family education,
Patient and caregiver preparedness, and
Number of ETC visits
Patient satisfaction with financial support, lodging, transportation,
quality of life, obtaining medications and the outpatient experience.

Outpatient Change Implementation Measurement

Summary
Change is challenging for an organizational system
A Consistent approach is best
Needs CNO backing
Build in sustainers of change
Managers
Educators
Clear role expectations
Measure success to support change
Be flexible to accommodate how change needs to occur in various settings.