e-transitions: Improving the Transition to Home Health Care Using an Electronic Communication System Available to Physicians, Discharge Planners, Home Health Nurses and Patients

June 5, 2006

Visiting Nurse Service of New York
Weill Medical College of Cornell University
Goals For The Presentation

- Introduce an electronic tool designed to improve care at the time of transition to home health care.
- Review some preliminary feedback.
- Describe the transition to a web-based tool.
Focus on Transition from Hospital to Home Health Care

Transitions in healthcare problematic
- Poor information exchange
- Increased risk for medical errors
- Often a lack of physician involvement
- Poor utilization of healthcare resources

Avoidable re-hospitalizations
There is Room for Improvement

% of patients with CHF readmitted

- 1 week: 10%
- 2 weeks: 20%
- 3 months: 40%
- 6 months: 60%
Current System for Referring a Patient to Agency

- Hand-written form or phone call used to initiate home health referrals
- Rarely involves physician in generating the referral orders (SW or RN initiates)
- Referral documentation rarely part of the permanent medical record
HOME HEALTH SERVICES REQUEST

SERVICE REQUEST TO: NAME AND ADDRESS

NY Presbyterian Hospital 525 E 66th Street 10021

DATE OF REQUEST

PATIENT NAME: CAST, PAUL MIDDLE

Social Work

DATE OF BIRTH

ADDRESS: 65 E 66TH STREET, BOROUGH, STATE

DATE AND STREET CITY, BOROUGH STATE

ADDRESS WHERE PATIENT IS TO BE VISITED: NO AND STREET, CITY, BOROUGH, STATE (NAME OF NAME)

APARTMENT NUMBER OF FLOOR: TELEPHONE:

MEDICARE NO.

MEDICARE OR CSS IDENTIFICATION NO

OTHER INSURANCE CARER

POLICY NO. OR CLAIM NO.

HOSPITAL IDENTIFICATION DATE

HOSPITAL IDENTIFICATION DATE

HOSPITAL IDENTIFICATION DATE

MEDICAL DIAGNOSIS

Alzheimer's Dement Status 2 Abl CVA

MEDICAL HISTORY

Significant Medical and Surgical History (Include Functional Limitations - Allergies)

NONE

MEDICATIONS

Prescribed

Medication 40mg PO OD

Metanex 1.7g PO OD

Ambien 1mg PO QS

Seconal 2 tabs PO QS

Trapez 1000mg PO OD

Elimite 10mg PO OD

MEDICAL SUPERVISION AT HOME PROVIDED BY NAME AND ADDRESS OF PHYSICIAN OR PRACTICIAN

Telephone

PATIENT PHYSICIAN NAME

Estimate Of Patients Need

Approve

This Plan Of Care Is Related To Condition For

Home Health Services

PERSONNEL SKILLED/UNSKILLED

Other Services

HHA

PHYSICIAN SIGNATURE

DATE

NURSING ASSESSMENT AND RECOMMENDATIONS (Include Symptoms and Reactions to Be Observed, Techniques to be Taught)

Requires RN to monitor vitals, HHA eval and PT Home Safety eval.

Requesting SL low start of care.

MEDICATIONS, SUPPLIES, EQUIPMENT (PLEASE IDENTIFY ITEMS)

OTHER PROFESSIONAL ASSESSMENTS AND RECOMMENDATIONS (ATTACH ATTACHMENTS) (PLEASE IDENTIFY ITEMS)

NUMBER SIGNATURE

12/24/11

HOSPITAL OR PHYSICIAN REQUESTING SERVICE

45571 SR 438
Our Approach

To restructure the format and initiation of CMS 485 to:

- Improve accuracy
- Promote evidence-based patient care
- Increase physician participation in the plan of care
- Enhance communication between physician and agency
Methods

- Developed a computer generated CMS 485 from Cornell electronic health record (“e-485”)
- Automated uploads (demographics, medications, diagnoses, and patient allergies)
- Expanded content of CMS 485 to include diagnosis-specific home care orders and triggers for physician contact
- Added evidence-based decision support tools and order sets
- Completed form becomes part of patient’s electronic health record
Creating an e-485
Example of Evidence-based popup screen
Physician Impressions

- Favorably received
- Takes 3 minutes to complete on average
- Accessible as part of the medical record
- Easy learning curve
- Allows MD to bill for managing home health care patient
Home Health Agency Impressions

Received favorably by nurses:
- Ease of reading – handwriting vs. typed
- Format – easy to follow
- More comprehensive orders
- Titration orders allow co-management of patients between nursing and medicine
Electronic Transitions

- Getting the Data from the Hospital EMR or Physician’s Office to the HHA
- Enhancing the Communication Physicians and Nurses
- Bringing Caregivers into the Process
Web-based System

Beginning stages of 2-year project to create a more flexible and generalizable web-based system:

– Will allow electronic communication of automated 485

– Subsequent communications between physicians and home health agency staff

– Physicians will be able to sign plans of care, revisions and new orders electronically
Web-based System (cont’d)

- Nurses and physicians will be able to leave notes for one another on secure website.
- Enables physicians who lack electronic health record the capability to participate:
  - Manually entering data
  - Accessing system via any web browser.
e-transitions Model

- Patient/Caregiver
- Community-Based Physician
- Hospital-Based Providers
- HHA Clinical Record System
- HHA Field Nurse/Therapist

e-transitions
What Is e-transitions?

- Secure internet website
- Database (EMR)
- Protocols for data exchange
- System to notify physicians and nurses about changes and updates via e-mail
- Resource for patients and caregivers
Data Communication
Continuum of Care Record (CCR)

Cornell Climax System → e-485 → CCR → e-transition Database

Web Entry
# Components of the CCR

- Patient Identifier
- Date/time
- To
- Purpose
- Comments
- Signatures
- Body
Body of CCR

- Payer
- Advance Directives
- Support
- Functional Status
- Problems
- Family History

- Alerts
- Medications
- Medical Equipment
- Vital Signs
- Plan of Care
- More
This introductory text explains the e-transitions' goals and gives users a brief introduction to the site. In the beginning, the text should be explanatory and the call to action will be encouraging users to register. Over time, as the users become more used to the site, the text will change.

This is another introductory text that explains the e-transitions' goals and gives users a brief introduction to the site. In the beginning, the text should be explanatory and the call to action will be encouraging users to register. Over time, as the users become more used to the site, the text will change.

**TIPS**

How to get the most out of the etransitions website. How to use reports, ideas about drilling down, etc.

**NOT REGISTERED? HERE'S WHY YOU SHOULD!**

These small boxes will be enticements to register or to use new features on the site.

**NEWS FLASH**

that would be helpful to the user.

These are more short news stories about new reports.

**CURRENT NEWS**

**News Article 1**
Now Available Online
date posted

**News Article 2**
Now Available Online
date posted

MORE NEWS
## Patients of Dr. EUGENIA SIEGLER

<table>
<thead>
<tr>
<th>Name</th>
<th>Insurance No.</th>
<th>Order Status</th>
<th>Home Healthcare Agency</th>
<th>Primary Dx</th>
<th>Renew Orders</th>
<th>New Info</th>
<th>Inactivate</th>
<th>Send info to HHA</th>
<th>Transfer to another MD</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANDY ROONEY</td>
<td>498853</td>
<td></td>
<td>VISITING NURSE SERVICE OF NEW YORK</td>
<td>HYPERTENSION NOS</td>
<td>44</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAUL TOCCI</td>
<td>93246</td>
<td></td>
<td>VISITING NURSE SERVICE OF NEW YORK</td>
<td>CONGESTIVE HEART FAILURE</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TIMMY MURPHY</td>
<td>965036</td>
<td></td>
<td>VISITING NURSE SERVICE OF NEW YORK</td>
<td>CONGESTIVE HEART FAILURE</td>
<td>39</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OWEN FRIEL</td>
<td>BB345FR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COLIN FITZSIMMONS</td>
<td>G11131F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

List of Info Sent to HHA | List of Pt transferred to another MD | List of Inactive Pt | Add a new Patient

### New Patients transferred to Dr. EUGENIA SIEGLER

<table>
<thead>
<tr>
<th>Name</th>
<th>Insurance No.</th>
<th>Transferred from</th>
<th>Primary Dx</th>
<th>Accept this Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>TED MALLEY</td>
<td>A232FGG</td>
<td>SIEGLER</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### New to e-transitions? take a tour...

### about us

These small boxes will be enticements to register or to use new features on the site.
Physician - Patient View
Including Communications

e-transitions
Visiting Nurse Service of New York & Well Medical College

Dr. Home Page

ANDY ROONEY
Nurse: NURSE TEAM7 212-609-9002 team7@vnsny.org

Plan of Care and Current Orders

<table>
<thead>
<tr>
<th>Document</th>
<th>View or Edit</th>
<th>Date Created</th>
<th>Renew Orders</th>
<th>View Alternate format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Orders</td>
<td>Edit</td>
<td>2006-05-05 00:00:00</td>
<td>Please Renew Orders</td>
<td>CMS-485</td>
</tr>
</tbody>
</table>

Revision to Current Orders

<table>
<thead>
<tr>
<th>Category</th>
<th>Changes</th>
<th>Sign all unsigned orders</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. Orders for Discipline and Treatments</td>
<td>Chest Physical Therapy</td>
<td>Sign off on changes</td>
</tr>
<tr>
<td>17. Allergies</td>
<td>Pencillen</td>
<td></td>
</tr>
<tr>
<td>17. Allergies</td>
<td>Aspirin</td>
<td></td>
</tr>
<tr>
<td>17. Allergies</td>
<td>Other (specify)</td>
<td></td>
</tr>
<tr>
<td>22. Goals/Rehabilitation Potential/Discharge Plans</td>
<td>Self Care</td>
<td></td>
</tr>
</tbody>
</table>

Notes from the Nurse

- 2006-05-12  NURSE TEAM7  This is a note from the nurse.

Notes from the Physician

- 2006-05-20  EUGENIA SIEGLER  This is a note from the Physician.

Viewing Permission

Patient can view:
- Safety Measures
- Activities Permitted
- Goals
- Medications and Monitoring

Save Permission Changes
Physician – Add Orders

Add New Orders (Choose Categories Below) for ANDY ROONEY

A. Diagnoses
B. Drug Allergies
C. Functional Limitations
D. Mental Status
E. Prognosis
F. Goals
G. Orders

Medications and Monitoring
Physician Notification
Safety Measures
Activities Permitted
DME
Supplies
Nutritional Requirements
Treatments
Physical Therapy
Occupational Therapy
Speech Therapy
Other Treatments

H. Discharge Plan
### Medications and Monitoring of ANDY ROONEY

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose (mg)</th>
<th>Start Date</th>
<th>End Date</th>
<th>Discontinue</th>
</tr>
</thead>
<tbody>
<tr>
<td>advil</td>
<td>5000</td>
<td>2006-05-05 10:05</td>
<td>9999-12-31 00:00</td>
<td>False</td>
</tr>
</tbody>
</table>

**NOTE** For patients with congestive heart failure it is standard procedure to prescribe beta blockers.

- Teach/reinforce roles, side effects, and dosages of medications
- Check for medication adherence

**Medication Adjustments**

<table>
<thead>
<tr>
<th>Adjustment</th>
<th>Discontinue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase advil 50mg DAY pulse 0</td>
<td>False</td>
</tr>
</tbody>
</table>

Change Medication Adjustment (Example: Increase lisinopril by 5 mg each week until blood pressure is 100/60)

<table>
<thead>
<tr>
<th>Decrease</th>
<th>by each</th>
<th>until blood pressure</th>
<th>ind</th>
</tr>
</thead>
</table>

Add Medication Adjustment (Example: Increase lisinopril by 5 mg each week until blood pressure is 100/60)

<table>
<thead>
<tr>
<th>Decrease</th>
<th>by each</th>
<th>until blood pressure</th>
<th>ind</th>
</tr>
</thead>
</table>

Notify physician each week with report of vital signs, physical findings, and current medication doses when adjusting medications
Basic CMS 485 Information

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>498853</td>
<td>2006-01-01</td>
<td>From: 2006-01-01</td>
<td>To: 2006-03-01</td>
<td>337008</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. Patient's</th>
<th>7. Provider's</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name: ANDY ROONEY</td>
<td>Name: VISITING NURSE SERVICE OF NEW YORK</td>
</tr>
<tr>
<td>Address: 32 WEST 45TH STREET</td>
<td>Address: 1250 BROADWAY</td>
</tr>
<tr>
<td>City: NY    State: NY</td>
<td>City: NY    State: NY</td>
</tr>
<tr>
<td>Zip: 10029   Tel: 212-333-7888</td>
<td>Zip: 10001   Tel: 212-609-9001</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>11. ICD-9-CM Principal Diagnosis</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>079.53 HIV-2 INFECTION OTH DIS</td>
<td>04/28/2006</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12. ICD-9-CM Surgical Diagnosis</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>None Selected</td>
<td>None Selected</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>13. ICD-9-CM Other Pertinent Diagnosis</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>None Selected</td>
<td>None Selected</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14. DME and Supplies</th>
<th>15. Safety Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1 mattress</td>
<td>Perform Home Safety Assessment</td>
</tr>
<tr>
<td>Hospital Bed</td>
<td></td>
</tr>
<tr>
<td>Home Oxygen (liter/min)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assess Nutritional Requirements</th>
<th>Other Nutritional Requirements (Vitamin K)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>16. Nutritional Requirements</th>
<th>17. Allergies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penicillin</td>
<td></td>
</tr>
</tbody>
</table>

**Physician:** EUGENIA SIGLER 212-746-1772 rocco.napoli@vnsny.org
### 18.A. Functional Limitations
- Bowel/Bladder
- Contracture
- Hearing
- Paralysis
- Other (test)

### 18.B. Activities Permitted
- Assess Need for PT Evaluation
- PT Evaluation
- Complete Bedrest
- Bedrest BRP
- UP as tolerated
- Transfer Bed/Chair
- Exercise Prescribed
- Partial Weight Bearing
- Independent at Home
- Crutches
- Wheelchair
- Walker

### 19. Mental Status
- Lethargic

### 20. Prognosis
- Poor

### 21. Orders for Discipline and Treatment

**Nursing**
- Visit 3 days/week for 4 weeks
- Teach patient to monitor daily weights
- At each visit assess: pulse, blood pressure, weight, heart rate and rhythm, lung sounds, and lower extremity edema and perfusion
- Monitor and teach signs and symptoms of worsening heart failure
- Assess heart failure medications
- Educate about low sodium diet

**Physical Therapy**
- Chest Physical Therapy

**Occupational Therapy**

**Speech Therapy**

**Other Treatment**

**Physician Notification**
- Notify physician for Systolic BP < 120 or > 80
- Notify physician for weight loss 10 lb in 2 days
22. Goals/Rehabilitation Potential/discharge Plans

Goals

Pt/caregiver will be knowledgeable about disease; behaviors needed to manage condition; signs and symptoms of complications; prescribed diet; signs and symptoms of an emergency and know appropriate actions
Pt/caregiver will demonstrate proper administration of medication
Pt/caregiver will identify purpose dose schedule
Pt/caregiver will demonstrate treatment as prescribed

Discharge Plans

Self Care
Process Evaluation of Web-based System (e-transitions)

- Interviews with operations staff at VNSNY (e.g., Central Admissions Unit managers)
- Two clinician focus groups:
  - Physicians at Cornell and in community
  - Nurses at VNSNY
- Phone interviews with patients and/or caregivers
Acknowledgements

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