APPENDIX I. SITE VISIT SUMMARY: BEECHWOOD HOMES

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Executive Summary

Snapshot of Beechwood Continuing Care

- Organization Type: Long-term care community.
- LTPAC Services:
  - Independent Living.
  - Assisted Living.
  - Rehabilitative and SNF.
- Size:
  - Beechwood Homes: 272 skilled beds with a 3 specialty units: 36-bed early stage dementia unit; 27-bed Wesley Rehabilitation Center; 22-bed dedicated hospice unit.
  - Blocher Homes: 57 assisted living units.
  - Asbury Pointe: 110 independent living apartments.
- Grant Funding: Beacon Community of Western New York--grant assistance provided to Beechwood for technical interfaces to participate in HIE.
- EHR: AOD.
- Regional HIEO: HEALTHeLINK™ (Western New York HIE).

To understand health information exchange (HIE) for long-term and post-acute care (LTPAC) providers, a site visit was conducted at Beechwood Homes (Beechwood). Beechwood is a non-profit long-term care community in the greater Buffalo, New York area. The community is comprised of independent living, assisted living and rehabilitative/skilled nursing services. The site visit conducted at Beechwood Continuing Care focused on Beechwood Homes, a 272-bed skilled nursing and rehabilitation facility with specialty units in early dementia, hospice, and rehabilitation. Its specialty rehabilitation unit, Wesley Rehabilitation Center, is designed specifically for residents with intensive, short-term rehabilitation or complex medical needs. Beechwood has embraced a patient-centered quality of life focus and is undergoing a transformation to a household environment rather than nursing units.

To deliver short-term and long-term care to its residents, Beechwood coordinates care and services with a number of health care professionals and community partners including physicians, local hospitals, ancillary services providers including pharmacies, labs and radiology, health plans and other LTPAC providers. Beechwood has begun participating in the Western New York regional HIE organization (HIEO), which is advancing electronic information exchange capabilities in the area.

Beechwood strives to be a leader/innovator in their area. Beechwood has embraced technology and looks for opportunities to expand its use of health information technology (HIT) to support their clinical and business operations, and identified regional HIE activities as important for their organization. They were selected as one of five LTPAC partners for the Western New York Beacon Community. As one of 17

Beacon Communities nationwide, Western New York is building and strengthening local HIT infrastructure and testing innovative approaches to make measurable improvements in health, care, and cost. Funded by the Office of the National Coordinator for Health Information Technology (ONC), the Western New York Beacon Community's efforts are focused on improving clinical outcomes and patient safety, through HIT and HIE.

The regional HIEO, HEALTHeLINK, is leading efforts to transform Western New York health care through the Beacon grant. Beechwood joins other community service providers (such as hospitals, physicians, labs, pharmacies, radiology centers, home health care, hospice, and payers) in participating in the regional HIE network. Beechwood is currently sending admission/discharge/ transfer (ADT) messages to the HIE and is working on receiving lab and radiology results through HEALTHeLINK.

Beechwood has the electronic health record (EHR) application Answers on Demand (AOD). They are using many modules in the system with ongoing plans to expand its use to support clinical and facility operations.

Health information is exchanged in many different ways (phone, fax, e-mail, mail, secure electronic exchange, portals, etc.) during key clinical and administrative processes. The flow of exchanged health information occurs in three categories: (1) hand-offs in care; (2) shared care; and (3) other administrative. Beechwood routinely exchanges information to complete preadmission assessments, at transfer and discharge, when assessing the patient in the development of their initial plan of care (POC), for ongoing maintenance of the patient's POC, and with status changes. Health information is also exchanged for administrative purposes to support billing and reporting.

A number of opportunities were identified over the course of the two-day site visit to expand HIE in support of clinical and/or business processes, or to address barriers. The opportunities and/or barriers include:

- Opportunities to improve care delivery with better availability of information.
- Need for clarified and/or implementable standards to support interoperability and HIE.
- Ideas for expanding participation in HIE by LTPAC facilities by increasing the value proposition.
- Beechwood with their community partners the Western New York Beacon Community and HEALTHeLINK, continue to explore new ways to improve care transition and coordination activities for their patients and the community they serve.

Background on Beechwood Homes

Beechwood Continuing Care[1] is a non-profit, long-term care community in the greater Buffalo, New York area. The community is comprised of independent living, assisted living and rehabilitative/skilled nursing services. The site visit conducted at Beechwood Continuing Care focused on Beechwood Homes (Beechwood), a 272-bed skilled nursing facility (SNF) and rehabilitation facility with specialty units in early dementia, hospice, and rehabilitation. The Wesley Rehabilitation Center is designed specifically for residents with intensive, short-term rehabilitation or complex medical needs. Beechwood has embraced a patient-centered quality of life focus and is undergoing a transformation to a household environment rather than nursing units.

In addition to Beechwood Homes, there are independent living apartments at Asbury Pointe and assisted living units at Blocher Homes.

To understand the HIE processes at Beechwood, interviews were completed with facility staff in administration, nursing, admissions, rehab, information technology, and health information management (HIM). In addition, discussions were completed with the following community partners who exchange information with Beechwood:

- HEALTHeLINK (regional HIEO);
- Kaleida Hospitals and Lab;
- Catholic Health System;
- Buffalo Pharmacies, Inc.;
- Buffalo Ultrasound (radiology);
- Family Choice Health Plan;
- Amedysis Home Health; and
- Hospice Buffalo Palliative Care.

Beechwood has an EHR system and is a participant in the Western New York HIE HEALTHeLINK. Information exchange occurs in many different forms with these community partners -- traditional methods including phone, fax and e-mail as well as look access to hospital EHRs or shared drives, web portals, and through HEALTHeLINK.

Western New York Beacon Community

The Western New York Beacon Community is one of 17 Beacon Communities funded by the ONC to build and strengthen local HIT infrastructure and test innovative approaches to make measurable improvements in health, care, and cost. The Western New York Beacon Community's efforts focus on improving clinical outcomes and patient

[1] See http://www.beechwoodcare.org/.

safety by using HIT and HIE in diabetes care management. The Western New York Beacon is using technology to achieve its goals, which include:[2]

- Improving the care of patients with diabetes in primary care practices and demonstrating progress toward meaningful use (MU) requirements through the use of registries, electronic diabetes guidelines (EHR prompts and alerts), and medication histories.

- Reducing emergency department (ED) visits, hospitalizations for ambulatory care sensitive conditions, and 30-day readmissions rates for individuals with diabetes, and for a subset of diabetics with co-morbid congestive heart failure.

- Strengthening HEALTHeLINK by adding new data sources and expanding the number of data feeds contributing to the HIE (i.e., adding discharge medications from hospital data sources).

The Western New York Beacon Community has engaged multiple types of health care providers to achieve these goals. In addition to hospitals, physician practices, they have also engaged LTPAC providers, specifically five SNFs and five home health agencies. Nursing home partners were selected if they were willing and able to set up an EHR interface to HEALTHeLINK. To assist Beechwood in being an active participant in the Western New York Beacon initiatives, the Beacon grant covered the cost to develop an interface from the nursing home EHR (AOD) to HEALTHeLINK.

One of the initiatives that the Western New York Beacon Community is focused on is hospital discharge then admission to a SNF to determine how HEALTHeLINK can improve efficiency, improve the patient transfer process and reduce adverse outcomes (For more information see http://www.healthit.gov/sites/default/files/beaconfactsheet_westernny.pdf). It should be noted that the Western New York Beacon Community is monitoring the efforts of the ONC Standards and Interoperability (S&I) Longitudinal Coordination of Care (LCC) workgroup specifically on emerging standards to support transfer of care information and in MU Stage 2 of the EHR Incentive Program.

In addition to the hospital-SNF transfer initiative, the Western New York Beacon Community has identified four long-term care use case priorities for 2013 (Attachment I-1):

1. Lab and radiology results delivery from lab and radiology providers through HIE to Beechwood's EHR;
2. Care planning and regulatory requirements after admission acceptance;
3. Access to data needed for admission criteria; and
4. Patient preference notification (future consideration).

[2] Western New York Beacon Community Fact Sheet. http://www.healthit.gov/sites/default/files/beaconfactsheet_westernny.pdf (also available in Appendix A).

Work has begun on the first use case priority to deliver lab and radiology results and on the second use case. Access to data for admission criteria is operational.

HEALTHeLINK Western New York Regional Health Information Exchange

As noted above, Beechwood participates in HEALTHeLINK,[3] which is a Regional Health Information Organization (RHIO) in Western New York. The operating costs for the HIE are currently covered by three major health plans and four hospital systems. HEALTHeLINK is also one of 13 communities selected to collaborate with the U.S. Department of Veteran Affairs in the Virtual Lifetime Electronic Record (VLER). At this time, the HIE does not conduct significant data analytics functions on Western New York population data except some basic trending and graphing of tele-monitoring data (e.g., blood sugars). Providers access this information using the virtual health record (VHR). Any provider who has signed a participation agreement and has Internet access can utilize the VHR. Providers may choose to get results delivery from HEALTHeLINK directly into their connected (eligible) EHRs. HEALTHeLINK is also part of the statewide network to collect childhood immunizations as well as syndromic surveillance.

Overview of HEALTHeLINK Providers and Health Information Exchange

HEALTHeLINK has prioritized eight types of health information to be available on the exchange network to providers and payers. The HIE also identifies the status of which providers are submitting the clinical data.[4] Based on information reported on the HEALTHeLINK web site, there are currently 35 providers submitting clinical data and over 2,900 professionals accessing the data in the exchange network in the Table I-1 categories.

The professionals participating in the HIE include physicians, nurse practitioners, physician assistants, chiropractors, nurses, pharmacists, and dentists. HEALTHeLINK identifies on their web site the participating professionals[5] and their ability to complete EHR-to-EHR exchange with a continuity of care document (CCD) and results delivery.

To have information exchanged on the HIE, a patient must give consent (see consent form at: http://wnyhealthelink.com/files/consent_form_12-20-10.pdf). Currently there are almost 450,000 individual patient consent forms signed in Western New York, and New York State has stringent patient consent policies requiring a patient to consent before their information can be shared through HEALTHeLINK. Patients have several options: They can give consent to all care providers in the HEALTHeLINK network on the date of their signature who provide their care; they can specifically identify providers

[3] See http://wnyhealthelink.com/.

[4] See http://wnyhealthelink.com/Patients/Participants/ProvidersofClinicalDatatoHEALTHeLINK.

[5] See http://wnyhealthelink.com/Physicians/Participants/ParticipatingHEALTHeLINKProviders.

who can access their information; patients can exclude a single provider or group, they can opt to consent for emergency care access only, and finally a patient can choose to never have their information accessed under any circumstances. Beechwood only needs to obtain patient consent to access their information on the HIE, if there is no valid consent in the system. At this time, the patient does not have the ability to access their information on HEALTHeLINK, however, a patient portal is being considered.

TABLE I-1. Provider Types and Health Information Available on HEALTHeLINK HIE

Provider Type	No. of Providers Connected	ADTs	Radiology Reports	Radiology Images	Lab	Transcribed Reports History*	ED Reports	Medication History Data	Diabetic Measures
Hospital	13	X	X	X	X	X	X	X	
Regional Reference Labs	3								
Regional Radiology	8	X	X	X					
Tele-Monitoring Sources (Home Care)	4								X
Long-Term Care Facilities	3	X							
Medication History Sources	3							X	
Professionals	2,943								

* The type of transcribed reports varies based on health care provider. HEALTHeLINK's specifies the content sent by each provider on the webpage Providers of clinical Data (http://wnyhealthelink.com/Patients/Participants/ProvidersofClinicalDatatoHEALTHeLINK).

HEALTHeLINK works with health care providers and their vendors to establish interfaces to the exchange organization. They meet with the vendor to determine the information that can be sent and received and the format. Some of that content can be sent and received using HIT standards depending on the vendor's capabilities. Regardless of whether standards are available, HEALTHeLINK is able to work with providers to establish interfaces the exchange organization. HEALTHeLINK monitors the efforts of the ONC S&I LCC workgroup specifically on emerging standards to support transfer of care information and care plans and will leveraging the standards identified in MU Stage 2 of the EHR Incentive Program.

Facilitating medication reconciliation at the point of transfer was an important aspect of the Western New York Beacon grant. HEALTHeLINK has been working with pharmacies and providers to receive medication information. Currently HEALTHeLINK receives medication history information from SureScripts and Buffalo Pharmacies, Inc. and are currently working with area hospitals to receive medication information upon discharge. While the sources provide a majority of medications, it is missing over-the-counter medications, medications prescribed where the patient paid cash instead of an insurance payer, or medications filled by pharmacies not reporting to SureScripts.

Beechwood Engagement with HEALTHeLINK

Beechwood is one of five long-term care facilities currently participating in HEALTHeLINK. The other providers are Briody Healthcare Facility; Brothers of Mercy Nursing and Rehab, Heritage Centers, and Schofield Residence. Buffalo Pharmacies, Inc., an institutional pharmacy that serves LTPAC providers in Western New York, is also exchanging information.

Technology

To access information on HEALTHeLINK, providers only need an Internet connection. To exchange data with the HIE, Beechwood (and the other LTPAC providers) must have an EHR that has a custom interface to send and data using HIT standards whenever possible. For receiving data Beechwood and other LTPAC providers access the VHR portal. The VHR allows a clinician with patient consent, to query on a patient's name to see all clinical results available from sources connected to HEALTHeLINK. Some EHRs are capable of receiving patient information directly into the patient's electronic medical record while others have the added capacity to receive "pushed data" from the VHR.

Data Sent by Beechwood

In October 2012, Beechwood completed the first phase of engagement with the HIE which was sending ADT messages when a patient leaves the nursing facility. ADT event updates are sent from HEALTHeLINK to a provider through secure messaging using a Virtual Provider Network (VPN) connection. ADT messages are sent by the following standard categories of events:

- ED visit to inpatient;
- Inpatient admission;
- Outpatient visit; and
- Outpatient to inpatient admission.

At this time, Beechwood is not sending any other data to HEALTHeLINK beside the ADT event update. Area hospital staff has indicated that they would like nursing notes from long-term care providers, however, that use case has not been developed at this time.

Data Received by Beechwood

Beechwood primarily uses HEALTHeLINK to access information from the VHR portal and see the data that the patient has consented to be shared (limited to the data types listed in Table I-1). Beechwood users have an established security profile and login with two factor authentication. The exchange also has the capability to graph lab values for trending purposes.

Beechwood is currently working on having the Electronic Lab and Radiology Results Delivery functionality enabled. The first priority is to route lab and radiology results from the facility's lab and radiology providers though HEALTHeLINK and then into Beechwood's EHR system.

Additional Opportunities for Beechwood to Provide Information to the HIE

Beyond ADT events, Beechwood does not submit other health information to the HIE at this time; however they do have information generated during a patient stay that would be valuable to other providers/payers who use HEALTHeLINK. Potential information types include:

- Immunizations and tuberculosis (TB) test results;
- Advance directives;
- Skin assessments;
- Minimum data set (MDS) and assessment summary;
- SNF admission History and Physical (H&P);
- Nursing notes (e.g., three days prior to transfer to inform hospital nursing staff);
- SNF transfer form;
- SNF discharge summary; and
- Scanned image of consent form(s).

Access and Security

Beechwood staff may access the VHR portal once a patient is identified for admission consideration (as long as patient consent has been obtained for data to be shared on the exchange). HEALTHeLINK has established strict policies for access and authentication. To access information, users log into the HIE portal. The login process prompts a phone call or text message from HEALTHeLINK with a unique pass code to enter the site. The system only calls the predetermined phone number for the user. Providers may also use a security fob. As an additional security feature, Beechwood receives a report weekly which identifies the facility users who have accessed HEALTHeLINK to verify that access is appropriate and to remove terminated users.

Users and Clinical Processes

The admissions and nursing staff are the primary users of HEALTHeLINK, but other facility staff use the HIE network including social work, therapy, and the attending physicians. The primary clinical workflow supported by the HIE is the admission/transition of care process. The nurse manager in the Wesley Rehabilitation Center is the most frequent user of the exchange due to the volume of admissions and discharges to the unit. The other disciplines using the exchange are frequently accessing information to support their assessment and care planning functions post-admission.

Overview of Technology and Electronic Health Records at Beechwood Continuing Care

Beechwood has an Information Technology department that plans and deploys the technology infrastructure across the organization.

Beechwood's Technology Infrastructure

Beechwood's technical infrastructure is built on a virtual environment with thin client and virtual desktops. The campus sites are connected via a fiber backbone. They deploy multiple types of hardware and devices including desktops, laptops, mobile devices, bar code scanners and printers.

Beechwood has multiple software applications for their business units including:

- Medical Record -- AOD Clinical (described below);
- Billing -- AOD;
- HIE -- HEALTHeLINK;
- Maintenance application;
- Purchasing application;
- ADP with scheduling and human resources module;
- Therapy scheduling and billing -- Aris (hosted module; data manually imported/exported to MDS and billing application);
- Recreation: Linked Senior Application;
- Staff Development -- Silver Chair Learning; and
- Administrative -- Microsoft Suite and Office Logic for e-mail.

In addition to hardware and server upgrades and replacements, Beechwood plans on adding DocuWare document management software that is a document imaging and indexing software for paper-based medical records or PDF documents that should be included. A "file cabinet" will be set up for AOD to allow scanning of medical record documents by patient ID. AOD software has the capability of pulling records from the document management system while in the application.

Electronic Health Record System

As noted above, Beechwood's clinical or EHR application is AOD. Beechwood was one of the first users of AOD in New York. They are frequently a reference site and helped start an AOD User Group in Western New York area. To understand how Beechwood uses the AOD application, Table I-2 describes the modules used and any related notes that emerged during interviews.

TABLE I-2. AOD Modules Used	
AOD Clinical Module	**Notes**
Admissions	Admission coordinator uses laptops to enter data into AOD directly from hospital site. Hospital data will be scanned & available in the AOD system. Once admitted change of status & workflow routing messages will be sent to relevant staff from the AOD system.
Face Sheet & Census	
MDS	
Care Plan	
Interdisciplinary Notes	Beechwood uses templates & unstructured narrative notes.
User Defined Assessments	Include initial assessments by disciplines & quarterly updates.
Incident Tracking	
Immunization & TB Testing	Includes both input & reporting to the State of New York through the state HCS for outbreaks, immunizations, other reportable infections & required disaster plan reporting. This portal also provides messages to Beechwood such as emergency notifications.
Point-of-Care	Nursing assistant ADL charting documentation at point-of-care (kiosk touch pads). Beechwood was a beta test site for AOD on this application. Homemakers (special types of nursing assistants who work on the nursing units which are called households at Beechwood) will also use this for activity tracking such as laundry, housekeeping, activities, dining, meal & fluid intake.
Alerts & Messaging	AOD has developed alerts & messages. Beechwood can chose to turn on or off the messages. They can be sent in AOD application or to a person's e-mail in Office Logic. Examples of clinical alerts include completion of vitals & assessments such as ADT, falls, skin, etc.
Physician Orders, Medication & Treatment Records	Currently a manual process. Beechwood faxes all physician orders (including medications) to Buffalo Pharmacies, Inc. Medication & treatment records are provided by the pharmacy. The goal is to have all order entered into AOD & pushed to the pharmacy.

Beechwood's Work List and Future Plans with Answers on Demand (AOD)

Beechwood's goal is to fully utilize the functionality in AOD, but to do so through logical, planned and systematic implementation. The IT Department maintains project lists with the facility's 30-day, 90 day and 6-month plans. They work with facility and department leadership to determine and prioritize projects. At the time of the site visit, Beechwood is working on the following three projects:

Immediate Projects

- **Lab and Radiology Result Routing**. Beechwood was working with HEALTHeLINK and AOD to have lab and radiology results routed from their lab and radiology providers into the AOD software using Health Level 7 (HL7) messaging.

- **Automate Interventions to Reduce Acute Care Transfers II (INTERACTII)[6] and Situation, Background, Assessment, and Recommendation (SBAR)[7] Process**. Currently Beechwood is completing the INTERACTII process manually at the point of transfer to the hospital (INTERACTII includes transfer of care protocols and documentation). Beechwood is working with AOD to use automation and the clinical application to complete the information. Beechwood administration would like to see the nursing staff use the SBAR tools because it provides useful information for analysis of data and communication with physicians.

- **Physician Order Entry**. Currently the long-term care pharmacy handles the medication orders and related reports (physician order summary, medication and treatment administration records). In 2013, Beechwood would like to begin their project to move physician ordering through the AOD system. Automate the physician order process to have orders entered into AOD and pushed to pharmacy. A VPN link has been established with Buffalo Pharmacies and data transfer issues will be addressed next. AOD currently uses HL7 messages to send ADT information and medication order information to pharmacy with basic elements. AOD will migrate to National Council for the Prescription Drug Programs 11.x once the standard is completed. AOD has the capability of incorporating admission orders from the hospital if medications are sent in a CCD format, however, at this time the hospital does not send the information in an electronic, standardized format.

Future Projects

Beechwood has identified projects they would like to address in the future. They include:

- Train more users on report capabilities of the application to better optimize the use of information to support clinical and business decision-making. AOD has many reports built into all areas of the program including daily and weekly census, clinical reports such as falls, infections and skin condition, daily charting reviews, activity of daily living (ADL) reports, missed charting report, case mix index reports, quality measures report, multiple financial and billing reports.

- Improve workflow and in-box messaging to notify pertinent staff that something is late or has been missed.

- Work with Medicare liaisons to streamline their process and use of AOD. Implement ongoing evaluation of documentation processes to identify

[6] INTERACTII is a quality improvement program to manage acute changes in condition and provide tools for assessment and communication when sending the patient from the nursing home to the hospital. http://interact2.net.

[7] SBAR documentation tool that prompts the nurse to collect comprehensive information prior to calling the doctor to report a change in condition.

opportunities to complete in AOD application and move away from manual processes.

Continuity of Care Document (CCD)

The AOD system has the capability to create, export and import a C32 CCD through the admission and census module. Currently trigger events are tied to census events which have been identified as problematic for two reasons: (1) the delayed nature of the census in which events are not entered into AOD until after midnight/next day;[8] and (2) the census is not accessible by nursing. AOD is identifying alternate methods for nursing to generate a CCD.

Health Information Exchange at Beechwood

The availability, use, and exchange of information capabilities are crucial for a Beechwood to begin care and coordinate care with other service providers. Information exchange occurs in multiple different methods -- via phone, photocopies, fax and e-mail as well as through access to the hospital EHR, customized portals and the HIE.

This section describes the providers that were interviewed during the site visit, describes both the internal Beechwood view of HIE activities and the point of view from Beechwood's community partners. HIE information flows are summarized in a matrix at the end of this section.

Health Information Exchange -- Perspectives from Beechwood Business Units

During the site visit, interviews were conducted with Beechwood staff to discuss key processes/workflows that require the exchange of information. Interviews were conducted with the department representatives from admissions, nursing, social service, rehab, Medicare liaisons and billing, and HIM. Based on the interviews Table I-3 summarizes discussions by workflow process, highlights the information exchange process, and shares other notes/insights.

[8] The census event process is (entering admission, transfer and discharge events into ADO) are tied to billing. For that reason, recording the census events in AOD are held for up to 24 hours so it can be verified to ensure accuracy since the events are linked to the billing system.

TABLE I-3. Skilled Nursing Facility (SNF) Workflow Processes		
Process	**Information Collected and/or Exchanged**	**Additional Notes from Discussions**
Preadmission/ Admissions	Admission provides daily updates to the area hospitals with the number of beds open. Currently this information is relayed by telephone to hospital discharge planners to facilitate relationship-building & enhanced communication. Beechwood reviews & obtains hospital information to assist in the preadmission assessment & admission/transition of care. They use multiple mechanisms to collect & review the information including on-site visits, hospital EHR access, secure e-mail/e-fax with attachments, telephone. The hospital information needed includes: – Medications – Nurses notes – H&P – Diagnoses – Operative report – Other relevant clinical data such as functional status, therapy, skilled nursing services – Hospital discharge summary. Internally, the Admissions staff sends electronic documents (e.g., PDF) of hospital medical record information as attached to the electronic admitting notice sent to Beechwood departments to ensure they have pertinent information to start care.	The admissions department has the ability to log into 1 of the area hospitals EHRs through portals to assist in the admission process. This is useful for updates during a patient's stay. Another area hospital does not have the capability for remote access to the EHR through a portal (must be on-site). In this second hospital discharge planners must use extra steps to make information available remotely to support the transfer/preadmission process. Frequently the information is not updated & there have been delays with the decision-making & discharge process. At times the hospital discharge summary is not available at the time of transfer from the hospital & admission to Beechwood. Sometimes the hospital will fax the discharge summary after admission to Beechwood or the HIM department will request the missing information from the hospital. This process requires Beechwood to complete a written request for information from the hospital & may take significant time to receive. HIM will begin using HEALTHeLINK to check for availability first & then use the written request process if the information is not available.
Nursing Admission/ Start of Care	Nursing receives information from hospital prior to admission (see Admissions above for type). The nurse manager accesses HEALTHeLINK for additional patient information including past history particularly after admission during the assessment & care planning process.	The admission process has opportunity for improved efficiency. Beechwood had a meeting with their area hospitals to identify the type of information needed from the hospital: – Accurate information on the medications a person is receiving – MARs – H&P – Therapy assessments – Discharge summary – Patient's long-term goals for the patient (such as returning home or to their prior living environment).
Physician Order process including Medications	The nurse manager contacts the physician typically by phone to review admission orders from the hospital & obtain new verbal orders. The orders including medications are written out & sent by fax to pharmacy. HIM manages the physician order signature process by sending the orders to physicians & tracking for their timely return. This includes verbal/telephone orders initiative by nursing & therapy as well as regular orders. The physician is mailed the order to obtain his/her signature or kept in a folder at the Beechwood front desk that the physician picks up & signs when he/she is at the facility.	Beechwood is working on a project to communicate physician orders including medications to the pharmacy electronically through AOD. Beechwood is looking into the use of a physician portal to AOD to provide a mechanism for physicians to log into Beechwood's EHR to sign orders & complete documentation.
Status updates to the physician	Nursing communicates status updates to the physician via multiple routes--phone updates, folder for followup during routine physician visit. The status updates are communicated for many reasons such as change in the patient's condition or communication of a lab or test result.	

TABLE I-3 (*continued*)		
Process	**Information Collected and/or Exchanged**	**Additional Notes from Discussions**
Physician visits	HIM maintains the regulatory required physician visit schedule & communicates with the physician by mail notifying them when their patients are due for a visit.	
Lab & Special Tests	Lab & radiology/ultrasound physician orders are communicated to the providers by telephone. Results are delivered in multiple ways depending on the service provider--by fax, by mail, via a dedicated printer sent from the provider to Beechwood, access to results on the provider's web portal, or through HEALTHeLINK. An interface is under development to delivery results through HEALTHeLINK directly into AOD.	
Nursing Patient Referral to Specialist	A referral document is completed by nursing in paper format & sent with the patient when scheduled for a specialist visits. The specialist returns a refer/consult visit (either a paper form that comes with the patient or mails the consult report to Beechwood after completion).	
Transfer to the Hospital	At transfer to the hospital from Beechwood, nursing completes the INTERACTII envelope of information & sends information to hospital with the patient. (This is a paper-based process at this time). The INTERACTII envelope includes the following information: transfer form, face sheet, recent H&P, recent physician orders, current MAR, advanced directives & care limiting orders, relevant lab/radiology reports, & personal belongings sent.	INTERACTII is used; however, nursing is not using the SBAR because of the amount of time to complete the information. Administration has identified this process for re-evaluation & completion in AOD (the capabilities are available in AOD, but Beechwood has not begun using this functionality yet).
Rehab Services	Rehab staff complete an admission assessment which requires the following hospital information: – Transfer summary – PT/OT evaluation, goals & recommendations – Operative report particularly if ortho patient – H&P – Discharge summary. Physician orders are written to evaluate & therapy evaluation/certification either mailed to physician for signature or kept in a folder at Beechwood that the physician picks up when he/she is at the facility. Physician orders (such as equipment, treatment changes) are called to physician as a verbal order. The order is written on paper & mailed for signature or kept in a folder at Beechwood that the physician picks up when he/she is at the facility. Rehab develops a written summary (on paper) for a doctor/specialist consultation that includes information on the patient's status such as an update on wound healing or orthopedic rehab progress. The information is provided with the referral when a patient is sent to a specialist. Rehab receives a copy of the consultation report/result. This information is typically returned with the patient (in paper format) or mailed to Beechwood.	It is important for therapy to have an accurate picture of the patient, their condition, & their goals before they begin treatment. At times they do not have all of the information they need to assess the patient's status at admission if hospital records were not sent or available at transfer. Therapy has not been using HEALTHeLINK, but will be trained. When information is needed they ask the HIM department to request the information from the hospital (often it is the operative report). Paper copies are returned by mail.

TABLE I-3 (*continued*)		
Process	**Information Collected and/or Exchanged**	**Additional Notes from Discussions**
Medicare Coverage Determinations & Communication with Family	The Medicare nurse evaluates the patient for coverage, makes coverage decisions & communicates with the interdisciplinary team by e-mail. They monitor the patient's status over time & make continued coverage decisions. The Medicare nurse verifies insurance coverage & related coverage criteria, they communicates by e-mail coverage & clinical criteria to interdisciplinary team. The Medicare nurse develops monitoring tools for nursing such as clinical flow sheets & documentation guidelines for nurse's progress notes (this information is not in AOD). The Admissions Coordinator sends an update to pharmacy, ultrasound/radiology & lab via fax regarding Medicare coverage. When lab & test results are returned, they receive a paper copy from the unit coordinator (the information not in the AOD system at this time). The Medicare nurse monitors the patient's status for continued coverage. They review the Nursing 24-Hour Reports are maintained in AOD & alerts/messages sent designated staff. The Medicare nurse communicates with patient/representative at end of coverage by telephone & with a written letter that specifies the end of coverage date & appeal information. The Medicare nurse communicates with Medicare HMO case manager sending status updates & continued coverage information (e.g., the type of skilled nursing or rehab services the patient is receiving). These updates are by phone & fax. The HIM department mails the Medicare Certification/Recertification form to the physician for signature according to the required schedule while the patient is on Medicare. The physician signs & returns the certification by mail. Some physicians who see patients at Beechwood routinely have a folder at the front desk that holds the orders & forms that require their signature to eliminate the mailing process.	Monitoring tools/guidelines are developed & kept in a notebook at the nursing station. This process has been identified for evaluation by the IT team to determine opportunities to utilize AOD more fully for incorporation of customized flow sheets & documentation guidelines related to Medicare cover. Beechwood reported an increase in the number of patients with Medicare HMOs (e.g., Medicare Advantage). These plans have different coverage criteria & 2 no longer require a 3-day hospital stay. Medicare nurses communicate with coverage & change of status updates. They use the nursing 24-hour report & therapy reports as tools to identify patients with new conditions that would affect coverage.
Care Planning & Communication with Family	Social service communicates with the family on admission & during multiple times during the patient's stay--this communication is typically by phone, mail & sometimes e-mail based on family preference. They provide written information mailed to the family on care conference dates & provide an update of the care plan team's recommendations if they were not present at the conference.	The social service department uses the AOD system for their documentation including progress notes & assessments. They also use HEALTHeLINK for additional supporting documentation in conducting their initial assessment & care plan.

TABLE I-3 (*continued*)		
Process	**Information Collected and/or Exchanged**	**Additional Notes from Discussions**
Discharge Planning & Discharge Process	They also work with the family in planning for discharge. The communication is primarily by phone & mail. They review teaching & instructions with patient & family at the time of discharge & provide a paper copy of the information. Discharge instructions are developed for the patient by nursing, therapy, social service & other members of the interdisciplinary team. The instructions are reviewed with the patient & family/caregiver prior to discharge. A copy of the discharge instructions are sent with the patient. Social services may assist with the transition home by identifying HCBS. They may also initiate services on behalf of the patient/family. Typically they communicate via telephone & fax with the community service provider.	
Census/ADT Events	HIM enters the census/ADT events in the AOD systems each morning for the prior day ending at midnight (e.g., ADTs, room changes). Certain ADT events used by the HIE are electronically communicated from AOD to HEALTHeLINK.	
Billing	HIM prints and/or copies medical record documentation for billing. Request for medical record documentation is mailed in following situations: – E-Remittance may include request for medical record information (also receive a letter in the mail) – Medical review requests – RAC requests. Medical review & other requests such as RAC audits require mailing of copies of medical records.	All claims are electronically billed except a select few. Some insurance companies require medical documentation (e.g., workman's compensation or no fault insurance)--documentation is copied & mailed with claim. Request for medical records via e-remittance has been problematic as there are concerns with missing a request (e.g., e-mail printout cuts off information).

Health Information Exchange Partners -- Perspectives From Non-Affiliated Community Partners

During the site visit, interviews were conducted with Beechwood's HIE community partners -- non-affiliated organizations that provide health care and/or services. Table I-4 summarizes the key organizations that Beechwood shares information with, identifies the type of information exchanged with each organization, and summarizes discussions on the exchange process and information sent/received.

TABLE I-4. Perspectives from Non-Affiliated Community Partners		
Organization	**Information Exchanged Between Beechwood & Organization**	**Additional Notes from Discussions**
Hospital Systems: – Kaleida Hospitals – Catholic Health System	For a transfer from the hospital to Beechwood, the following information is provided. The information is typically in an electronic format such as PDF or JPG. Transfer form. Transcribed reports: – H&P – Op report – Discharge summaries. Medication information (medication list & MARs). Lab & other test results. Other clinical information related to nursing, rehab service & functional status (e.g., progress notes & assessments).	During discussions challenges were identified with the availability of the discharge summary at the point of transfer to Beechwood. Hospital policy may result in delayed submission of the discharge summary to HEALTHeLINK until after discharge (once physician signature is obtained). When this happens the information on the discharge summary is not available to Beechwood staff at transition of care when it is needed. Significant challenges were identified & discussed related to the availability of accurate medication information at discharge including the ability to reconcile pre-hospital medications with the post-hospital medications. The lack of MAR data was another challenge identified when not provided at transition of care from the hospital to Beechwood. Beechwood staff uses the MARs to evaluate the medications the patient received in the hospital & the time. Update: Discharge meds are now available from the Catholic Health System & will be available from Kaleida by late 2013. Therapy information is not currently received by Beechwood & is an opportunity for HIE.
Pharmacy: – Buffalo Pharmacies	Physician orders including medications are written out by nursing & sent by fax to pharmacy. Buffalo Pharmacies sends the following paper-based records to Beechwood at the end of each month: – A list of physician orders including medication, treatment, & ancillary orders by patient – MARs for the month – Treatment Administration Records for the month.	Beechwood would like to move toward physician orders being generated in AOD & prefers that physicians enter the orders through their system. This would enable the use of electronic medication administration & treatment records (currently these are paper-based & manually completed). Beechwood believe that this would be the safest approach rather than trying to interface AOD to the physician's EHR. MU may be a challenge since physicians must prescribe a percentage of medications through their system. As noted above obtaining an accurate medication history is a challenge. SureScripts (which supplies information to HEALTHeLINK) does provide a medication history, however not all pharmacies use SureScripts, so the information may not be complete. AOD does not use SureScripts.
Laboratory: – Kaleida Lab	Lab orders. Lab results.	Lab results are being routed through HEALTHeLINK to the physician practice. Beechwood can access results through the HIE, but there is currently not a direct link to AOD. A custom interface is under development to allow lab results to be electronically delivered into the AOD system. Currently Beechwood maintains lab results in paper medical record. There is potential in the future to order labs through HEALTHeLINK, currently it is a manual process of calling the lab to set up the draw when a physician order is received.

TABLE I-4 (*continued*)		
Organization	**Information Exchanged Between Beechwood & Organization**	**Additional Notes from Discussions**
Radiology/Ultrasound: – Buffalo Ultrasound	Radiology orders. Radiology reports. Radiology images.	To obtain radiology/ultrasound services, Beechwood accesses Buffalo Ultrasound online system or calls in an order. The results are phoned to the facility to provide a verbal update & then the final reports are available online for access. Buffalo Ultrasound maintains a portal for Beechwood to order the test & access the results. Buffalo Ultrasound is currently working on automating the results delivery process through HEALTHeLINK. The order/requisition process will continue as is--Beechwood will either call Buffalo Ultrasound to request the test or submit the request through their portal. Buffalo Ultrasound does not plan on processing requests for tests through HEALTHeLINK due to patient identification issues.
Home Health & Hospice: – Amedysis Home Health & Hospice Care – Hospice Buffalo Palliative Care	When Beechwood discharges a patient to Home Health or Hospice they provide the following medical records in paper format: – Transfer form – Face sheet – Most recent H&P – Any recent hospital discharge summary – SBAR/Nurse's progress notes – Orders related to acute condition – Current medication list or current MAR – Advance directive – Care limiting orders – Relevant lab results – Relevant x-ray reports – Immunization records – PT notes (Content sent in the INTERACTII envelope.)	The home health & hospice providers were interested in having the information available on HEALTHeLINK if it was feasible for the HIE & for AOD. The Home Health & Hospice providers discussed their HIE needs at transition of care from the hospital. They also need an up-to-date, timely discharge summary at the time of hospital transfer & reported that it was 1 of their biggest challenges in the transition of care process.

Health Information Exchange Information Flow

Table I-5 describes the information exchange activities for Beechwood in three areas: (1) hand-offs in care; (2) shared care; and (3) other administrative exchange. The exchange scenarios are not limited to electronic exchange of information, but encompass any exchange workflow. The summary table provides a synopsis of the HIE activities from the perspective of a nursing home/SNF using the framework established by Westat.

TABLE I-5. HIE by Care Coordination Function and Partners, Beechwood Homes						
Transitions of Care						
Care Coordination Function	**Across Members of the Care Team Within Affiliated Organization**	**Between Staff in an Organization and Other Non-Affiliated Care Providers Including Community Services**	**Between Staff in an Organization and Patient/Family Members**	**Type of Exchange**	**Data**	**Sender and Receiver**
Referral/Assessment						
Preadmission assessment		Hospital Stay: Patient is assessed by Beechwood staff while at the hospital to determine appropriateness of placement.		– Access to hospital EHR – Phone – Fax – Interview	– Medications – Nurses notes – H&P – Diagnoses – Operative report – Other relevant clinical data such as functional status, therapy, skilled nursing services – Hospital discharge summary	Hospital nurse to Admissions in Beechwood.
		NH to NH: Patient is assessed by Beechwood while at another NH to determine appropriateness of placement. This may occur when a patient or family desires a change in facility.		– Phone – Fax – Interview	– Recent hospital information – Medications – Nurses notes – MDS – Care plan – Lab – Other relevant assessments	Beechwood admissions & NH admissions.
		Home to NH: Patient is assessed by Beechwood for appropriateness of placement.		– Phone – Fax – Interview	– Recent hospital information – Medications – Recent labs – Other progress notes – (Home health information if applicable)	Attending Physician & to Beechwood Admissions. Patient representative to facility admissions.

TABLE I-5 (*continued*)						
Transitions of Care						
Care Coordination Function	**Across Members of the Care Team Within Affiliated Organization**	**Between Staff in an Organization and Other Non-Affiliated Care Providers Including Community Services**	**Between Staff in an Organization and Patient/Family Members**	**Type of Exchange**	**Data**	**Sender and Receiver**
Transition of Care (transfer or discharge)						
Transfer/Admission to LTPAC		Transfer from hospital to Beechwood		– Fax or scan – Paper copies – Hospital EHR access by Beechwood	Updated hospital information: – Transfer form – Medications – Nurses notes – H&P – Diagnoses – Operative report – Other relevant clinical data such as functional status, therapy, skilled nursing services – Hospital discharge summary	Hospital nurse to Beechwood admissions
		Transfer from home to Beechwood		– Fax or scan paper copies HEALTHeLINK	– Order to admit & other admission orders – H&P – Past medical history information	Physician to Beechwood
Discharge from LTPAC to Another Provider		Transfer from another NH to Beechwood		– Fax or scan paper copies	– Transfer form – MAR – Recent nurses notes – New labs	NH to Beechwood
		Discharge from Beechwood to another NH		– Fax or scan paper copies	– Transfer form – MAR – Recent nurses notes – New labs	Beechwood to NH
		Discharge home from Beechwood Facility (with home health services)		– Fax or scan paper copies	– See INTERACTII envelope content detailed above for transfer to hospital	Beechwood nurse to home health nurse

TABLE I-5 (*continued*)						
Transitions of Care						
Care Coordination Function	**Across Members of the Care Team Within Affiliated Organization**	**Between Staff in an Organization and Other Non-Affiliated Care Providers Including Community Services**	**Between Staff in an Organization and Patient/Family Members**	**Type of Exchange**	**Data**	**Sender and Receiver**
Transfer to Hospital from LTPAC		Transfer Beechwood to hospital		– Fax or scan paper copies	INTERACTII Envelope: – Transfer form – Face sheet – Most recent H&P & any recent hospital discharge summary – SBAR/Nurse's progress notes – Orders related to acute condition – Current medication list or current MAR – Advance directive – Care limiting orders – Relevant lab results – Relevant x-ray reports – Immunization records – PT notes	Beechwood Nurse to Hospital (ED or receiving unit)
Discharge Information from LTPAC to Patient			Discharge home from Beechwood facility (without home health services)	– Fax or scan paper copies	– Discharge instructions & discharge POC (includes meds, diagnoses, therapy notes, functional status, followup care/ appointments & services)	Beechwood social service, therapy, nursing to patient (or family or representative)
Discharge from LTPAC to Community Service Provider(s)		Social service assists with setting up community services to assist a patient with successful transition		– Phone – Fax – E-mail – Mail	– Relevant information (demographics & type of services requested) related to community service	Social service to community service provider
ADT Event Data to HIE Network		ADT message to HIE to communicate admissions & discharge information		– Electronic message to HEALTHeLINK	– ADT events	Beechwood to HIE

TABLE I-5 (*continued*)						
Transitions of Care						
Care Coordination Function	**Across Members of the Care Team Within Affiliated Organization**	**Between Staff in an Organization and Other Non-Affiliated Care Providers Including Community Services**	**Between Staff in an Organization and Patient/Family Members**	**Type of Exchange**	**Data**	**Sender and Receiver**
Followup Post Transfer/Discharge						
		Generally Not Applicable--Followup is addressed in Shared Care Section				

TABLE I-6. Shared Care Information Exchange Activities						
Transitions of Care						
Care Coordination Function	**Across Members of the Care Team Within Affiliated Organization**	**Between Staff in an Organization and Other Non-Affiliated Care Providers Including Community Services**	**Between Staff in an Organization and Patient/Family Members**	**Type of Exchange**	**Data**	**Sender and Receiver**
Assess Needs and Goals						
Coordination with physician at Start of Care including Medication Reconciliation & Orders, Evaluation/ Certification & Plan of Care		Admission orders & medication reconciliation --review transfer form & hospital information to reconcile medications & establish Beechwood facility orders & initial physician POC.		– Phone – Fax – Mail – HIE to assist with medication history – AOD (for limited number of physicians testing signing orders in system)	– Telephone orders for all orders including medications that are to be implemented at the Beechwood	Beechwood nurse to Attending Physician
		Therapy order, evaluation & certification communicated with physician & mailed for signature.		– Mail	– Therapy order – Therapy evaluation – Therapy Certification	Beechwood Therapist to Attending Physician
Communicate Physician Orders & medications to Pharmacy		Communicate admission orders & medications to pharmacy.		– Fax	– Physician orders including medication	Beechwood Nurse to Pharmacy
Communicate orders for labs, radiology & special tests to service provider & return test results		Communicate lab orders to lab provider.		– Phone	– Lab order – Diagnosis – Patient demographic – Face sheet – Payer information	Beechwood Nurse or Unit Coordinator to Lab
		Communicate Radiology orders to lab provider,		– Phone or web portal	– Radiology/ ultrasound order – Diagnosis – Patient demographic – Face sheet – Payer information	Beechwood Nurse or Unit Coordinator to Radiology/ Ultrasound
Request additional medical record information from hospital to assist with admission assessment & care planning process		Beechwood Interdisciplinary Team request additional information from hospital to complete an assessment,		– Electronic access to HEALTHeLINK – Written request for information from hospital	– Varies--Information not received such as Operative report – Assessment Tests & results	HIM to hospital

TABLE I-6 (*continued*)						
Transitions of Care						
Care Coordination Function	**Across Members of the Care Team Within Affiliated Organization**	**Between Staff in an Organization and Other Non-Affiliated Care Providers Including Community Services**	**Between Staff in an Organization and Patient/Family Members**	**Type of Exchange**	**Data**	**Sender and Receiver**
Communicate with patient and/or family/ caregiver for additional information & advanced directive			Beechwood Interdisciplinary Team interview patient/family for information to complete initial assessment.	– In person interview or phone	– Varies	Interdisciplinary team to Patient and/or family
Create and Maintain Plan of Care						
Create & Maintain Patient's Plan of Care & Orders		Regular review & update of physician orders.		– Paper records mailed for review & signature or available in folder at Beechwood for physician to sign during on-site visit.	– Physician order recap – Review care plan	Nursing/Unit Coordinator to Physician
Care Plan Update with Patient/Family			Beechwood Interdisciplinary Team updates to patient & family POC.	– In-person participation in care conference – Phone – Mail	– Care plan	Social service to patient and/or Family
Monitor, Followup, and Respond to Change						
Ongoing Physician Visits/Evaluation		Routine physician visit.		– Mail – Phone – In-person – Notes with status updates & request (in folder for physician)	– Physician visit due date (& patient's to visit) – Physician progress notes – Physician orders – Interdisciplinary progress notes – Care plan	Nursing (for status updates) & HIM (for scheduling) to Physician
Change in condition/status update and/or order change request to the attending physician		Change in condition, status updates & order changes.		– Phone – Fax	– Telephone orders – Lab & other test results – Summary of change	Nursing to Physician
Change in Condition/Status update to Patient/ Family/Caregiver			Change in condition, status updates & order changes.	– Phone	– Summary of change, results, plan	Depending on topic: Nursing, social service or interdisciplinary team member to patient/ family

TABLE I-6 (*continued*)						
Transitions of Care						
Care Coordination Function	**Across Members of the Care Team Within Affiliated Organization**	**Between Staff in an Organization and Other Non-Affiliated Care Providers Including Community Services**	**Between Staff in an Organization and Patient/Family Members**	**Type of Exchange**	**Data**	**Sender and Receiver**
Specialist Visit/ Evaluation		Specialist visit (surgeon, neurologist, dentist, psychologist, etc.).		– Mail – Phone – Paper copies	– Referral – Medication list or administration record – Face sheet	Nursing/Unit Coordinator to Specialist
Communicate physician order changes to pharmacy & order medications		Communicate physician order (including medication) changes to the pharmacy & order medications.		– Fax	– Physician orders including medication	Beechwood Nurse to Pharmacy
Order changes for lab, radiology & special tests & return of results		Request new Lab or Radiology/Ultrasound or other specialized test.		– Phone and/or portal (for radiology)	– Test type – Diagnosis – Face sheet/ demographic information	Nursing or Unit Coordinator
Routine physician order review & recertification		Medicare/Medicaid certification/recertification forms sent to physician for signature.		– Mail (in special circumstances by fax)	– Medicare Certification/ Recertification Form	HIM to Attending Physician

TABLE I-7. Other Information Exchange Activities						
Other Exchange Activities						
Care Coordination Function	**Across Members of the Care Team Within Affiliated Organization**	**Between Staff in an Organization and Other Non-Affiliated Care Providers Including Community Services**	**Between Staff in an Organization and Patient/Family Members**	**Type of Exchange**	**Data**	**Sender and Receiver**
Quality Measures						
Electronic submission of mandatory data sets which includes quality measures		Electronic submission of mandatory data set which includes quality measure data.		– Electronic submission via CMS required portal	– Mandatory data set	Beechwood to CMS
Public Health						
Public health & state registries for reportable conditions		Report required data to the State of New York through the state's Health Commerce System for & including required disaster preparedness reporting. This portal also provides messages to from the state such as emergency notifications.		– Through NY State HCS	– Outbreaks – Immunization result data starting November 2013, Other reportable infections – Mandatory reporting such as emergency preparedness – Receipt of emergency notifications from state	Beechwood to State of New York for required reporting. Emergency notifications & other requests for data & communication are sent from the state through HCS to Beechwood.
Payment						
Communication with Payer Case Manager		Billing/Medicare Nurse updates to payers regarding initial & continued coverage.		– Phone – Fax – Copies – Mail	– Medical record information relative to coverage	Medicare nurse to payer case manager
Communication with Ancillary Service Providers for Billing		Relay billing information & Medicare/Medicaid coverage status to community providers--pharmacy, lab, radiology/ultrasound.		– Fax	– Medicare coverage dates	Admissions to ancillary service providers

TABLE I-7 (*continued*)						
Other Exchange Activities						
Care Coordination Function	**Across Members of the Care Team Within Affiliated Organization**	**Between Staff in an Organization and Other Non-Affiliated Care Providers Including Community Services**	**Between Staff in an Organization and Patient/Family Members**	**Type of Exchange**	**Data**	**Sender and Receiver**
Communicate with Patient/Family for Payer Coverage			Medicare nurse to family to relay Medicare coverage start & stop,	– Phone – Mail	– Medicare coverage letters	Medicare nurse to family/rep
Payer Medical Record Requests		Remittance, medical review, or RAC request for medical records.		– Billing system – Copies – Mail	– Relevant medical record documentation	HIM & Billing to Payer

Health Information Exchange-Related Measures

Beechwood does not report or identify any specific HIE measures. They have internal quality measures that they are collecting related to pressure ulcers, use of pressure relieving devices, falls, narcotic use, and infection control. Beechwood also monitors their hospital readmission rate.

Barriers and Opportunities for Improved Health Information Exchange Practices

Over the course of the two-day site visit, a number of issues were identified related to information exchange in support of care transitions and ongoing shared care. Beechwood staff and community partners interviewed offered observations on barriers and opportunities for improvement to advance HIE, communication, and coordination of care.

Barriers

- **Availability of information for preadmission assessment and decision-making**. Consistent and timely availability of hospital information was identified as a challenge/barrier by Beechwood. Some hospitals do not provide information to the HIE which makes the preadmission assessment and discharge planning processes challenging and fraught with potential delays. Some hospitals allow portal access to the EHR application, which allows access to data from the current stay for evaluation; however, it is inconsistent across area hospitals. Problems and delays occur in assessment and discharge planning when there is not a strategy to allow remote access to hospital data.

- **Medication reconciliation challenges on admission**. Beechwood's medical director and nursing staff expressed significant concerns with the quality and accuracy of the medication information they are receiving on discharge from the hospital to determine the correct medication plan to implement at the nursing home. Each hospital communicates medication information differently and on different forms. The medication information received from the discharging hospital is not reconciled with the patient's pre-hospital medication regime. Obtaining a complete and accurate medication history (prior to hospital stay) to reconcile with the hospital medication orders is very difficult. To ensure accuracy and patient safety, a strategy is needed to improve the medication reconciliation process for episodes of care that span prior to, during, and following discharge from hospital stays.

- **Standardized discharge summary content**. The hospital discharge summary is a crucial document in establishing a POC by Beechwood and supporting Medicare coverage for the patient. The discharge summary may not be available

upon discharge. Each hospital has different information on their discharge summary -- standardization of content would be highly beneficial to the LTPAC facility.

- **Need for customized interfaces may be a barrier**. When the Western New York Beacon was trying to recruit long-term care providers one of the obstacles they encountered was not the lack of technology (EHRs and/or clinical systems were in use by LTPAC facilities, but the inability to get their vendor to develop a customized interface, the cost of the customized interface or the lack of a vendor to complete an interface (e.g., home grown, or no ongoing maintenance contract) were barriers.

- **Even with standards, interfaces are not easy to implement**. Beechwood and their vendor identified the application of standards as a challenge/barrier. The identification of standards to facilitate exchange of information does not guarantee easy implementation of data exchange. A standard may be identified, but there is significant variability in the format (e.g., HL7 message formats to make ADT feeds work). The lack of standard definitions for ADT messages is also a challenge -- most organizations have internally generated ADT events making implementation across a community challenging. Standards such as a CCD do not necessarily have the right structure to accurately reflect the LTPAC facility summaries such as the nursing home summary at discharge/transfer.

Opportunities

- **Expand type of information available on the HIE**. As noted above, Beechwood reported challenges with obtaining consistent hospital information to support the transition of care process. They identified the potential of HEALTHeLINK as being a source of data, but the type of information they require is not always available. As noted during discussions with the community providers and Western New York HIEO, the HIE could evaluate the type of information the long-term care facilities use and/or request and develop plans to have the information available on the HIE. Beechwood routinely submits a written request for information from the hospital, which may take a significant amount of time to obtain (a written request is required and medical records are mailed to the facility).

- **POC developments should include long-term care**. HEALTHeLINK has begun early discussions around a patient-centered POC particularly in the context of a Medicaid health home. Input from LTPAC providers like Beechwood, should be considered in the process given the providers' role in coordinating and implementing a comprehensive POC that is health and wellness driven and involves multiple providers. Beechwood staff indicated during interviews that having access to a longitudinal POC would be very helpful in understanding and aligning with the overall goals for the patient.

Conclusion

To serve their patients, Beechwood routinely exchanges health information at transition of care and coordination of ongoing care. There are a number of opportunities to further expand the use of the HIE to support the care delivery process and with their community partners. Beechwood's current EHR vendor is engaged with their initiatives and working to support their advancements with HEALTHeLINK. Sending ADT messages to the HIE and viewing information through the portal are important first steps, however, expansion of the type of information available on the HIE and the inclusion of LTPAC data is needed to increase the use and value to communities like Beechwood.

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Attachment I-1. Western New York Beacon Community Long-Term Care Use Case Priorities and Hospital-SNF Transfer Use Case Summary

Long-Term Care Use Cases -- February 11, 2013

1. Results Delivery

    a. Data Availability
    b. Next Steps/Timing
    c. Responsible Parties
    d. Training Needs

2. Care Planning and Regulatory Requirements after Admission Acceptance

    a. Current Data Available
    b. Data/Forms Needed
    c. Next Steps/Timing
    d. Responsible Parties
    e. Training Needs

3. Access to Data Needed for Admission Criteria

    a. Trigger Mechanism
    b. Data Available
    c. Data Needed
    d. Next Steps/Timing
    e. Responsible Parties
    f. Training Needs

4. Patient Preference Notification (future considerations)

Hospital Discharge and Admission to Long-Term Care Facility

Overview

Western New York Beacon is reviewing the hospital discharge and admission to long-term care facility process in order to determine how HEALTHeLINK, as the RHIO, can improve the efficiency, innovate patient transfer and reduce adverse outcomes. The e-Health Network of Long Island currently has long-term care facilities as part of their HIE.[9] Three states (Colorado, Massachusetts and Oklahoma) have ONC funded pilots

[9] See http://www.ehealthnetworkli.net/faq.cfm.

to connect long-term care facilities to RHIOs. There is a national Coordination of Care Workgroup that is developing standards for transfer of information.[10]

Background

The Centers for Medicare and Medicaid Services (CMS) requires that all hospitals participating in Medicare/Medicaid services provide a "discharge planning evaluation (that) must include an evaluation of the likelihood of a patient needing post-hospital services and the availability of the services."[11] The hospital is also responsible for arranging for the initial implementation of the discharge plan, once developed. A listing of community-based services, long-term care, sub-acute care, home care and other services and levels of care must be maintained by the hospital. Discharge plans for patients in need of skilled nursing typically include the following elements:

- Demographics;
- Primary language;
- Family members/notification of discharge;
- Primary diagnoses;
- Allergies;
- Medications (including immunizations and reconciliation review);
- Diet;
- Advance directives;
- Mental status;
- History of falls;
- Skin integrity;
- Assistive/protective devices (i.e., hearing aids, glasses, walkers, etc.);
- ADL status;
- Special instructions;
- Belongings sent; and
- Followup care.

Additional information that is often included is:

- Pain score;
- Last vital signs (BP, pulse, respiration, temperature);
- Time of last medication(s); and
- Patient/Family preferences for care.

While all of these elements would be useful, and some vital to the ongoing care of the patient, there is currently no national standards or requirements for hospitals as to what is essential to be included in the discharge plan.[12]

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[10] Longitudinal Coordination of Care (LCC) Workgroup, http://wiki.siframework.org/Longitudinal+Coordination+of+Care+WG.

[11] CMS, Code of Federal Regulations (CFR), 482.43 (b)(3).

[12] National Citizens' Coalition for Nursing Home Reform: Annual Meeting notes October 23, 2009.

According to a study done in 2000, American adults aged 65 and older experience 200 hospital admissions and 46 nursing home admissions per 1,000 persons annually.[13] Recent Medicare studies show that of those Medicare patients hospitalized, close to 20% will be rehospitalized within 30 days, often due to lack of communication and missing information at the time of discharge to another facility.[14]

Process

Currently, the hospital discharge process starts as early as date of admission. Hospitals receiving Medicare/Medicaid payments or Joint Commission accredited are required to provide discharge plans for each patient. Almost all hospitals have a dedicated department for discharge planning/patient care management, usually staffed by nurses and/or medical social workers. This staff works closely with the doctors and other members of the care team, to facilitate patient discharge. Responsibilities include:

- Assuring all patient assessments are completed prior to discharge, including psycho/social assessments, ADLs, patient ongoing needs.
- Finding appropriate followup care, including LTPAC and home care.
- Interviewing patients/family members for preferences.
- Problem lists, medications (including reconciliation), immunizations, allergies.
- Communication with the patient and family members of what to expect, warning symptoms, contact information.
- Summary of care provided by the hospital.
- Compilation of all required documents to be provided to the receiving facility.

The receiving facility needs to evaluate patients to be transferred in order to identify areas of concern and assure discharge care plan will meet the patients' needs and can be implemented in a timely manner. Once the need for LTPAC has been made, the discharge planner will meet with the patient and family members to describe this need and determine preferences. The discharge planner must then try and determine if there is care available at preferred sites and if not, discuss alternatives with the patient and family. This marks the beginning of shared patient information between the hospital and long-term care facility. The long-term care facility needs several key elements in order to determine bed availability for a patient (gender, problem list, ADL status, cognitive status, psycho/social status, assistive devices, IV needs, etc.). Once the long-term care facility has enough information to determine bed availability, they can accept

[13] Gabrel CS, Jones A. The National Nursing Home Survey. Vital Health Statistics 13, 2000; 147: 1-121.

[14] Rau, J. Medicare to Penalize 2,217 Hospitals for Excess Readmissions. Kaiser Health News. October 12, 2012.

the referral and the discharge planner can proceed with final discharge arrangements. Currently, this process takes place by phone and paper.

Access

The Health Insurance Portability and Accountability Act (HIPAA) allows for access to information on a "need to know" basis, allowing for transitions of care to qualify as need. HEALTHeLINK' s current consent policy provides for level 1 and level 2 access; level 1 for treatment, quality improvement, care management and insurance coverage (preauthorization) reviews. Care Management is defined as:

> "(i) assisting a patient in obtaining appropriate medical care, (ii) improving the quality of health care services provided to a patient, (iii) coordinating the provision of multiple health care services to a patient or (iv) supporting a patient in following a plan of medical care. Care Management does not include utilization review or other activities carried out by a Payer Organization to determine whether coverage should be extended or payment should be made for a health care service."[15]

The discharge of a patient from a hospital to a long-term care setting qualifies on all four of these counts.

Other Communities

Several Beacon projects are already automating the discharge process from hospital to long-term care settings and meeting with great success. The Colorado RHIO is already reporting a reduction in the amount of time for discharge processing from an average of 35 hours 21 minutes, pre-HIE, to 25 minutes average time post-HIE, a savings of almost 35 hours in the process. In addition, they report that 70% of the care transitions data is exchanged electronically and 70% is exchanged within the targeted number of hours.[16] Massachusetts and Oklahoma are also reporting early successes using HIE for the exchange of needed data between hospitals and long-term care facilities. The process is similar:

1. Hospital (Data Sender) records required pt. data elements in HIE or Community Health record;
2. Hospital sends electronic referral notice to skilled nursing or long-term care facility;
3. SNF admissions gets referral and accesses patient data on HIE to review and accept referral; and
4. Information now available electronically for core users and Doctor at SNF.

[15] HEALTHeLINK Policy #P04 Patient Consent -- current revision August 23, 2010, and HEALTHeLINK Glossary of Terms -- Care Management.

[16] Office of the National Coordinator. Inaugural Meeting: Long-Term and Post-Acute Care Community of Practice (COP). January 23, 2013.

There is precedence in New York State for long-term care facilities to be connected to a RHIO that include hospitals. The following long-term care facilities share information through e-Health Network of Long Island: Bellhaven Center for Rehabilitation and Nursing Care; Cedar Lodge Nursing Home; Eastern Long Island Hospital; Grace Plaza Nursing and Rehabilitation Center; Hilaire Rehab and Nursing; Long Island State Veterans Home; Nassau Extended Care Facility; Nesconset Nursing Center; Peconic Bay Medical Center; Peconic Bay Skilled Nursing and Rehabilitation Center; Physician Offices in Suffolk and Nassau Counties; San Simeon by the Sound Center for Nursing and Rehabilitation; Southampton Hospital; St. James Healthcare Center; Stony Brook University Medical Center; Suffolk County Department of Health Services; Winthrop University Hospital; Woodhaven Adult Home; and Woodhaven Nursing Home.

Next Steps for HEALTHeLINK

In order for HEALTHeLINK to achieve similar successes, the following would be needed:

1. Assess hospital capabilities to transmit electronic discharge data elements;
2. Assure interfaces are set up to send to HIE;
3. Provide assistance on HIE access and training to hospital discharge planning staff;
4. Set up electronic referral process (could be done later in the process and continue current notification process); and
5. Set up admissions coordinator for HIE access and provide assistance and training.

Working with several state HIEs, ONC is studying “ways in which HIE can improve care coordination and transitions of care with LTPAC providers and the patients and caregivers they serve.” With the goals of “Increasing the ability of providers, patients and caregivers to view/download/transmit timely, accurate information through HIE during transitions (and) reducing adverse events -- hospital readmissions, medication errors.” These goals align with HEALTHeLINK’s own mission and vision and are the logical next steps for the organization.

LONG-TERM AND POST-ACUTE CARE PROVIDERS ENGAGED IN HEALTH INFORMATION EXCHANGE: Final Report

Files Available for This Report

MAIN REPORT

Executive Summary	http://aspe.hhs.gov/daltcp/reports/2013/HIEengagees.shtml
HTML	http://aspe.hhs.gov/daltcp/reports/2013/HIEengage.shtml
PDF	http://aspe.hhs.gov/daltcp/reports/2013/HIEengage.pdf

APPENDIX A. SELECTED PROGRAMS AND INITIATIVES THAT SUPPORT CARE COORDINATION AND INFORMATION EXCHANGE FOR PERSONS RECEIVING LTPAC/LTSS

HTML	http://aspe.hhs.gov/daltcp/reports/2013/HIEengage.shtml#appendA
PDF	http://aspe.hhs.gov/daltcp/reports/2013/HIEengageA.pdf

APPENDIX B. FRAMEWORK TO CHARACTERIZE HEALTH INFORMATION EXCHANGE TO SUPPORT CARE COORDINATION FOR PERSONS RECEIVING LTPAC/LTSS

HTML	http://aspe.hhs.gov/daltcp/reports/2013/HIEengage.shtml#appendB
PDF	http://aspe.hhs.gov/daltcp/reports/2013/HIEengageB.pdf

APPENDIX C. ENVIRONMENTAL SCAN AND LITERATURE REVIEW SOURCES

HTML	http://aspe.hhs.gov/daltcp/reports/2013/HIEengage.shtml#appendC
PDF	http://aspe.hhs.gov/daltcp/reports/2013/HIEengageC.pdf

APPENDIX D. PROMISING COMPONENTS AND INTERVENTIONS TO REDUCE READMISSIONS

HTML	http://aspe.hhs.gov/daltcp/reports/2013/HIEengage.shtml#appendD
PDF	http://aspe.hhs.gov/daltcp/reports/2013/HIEengageD.pdf

APPENDIX E. SUMMARY OF LITERATURE ON HEALTH INFORMATION EXCHANGE OUTCOMES AND RELATED MEASURES

HTML	http://aspe.hhs.gov/daltcp/reports/2013/HIEengage.shtml#appendE
PDF	http://aspe.hhs.gov/daltcp/reports/2013/HIEengageE.pdf

APPENDIX F. EXAMPLES OF COMMUNITY-BASED CARE TRANSITION PROGRAM WITH LTPAC/LTSS PARTICIPATION

HTML http://aspe.hhs.gov/daltcp/reports/2013/HIEengage.shtml#appendF
PDF http://aspe.hhs.gov/daltcp/reports/2013/HIEengageF.pdf

APPENDIX G. HEALTH INFORMATION EXCHANGE INTERVENTIONS AND ACTIVITIES IDENTIFIED THAT SUPPORT CARE COORDINATION FOR PERSONS RECEIVING LTPAC/LTSS

HTML http://aspe.hhs.gov/daltcp/reports/2013/HIEengage.shtml#appendG
PDF http://aspe.hhs.gov/daltcp/reports/2013/HIEengageG.pdf

APPENDIX H. SITE VISIT SUMMARY: RUSH UNIVERSITY MEDICAL CENTER, CARE TRANSITIONS PROGRAM, BRIDGE PROGRAM

HTML http://aspe.hhs.gov/daltcp/reports/2013/HIEengage.shtml#appendH
PDF http://aspe.hhs.gov/daltcp/reports/2013/HIEengageH.pdf

APPENDIX I. SITE VISIT SUMMARY: BEACHWOOD HOMES

HTML http://aspe.hhs.gov/daltcp/reports/2013/HIEengage.shtml#appendI
PDF http://aspe.hhs.gov/daltcp/reports/2013/HIEengageI.pdf

APPENDIX J. SITE VISIT SUMMARY: EASTERN MAINE HEALTH SYSTEM, EASTERN MAINE HOME CARE

HTML http://aspe.hhs.gov/daltcp/reports/2013/HIEengage.shtml#appendJ
PDF http://aspe.hhs.gov/daltcp/reports/2013/HIEengageJ.pdf

APPENDIX K. SUMMARY OF INFORMATION ROUTINELY EXCHANGED BY THE THREE SITES VISITED, BY CARE COORDINATION FUNCTION

HTML http://aspe.hhs.gov/daltcp/reports/2013/HIEengage.shtml#appendK
PDF http://aspe.hhs.gov/daltcp/reports/2013/HIEengageK.pdf

APPENDIX L. STANDARDS AVAILABLE TO SUPPORT HEALTH INFORMATION EXCHANGE OF LONG-TERM AND POST-ACUTE CARE DATA

HTML http://aspe.hhs.gov/daltcp/reports/2013/HIEengage.shtml#appendL
PDF http://aspe.hhs.gov/daltcp/reports/2013/HIEengageL.pdf

APPENDIX M. GLOSSARY

HTML http://aspe.hhs.gov/daltcp/reports/2013/HIEengage.shtml#appendM
PDF http://aspe.hhs.gov/daltcp/reports/2013/HIEengageM.pdf