Long-Term and Post-Acute Care (LTPAC) Providers and Health Information Exchange (HIE)

An estimated 70 percent of Americans turning 65 years old will expect to need long-term care services at some point in their lives, many of them also requiring post-acute care[i]. This makes the role of the LTPAC provider crucial to improving and transforming patient care. The ability for LTPAC providers to electronically exchange health data bi-directionally between care settings is paramount to the continuity and quality of patient care. Access to timely, comprehensive and accurate patient data allows for fully-informed care decisions that improve patient safety, as well as decrease avoidable hospital readmissions, Emergency Department (ED) visits, length of stay and other adverse events. As programs that measure these types of events continue to expand, providers may incur an increased impact to their reimbursement based on their quality measure performance for care transitions, safety and readmissions. LTPAC providers that embrace health information technology (health IT) and HIE may experience increased market competitiveness, expanded referral networks, and enhanced payment. Most importantly, patients will benefit from high quality, well-coordinated care among their providers.

What is the Value of Health IT and HIE to LTPAC Providers?

LTPAC providers include home care and hospice, assisted living facilities, Skilled Nursing Facilities (SNFs), inpatient rehabilitation facilities, Long-Term Care Hospitals (LTCHs), Program of All-Inclusive Care for the Elderly (PACE) programs, and others. When patients are transferred to LTPAC facilities following an acute hospital stay to continue their recovery or rehabilitation, the coordination of care and effective transition are critical to positive health outcomes. Smooth transitions of care are highly dependent upon having the right information about each patient available in a timely manner. Health IT enables health care providers to collect, store and share critical health information in a timely and secure manner across care settings to support patient-centered, coordinated care, particularly during transitions from one care setting to another.

LTPAC patients are more likely to have chronic conditions and co-morbidities that require them to frequently transition between multiple care providers. Medicare beneficiaries with multiple chronic conditions may see up to 16 physicians per year.[ii] When multiple physicians are treating an individual following a hospital discharge, 78 percent of the time information about the individual's care is missing.[iii] HIE can benefit these patients by improving communication among providers and assuring that individuals and their care teams have the right information available at the point of care to provide the best patient care.

In many cases, HIE also increases workflow efficiencies through reuse of clinical data captured electronically, which eases public health and regulatory reporting. Further, event notification, such as admission, discharge, and transfer (ADT) alerts, save LTPAC teams significant time and money.

Implementation of the Improving Medicare Post-Acute Care Transformation Act of 2014 (IMPACT Act) highlights the increased focus from federal agencies and Congress on the importance of interoperability. The IMPACT Act requires that assessment data in all LTPAC settings – Home Health Agencies (HHAs), Inpatient Rehabilitation Facilities (IRFs), LTCHs and SNFs – be standardized and interoperable. CMS is working to standardize and make interoperable certain LTPAC assessment data elements; and create a

database that includes these data elements and mapped health IT standards. CMS anticipates making content from the database available to the public to support providers who wish to use technology solutions to support the exchange of standardized and interoperable information among LTPAC and other providers to facilitate care coordination and improve patient outcomes. In addition, the IMPACT Act requires the development of a quality measure for the transfer of health information and care preferences on behalf of individuals who transitions from the: (i) acute care hospital (ACH) or critical access hospital (CAH) to another setting including LTPAC or home; or (ii) LTPAC provider to another setting, including a different LTPAC provider, ACH, CAH, or home. Implementation of the IMPACT Act will support the creation of an important foundation for health information exchange, including interoperable exchange, across care settings.

The U.S. Department of Health and Human Services' path to value strategy that focuses on rewarding excellence in health delivery will also increase demand for interoperable exchange across care settings. The pillars of the strategy pay providers for what works and incent quality over quantity, improve care delivery by promoting coordination, integration, prevention and wellness, and advance information sharing so that providers are better informed and consumers are empowered to be active participants of their care. By sharing patient data relevant to care transitions, gaps in care can be reduced and providers are able to collaborate and coordinate care more effectively. As a result, the goals for transforming health care delivery to a system that puts patients at the center can be advanced.

How Are LTPAC Providers Exchanging Health Information?

HIE can support LTPAC providers in obtaining electronic access to information that has historically been unavailable or significantly delayed from the referring facility, such as progress notes, care plans, medication lists and discharge summaries. Largely in response to acute-care hospital participation in the 2009 Health Information Technology for Economic and Clinical Health Act (HITECH) Meaningful Use incentive program, acute care providers have acquired the capability to send electronic summary of care records to other providers. LTPAC providers can use a variety of approaches to receive this information electronically; some use capabilities offered by their clinical systems vendor, some have set up their own Direct Secure Messaging account available from Direct messaging providers or their local HIE, and some use websites/portals offered by HIEs and acute-care hospitals for query-based access to information. Because of local market needs, some LTPAC providers have had to implement more than one of these approaches to access patient information.

Within the LTPAC facility, each LTPAC provider type typically uses an electronic information system to collect, manage, and submit patient assessment information electronically to CMS. Mandated assessments within each setting include: Outcome and Assessment Information Set (OASIS) for home health, minimum data set (MDS) for SNFs, patient assessment instruments (PAIs) for inpatient rehab facilities (IRF-PAI), and CARE Data Set (LCDS) for LTCHs. In all cases, such assessment data is submitted electronically via the QIES ASAP system to the QIES National Data Base.

Patients discharged to home from LTPAC facilities or transferred back to an acute care hospital also present the need for coordination of care and shared health information between the LTPAC facility and the acute hospital or ambulatory care provider. Information contained in OASIS, MDS, IRF-PAI and other LTPAC assessments, care plans and care summaries can be exchanged electronically with the next provider of care, or transmitted to an HIE where the information can be available to all of the patient's care providers.

To further build out LTPAC automation and interoperability capabilities, ASPE has been guiding the creation of standards and implementation guides for patient assessment summary documents working towards interoperable patient assessment information. The purpose of these standards is to support reuse of this data for exchange with physicians and other providers. CMS is currently updating the standards for patient assessment documents with new and / or additional content useful for HIE.

Determining the right information for use by LTPAC providers from acute care and the right information for use by acute and ambulatory providers from LTPAC providers requires coordination and engagement of the LTPAC community. Information is a critical resource in providing care. Good, timely information can improve care coordination, smooth transitions of care and improve outcomes. In addressing health information exchange for LTPAC providers, the needs and capabilities of each of these provider types must be considered.

What Progress Is Being Made in Exchanging Health Information?

In recent years, different health care organizations from across the country have been exploring the value of using health IT and HIE. While adoption of health IT is not widespread in the LTPAC community, many private and publicly funded programs offer valuable lessons learned and examples of HIE in the LTPAC setting to support care coordination and remote patient monitoring. Below are examples from awardees funded by the Office of the National Coordinator for Health Information Technology's (ONC) Advance Interoperable Health Information Exchange Program that demonstrate how providers are using health IT to advance LTPAC health information exchange across the country.

Arkansas State Health Alliance for Record Exchange (SHARE)

Arkansas Office of Health Information Technology (OHIT) conducted outreach to 51 LTPAC sites; as of June 2016, 34 LTPAC facilities are either live or in the process of implementing data feeds to SHARE, a state-wide HIE. Currently, OHIT offers Direct Secure Messaging and/or connection to a query-based exchange (QBE) to LTPAC facilities that are connected to SHARE. Overall, more than 1.9 million patients participate in SHARE. OHIT is working with Clinical Integrated Networks (CINs) to establish a large enough base of patients for data exchange. In addition, extensive outreach and collaboration with state agencies and associations has created awareness and encouraged participation. Two hospital-based CINs are being deployed. The plan for each CIN is to connect the variety of EHRs in CIN facilities, including LTPAC sites, to improve care coordination and support transitions of care. OHIT found that working with hospitals that are already connected to SHARE provided a path to HIE value for LTPAC facilities. These hospitals used their LTPAC facility referrals to encourage them to join SHARE to utilize Direct Secure Messaging's and SHARE's web-based patient record known as the Virtual Health Record (VHR).

Colorado Regional Health Information Organization (CORHIO) and Quality Health Network (QHN)

CORHIO has provided over 125 LTPAC facilities access to the state's HIE. These facilities include skilled nursing homes, assisted living, home health agencies, hospice and long-term acute care hospitals. Providing access to a query-based tool has enabled LTPAC staff to receive patient demographic and clinical information in 6 minutes in comparison to previous methods that took up to 29 hours. The elimination of faxes and phone calls improved workflow for LTPAC staff and allowed for more quality time with patients. CORHIO's next step is to increase data sharing by making MDS and Outcome and OASIS information available within the CORHIO HIE. CORHIO, with its partners[iv], is targeting 30 long-

term/home health facilities with the goal of collecting data from MDS and OASIS documents, converting the information into consolidated continuity of care (C-CDA) documents and integrating these standards-based electronic documents into the two state HIEs. The intent is to enrich the patient's longitudinal record so a more complete picture of a patient's story is viewable by the more than 5,000 providers currently participating in HIE. Learning about the business model and referral patterns of LTPAC facilities has been key to understanding where HIE value can be provided and thereby gaining buy-in to participate in HIE.

Central Illinois Health Information Exchange (CIHIE)

In 2013, CIHIE established connections with seven LTPAC facilities to support transitions of care through the use of Direct Secure Messaging and query/retrieve inquiries for patient information. Users from the LTPAC organizations were provided training and access to the CIHIE Web Portal for the purpose of sending and receiving Direct Secure Messages and querying for aggregated patient data from CIHIE participants. LTPAC facilities contribute information by sharing MDS reports that are transformed into Continuity of Care Documents (CCDs). More than 4,000 MDS reports are transformed to CCDs each month and are available to CIHIE participants by query. CIHIE is using the current ONC grant funding to target additional LTPAC facilities to expand the number of connected organizations throughout the region and adding home health agencies. Home health agencies will contribute OASIS reports that will be transformed into CCDs using the same technology. An important lesson learned is that high quality transitions of care require workflow changes and adaptions from both acute and post-acute care. Collaboration among these providers is necessary to gain HIE value for patients and the institutions serving their needs.

Delaware Health Information Network (DHIN)

DHIN is using HIE to bridge the digital divide between hospitals, physicians, and LTPAC facilities. Most of Delaware's LTPAC organizations are currently enrolled as data users accessing data contributed by hospitals and labs in the DHIN Community Health Record (CHR) and include 100 percent of SNFs, 90 percent of assisted living, and 59 percent of home health agencies. The facilities find access to the longitudinal clinical data in the CHR valuable in determining whether or not to admit a patient and as a result, there has been significant growth in the number of views. DHIN is using the funding to increase the number of LTPAC facilities that contribute data to the CHR. DHIN plans to use information captured and transformed from MDS and OASIS forms to update the CHR with more content that can be used to reduce the burden of required documentation at transitions of care from the skilled nursing facility to the emergency department. When a transition of care occurs, Direct Secure Messaging will be used to provide updates or fill in missing data to make it available to providers. Despite facing some start up implementation challenges, the emergence of ACOs and their need for LTPAC data is creating the business case to overcome some of these initial hurdles. An important lesson learned is that LTPAC community members may require a lot of education before they will engage. In addition, finding an incentive, such as an ACO that needs visibility into LTPAC data, will encourage HIE participation.

Nebraska Health Information Initiative (NeHII)

NeHII, the University of Nebraska Medical Center, and Nebraska Information Technology Commission are grant partners whose goal is to connect and support information exchange with LTPAC facilities electronically despite variations in existing IT infrastructure. They used an integrated community approach to recruit LTPAC participants among important referral partners (i.e., hospitals, clinics, and pharmacies). This approach helped to ensure that information for shared patients is available within a

health care community. Participating organizations identified information from outside of their organizations (use cases) that, if available, would improve clinical care, patient safety, and/or organizational efficiency. This allowed each organization to identify HIE value and to focus on resolving the institutions' problems. HIE solutions are then matched to use cases. In many cases, more than one approach is available. By providing a menu of options, the participants gained a better understanding of what an HIE can do and allows decision makers to begin thinking about future upgrades that would support additional functionality. Each facility chooses the use case(s) and HIE solutions that they want to pursue. Resources are available to evaluate and modify workflow.

NeHII and its partners appreciate that creating awareness about HIE integration, helping LTPAC facilities understand HIE costs when selecting a new or upgrading an existing EHR, and understanding the respective function that can be accomplished among hospitals, clinics, and LTPAC facilities and their health IT systems, requires resources often not available to support implementation of these services on a large scale.

New Hampshire Health Information Organization (NHHIO)

NHHIO has recruited 45 LTPAC participants and continues to target the remaining 113 LTPAC facilities to implement health information exchange programs. The participants have created a Peer Learning Network where they identify and map business and clinical trading partners to establish interoperability and communication road maps. They analyze workflow patterns and point-of-care activities that support the sending and receiving of structured data elements. Specific workflow and processes to support medication reconciliation, problem list management, and the use of EHR alerts and reminders continue to be developed, documented and evaluated. Two important lessons learned are: 1) it is necessary to realize the purpose of secure communication, including care coordination (referrals/discharge), medication reconciliation, and public health reporting; and 2) understanding the standards and options for health information exchange between health care entities including Direct, secure texting, patient event notification, and ADT helps facilitate implementation.

New Jersey Innovation Institute (NJII)

NJII fosters a health exchange approach in New Jersey that builds upon the current HIE infrastructure and optimizes exchange (what is done and how it is done) through standardization of key components and processes. The approach enables a statewide infrastructure in the form of a New Jersey Health Information Network (NJHIN) that manages the fabric of legal trust, maintains "master data" such as health providers and care relationships. NJHIN also provides the means to connect stakeholders, including regional HIEs, payers, pharmacies, the New Jersey Department of Health and Human Services, the federal government and others. In addition, a standardized use case approach to developing and deploying use cases builds on this infrastructure so that use cases can be deployed modularly and appropriately. In other words, stakeholders participate and interact with the use case as it pertains to their business needs. The use case approach also provides a means to convene groups and provides a governance mechanism to manage the choice of and implementation of use cases according to aligned priorities among many stakeholders. From the above process, once a use case is piloted, it can be deployed statewide more quickly because variability is reduced and alignment among the stakeholders is in place. Even with a use case factory approach, NJII has found that in practice integrating data into existing workflows and technology is not a seamless process and that often incoming data on discharge is incomplete.

Rhode Island Quality Institute (RIQI)

RIQI is implementing the Sharing Health Information for Transitions (SHIFT) in Care project to support and improve care coordination and transitions of care among LTPACs, eligible professionals, and hospitals. Today, more than half of the citizens in Rhode Island are enrolled in CurrentCare (Rhode Island's statewide HIE), so their longitudinal patient information is available to authorized providers via a web-based portal or directly into EHRs. CurrentCare also sends alerts to primary care physicians when the patient is admitted to a connected hospital and is working to provide information to proxies through notifications and via online portal access. RIQI's Workflow Redesign Specialist is performing workflow analyses and identifying gaps at LTPACs and practices. This workflow analysis reveals opportunities to use HIE and gain access to missing or hard to find clinical data for best patient care. A fundamental challenge and learning opportunity for RIQI has been that CurrentCare is undervalued by SNFs. Patient encounter information is available for additional uses, such as when patients are admitted to a skilled nursing facility from home as well as for qualifying patients for the Medicaid program.

South Carolina Health Information Exchange (SCHIEx)

SCHIEx is working with twelve LTPAC facilities to develop workflow analyses, redesign workflow and identify use cases, and to test and model how to use Direct Secure Messaging and the Clinical Viewer to access summary of care documents and discharge summaries. This model will then support outreach to the 370 LTPAC facilities across the state. Implementing Direct Secure Messaging is proving to be a positive first step because it is a model that LTPAC providers are familiar with, making it an easier change. Access to Clinical Viewer is also a productive initial effort, as it provides access to critical patient health data without requiring internal use of certified Electronic Health Record technology (CEHRT), which many LTPAC facilities have yet to adopt. Determining an effective outreach methodology to reach and enroll LTPAC providers has proven harder than expected, but progress is being made to now enroll these providers through relationships with SCHIEx participating hospitals and the extended Community of Care. SCHIEx has learned that "free" is not a big enough carrot to interest LTPAC providers in HIE. An effective value proposition is necessary to incent LTPAC facilities to participate in HIE and adjust workflows. Referrals and encouragement from participating hospitals and provider practices is providing this additional incentive.

Utah Health Information Network (UHIN)

Since its founding in 1993, UHIN has connected with payers and providers to exchange medical, hospital and dental claims and reports. Working with Intermountain Healthcare hospitals and LTPAC provider Avalon, UHIN is using grant funding to develop discharge summaries that facilitate effective transitions when patients are discharged to LTPAC facilities. Discharge summaries in CCD form will be delivered via the health exchange to LTPAC facilities initially via Direct Secure Messaging, and then directly to the LTPAC facilities' EHR. Almost one year into the ONC grant, the triggering mechanisms Intermountain Healthcare will use to generate the discharge summaries are nearing completion, and the communication broker between Intermountain and the UHIN has been established. Meetings are being scheduled so Avalon can provide feedback to Intermountain regarding the content and format of the discharge summaries, ensuring the final product will meet LTPAC needs. One important lesson learned from UHIN is that planning ahead is necessary so that technical resources can be scheduled far in advance. With so many health IT initiatives occurring, technical resources are often tightly scheduled.

What Are the Challenges of Implementing HIE Within LTPAC Facilities?

While the benefits of HIE are evident, getting LTPAC providers to adopt HIE is challenging. The first

hurdle is convincing providers of the value of health IT and HIE to improving the health of their patients. The investment of time, money, and effort to implement clinical systems and change workflows is significant. Often times the business case and return on investment is not compelling enough to create engagement and participation.

Often LTPAC providers are not ready to adopt technology. More often than not, there is a general lack of understanding of the respective needs and technical capabilities across providers. Frequently, acute care hospitals also are concurrently implementing multiple unconnected health IT related initiatives that are managed by different teams. Different teams may be responsible for achieving Meaningful Use, for participating in ACOs and other new payment initiatives, and for managing the discharge process. These different teams may approach LTPAC providers independently which can add to the confusion when working with LTPAC providers. Further, many HIE organizations focus on the technical services they offer (e.g., Direct messaging, a community data repository, results delivery), rather than focusing on the clinical and providers need.

Leadership in LTPAC organizations often lacks the technical knowledge of HIE and interoperability, as well as how their organization can best engage and participate. LTPAC providers are generally small and have limited in-house information technology expertise. They rely heavily on their system vendors for not just technical support capabilities, but also for technical and process implementation services.

Adoption of "basic" EHR technology among LTPAC providers has been studied using the same surveys used by acute-care hospitals. LTCHs and rehabilitation hospitals exhibit relatively low EHR adoption rates, and the gap between hospitals that received HITECH EHR incentives and LTPAC providers who did not is growing.[v] These studies also noted a low level of health information exchange among these LTPAC settings, particularly around the ability to send and receive data electronically to inform care.

Even for those LTPAC providers with EHRs who are ready to adopt HIE, the road to adoption is not easy. For many LTPAC facilities, the costs to hire staff and build a secure infrastructure, develop the required interfaces, and improve and change workflow are a significant barrier. The fact that many LTPAC facilities are understaffed in this area and others contributes to the challenge. In many ways, the situation resembles that of physician practices making their initial move from paper to electronic records though LTPAC providers did not benefit from the funding and incentives available under the HITECH program which helped fuel rapid EHR adoption among hospitals and ambulatory care providers.

Once connected, they find that variations in how the standards are implemented (e.g., differing data elements and values) among various vendors makes it difficult to share information needed for care management and planning. LTPAC facilities also experience a fairly high turnover of their workforce which results in added burden and resources required to keep staff trained and current on the technology. And, in some cases, LTPAC providers may encounter resistance from hospitals and physician practices in addressing workflow and connectivity challenges that make HIE more useful.

How Can You Engage Your Organization in HIE?

To support ongoing nationwide efforts to advance health information exchange among LTPAC providers, many organizations have developed toolkits, and published technology standards primers and IT selection aides specific to the LTPAC community. The state and local LTPAC associations can often help their local providers, as can their national associations. The LTPAC HIT Collaborative, a group of

stakeholder associations, is a valuable resource. The collaborative has been convening since 2005 to address health IT issues through publication of an LTPAC HIT Roadmap and an annual conference.

LTPAC providers can take any of the following steps to adopt health information exchange to help improve care coordination and health care quality.

	Explore access to existing HIE services or portal views of patient records from larger hospital systems that refer to LTPAC facilities. They may include use of tools such as the KeyHIE to transform assessment data (e.g., MDS, OASIS) into a summary of care document for sharing. Reference the LTPAC Interoperability Toolkit to learn more about how patient assessment summary documents can be exchanged with physicians and other providers.
	Identify partnership opportunities with community based care transitions organization. This may include supporting care transitions by sharing of summary records from hospitals to SNFs and primary care providers.
	Identify partnership opportunities with local hospitals and ACOs in your service area. This could include working with them to implement an interoperable HIE infrastructure and supporting care transitions across providers and settings of care.
	Explore potential health IT donations from partners, such as health systems or hospitals in your service area that would be compliant under the existing federal health care program anti-kickback law and physician self-referral (Stark) law exceptions for the donation of EHR software and technical assistance. Consider participation in any community-based effort to support accountable care arrangements or HIE and inform the business model and pricing strategy to ensure services are affordable and accessible for LTPAC providers. • Explore new payment arrangements with commercial payers such as prospective payment or rewards for high performance. • Find out if the state Medicaid program is planning or implementing new care delivery and reimbursement models that rely on health information exchange across settings of care. Monitor federal and state initiatives designed to support providers who were not eligible for HITECH funding and advance their use of EHR technology. There are an abundance of current or proposed actions focused on advancing the use of health IT by modernizing the health care infrastructure to facilitate new models of care delivery or payment or targeting the use of technology by a particular group of providers who sometimes are limited to a particular geography.[vi]
	Identify use cases that improve clinical care in LTPAC facilities. This approach determines data needs and how to integrate use cases into regular workflow. Consider the data to be exchanged, with whom and with which systems, the goal of the use case, its story line, and impact on current work processes. Benefits include reducing complexity and lowering the risk of overwhelming staff through a phased implementation. It also helps to align the facilities' top priorities with their adoption. In addition, increased transparency and understanding of what providers can expect from the technology increases their willingness to invest.

Finally, get engaged with the LTPAC community. Partnership and collaboration are needed to progress towards a person-centric and learning health care system. Get to know the LTPAC providers in your community and identify champions of change within each organization. Create workgroups and advisory boards made up of supportive stakeholders from the LTPAC community that are generally well aware of

the need for electronic data exchange. While there are the beginnings of consistency across LTPAC provider types (for example the IMPACT Act), there are many differences and these must be take into account.

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[i] http://longtermcare.gov/the-basics/who-needs-care/

[ii] Bodenheimer T. Coordinating care—a perilous journey through the health care system. *N Engl J Med* 2008 Mar 6;358(10):1064-71. Available from http://www.nejm.org/doi/full/10.1056/NEJMhpr0706165.

[iii] Van Walraven, C., Bennett, C., Jennings, A., Austin, P. C., & Forster, A. J. (2011). Proportion of hospital readmissions deemed avoidable: a systematic review. *CMAJ : Canadian Medical Association Journal*, *183*(7), E391–E402. http://doi.org/10.1503/cmaj.101860

[iv] Department of Health Care Policy and Finance (HCPF) and a second HIE in Colorado, Quality Health Network (QHN)

[v] Devers, K. et al "Health Information Exchange in Long-Term and Post-Acute Care Settings." Prepared for the OASPE.

vi https://aspe.hhs.gov/basic-report/ehr-payment-incentives-providers-ineligible-payment-incentives-and-other-funding-study#option