EASTCASTLE PLACE

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LeadingAge® CAST
center for aging services technologies

The LeadingAge Center for Aging Services Technologies (CAST) is focused on accelerating the development, evaluation and adoption of emerging technologies that will transform the aging experience. As an international coalition of more than 400 technology companies, aging-services organizations, businesses, research universities and government representatives, CAST works under the auspices of LeadingAge, an association of 6,000 not-for-profit organizations dedicated to expanding the world of possibilities for aging.

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RCare®   **PointClickCare®** AUTHORIZED PARTNER 2019

The RCare-PointClickCare Integration - a Health Information Exchange Provider Case Study

Mode of Interoperability

Intra-Provider System Interoperability

Specific Use Cases

Admission/Discharge/Transfer

Care Coordination

LTPAC Organization Name

Eastcastle Place

LTPAC Organization Type

Independent Living/Assisted Living/Skilled Nursing/Memory Care
The RCare-PCC integration is used in the Skilled Nursing area.

LTPAC Description

Eastcastle Place is a nonprofit, senior living community offering the full continuum of care. It is located on Milwaukee's east side. The community uses the PointClickCare EHR throughout. It installed RCare's wireless nurse call system in its new, 40-bed skilled nursing facility, and it is in this environment that the RCare-PCC integration is currently employed.

Trading Organization Names

RCare, Inc. and PointClickCare

Trading Organization Types

Nurse Call System and Electronic Records Software

Trading Organization Descriptions

RCare

RCare, Inc. is a global provider of wireless nurse call and personal emergency response systems for the entire spectrum of eldercare and senior living. RCare's components integrate into a variety of health care communication systems to create efficient and verifiable responses to medical emergencies.

RCare works together with distribution partners to build individualized, flexible, and seamless systems to enhance both caregiving and resident quality of life. http://rcareinc.com/*PointClickCare*

PCC

PointClickCare (PCC) is a cloud-based electronic health record (EHR) solution designed for the long-term and post-acute care (LTPAC) industry. Its software-as-a-service EHR platform is used in 15,000 LTPAC communities, which represents a 60% market share. https://pointclickcare.com/

Project Description

With the RCare-PCC integration, resident and room information is seamlessly synchronized between PCC and the community's RCare nurse call system, in communities using both systems. Resident ADT (admission, discharge, and transfer) and other information is pushed from PCC to RCare at frequent, regular intervals. Data entry happens only once, saving valuable staff time, and ensuring up-to-date, complete, and accurate resident information in the community's nurse call system. RCare is the only nurse call platform integrated with PointClickCare.

Implementation Approach

RCare's work on the RCare-PCC integration began in 2015. The integration development had two distinct phases.

In Phase 1, the integration was developed using Health Level-7 (HL7) and a standardized Subjective, Objective, Assessment, and Plan (SOAP)-based format. Phase 1 was lengthy, taking nearly 6 months, primarily in quality assurance (QA). The issues that arose fell into 2 categories:

- Business logic: ADT records are not necessarily entered in chronological order. For example, a discharge may be submitted for a resident whose admission record isn't yet entered. So, the discharge

data may be entered first, and then a backdated admission is entered after. In fact, there are many such possible complications to the data entry chronology to handle correctly, in order for the integration to be certified by PCC.

- HL7 complications: Although HL7 is a set of international standards intended to simplify and standardize information exchange for healthcare records, in reality, developers encountered a number of areas in which the standards were lacking, and that made coding more difficult than predicted. HL7 records can be hard to parse. The standard is vaguely defined in places, and there were recurring data formatting issues, particularly with dates, which could be entered in many different ways, and would break the information exchange if handled incorrectly.

Phase 2 replaced HL7 with PCC's web-based Representational State Transfer (REST) Application Program Interface (API), RESTful, which returns data in Java Script Object Notation (JSON) format. Phase 2 was much quicker, because it used simpler, more tightly defined data exchange specifications. Because the data formatting was better controlled, documentation could more precisely define what to expect back from the data with every API call. It was determined that the API reduced the risks associated with the data exchange. In addition, Phase 2 used the same use case scenarios as Phase 1, and that logic had already been worked out. Although Phase 2 incorporated greater functionality, incorporating patient photos, allergy information, and advanced directives, the development took only a few weeks.

PCC's certification process is rigorous, and as a result, the certified product is rock-solid. The integration works really well, because all the possible real-world scenarios, including the low-percentage and/or "weird" ones, were anticipated and handled correctly. Unit tests were created for each of the use cases. During testing, PCC pushed test data through the integration, to verify that each use case returned the expected result. Certification came only

after perfect results were achieved.

Outcomes

RCare's PointClickCare integration allows for resident and room information to be seamlessly synchronized between PointClickCare and RCare systems. With this integration enabled, users enter data only once. PCC room and resident information is pushed to RCare during the initial setup. From then on, PCC changes are automatically pushed at frequent intervals to the RCare system. Admissions, discharges, transfers, resident photos, allergy information, and advanced directives are kept up-to-date in the nurse call system. The integration reduces duplication of efforts, and ensures that caregivers responding to calls have the most complete, and up-to-date information possible when a resident needs help. The RCare system uses dedicated smartphones, which provide the caregivers with this rich resident data at the point of care.

The integration has been well received by RCare's clients. Eastcastle Place in Milwaukee was a Phase 1 adopter of the PCC-RCare integration. They installed the RCare system nearly 3 years ago in their 40-bed skilled nursing facility. They implemented the integration in January 2018, and nurse administrator Lindsey Viegut reports that the community has been very happy with the ease-of-use and the efficiencies of the system. Their experience is exactly what was hoped for. Eastcastle's unit coordinators enter data to their PCC system. Caregivers use their dedicated smartphones, called Rugged RPhones, to receive the resident data with each nurse call. Staff use the same login for both PCC and their RPhones, which makes the integration even more efficient and seamless for staff. In the 15 months of use, there have been 393 admissions, 53 transfers, and 375 discharges, more than 800 transactions that did not require duplicate entry.

Lessons Learned/Advice to Share with Others

Once the integration was implemented in the real-world, there were some issues to be solved. Field testing is a necessary part of a successful project.

In this case, the integration initially pushes room and resident information from the community's PCC records system to their RCare nurse call system. After the initial resident and room data push, the integration is automatic. Data is entered to the community's PCC system, and then at regular, frequent intervals, PCC changes are pushed to the RCare nurse call system.

To preserve the integrity of the data, room and resident information pushed from PCC must not be changed in the RCare system. To maintain the integrity of the data correspondence, it became clear that room and resident information fields pushed from PCC must be locked in RCare, to prevent changes.

Nurse call devices are not necessarily attached to a room or a resident. For example, public rooms may have door sensors, fire alarms, or pull cords, that initiate nurse call incidents. RCare needed to distinguish between room and resident data sent by PCC, which is locked and cannot be changed, and room information created for public rooms, or rooms not covered by the PCC system for some other reason. Caregiver training was an important step to help staff understand the importance of using existing room data, and only to set up new rooms when appropriate and necessary.

A second lesson was the benefit of a rigorous quality assurance process that thoroughly exercises the product with every known and imaginable use case. The result is a bullet-proof final product.

The most important takeaway from this development project was the many advantages to using a well-defined developer API rather than HL7 for the data interchange. Focus could then be on the business logic of the problem.