

*A LeadingAge CAST Report*

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## ELECTRONIC HEALTH RECORD (EHR)

Implementation, Use, and Impacts:

*Provider Case Studies*

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## Implementation, Use, and Impacts:

### *Provider Case Studies*



A program of LeadingAge

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### **LeadingAge Center for Aging Services Technologies:**

The LeadingAge Center for Aging Services Technologies (CAST) is focused on 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.

For more information, please visit [LeadingAge.org/CAST](http://LeadingAge.org/CAST)

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# 1 INTRODUCTION

The LeadingAge Center for Aging Services Technologies (CAST) is pleased to provide the following 13 case studies on electronic health record evaluation and implementation. We hope they will demonstrate for providers the benefits of implementing an electronic health record (EHR).

The case studies are designed to help long-term and post-acute care (LTPAC) providers with the process of planning for EHRs. They demonstrate that providers must understand functionalities available for various LTPAC settings and select an appropriate EHR that fit the provider's business lines and functional requirements.

In 2012, CAST released a whitepaper entitled [EHR for LTPAC: A Primer on Planning and Vendor Selection](#). The whitepaper included an EHR Selection Matrix that compared EHR products available for different LTPAC settings with respect to functionalities, interoperability standards, interoperability certification, support and other aspects. EHR vendors who chose to participate in the self-review were offered an opportunity to nominate a provider to do a case study on their use of the vendor's EHR product.

## 1.1 Case Study Guidelines

To help case study contributors, CAST provided guidance on the following:

- Case Study Category (case studies may cover more than one category):
  1. EHR Selection
  2. EHR Implementation

3. EHR Use and/or Workflow Change Best Practice

4. EHR Interoperability

- Organization (brief description outlining the organization's lines of business: Home Health/Home Care, Hospice, Adult Day Care, Assisted Living, Acute Rehab Facilities, Long-term Acute Care Hospitals, Long-term Care Rehab Facilities, Skilled Nursing, Intermediate Care Facility, MR/DD Facility, CCRC)
- Project Description
- Approach
- Outcomes Achieved (quality of care, staff efficiencies, workflow improvements, financial impacts to the organization and/or the payer including Medicare/Medicaid)

### Lessons Learned/Advice to Share with Others

Thirteen provider case studies have been contributed. We believe that LeadingAge members and other LTPAC providers will benefit from these case studies and learn from other providers who have already selected, implemented, and used an EHR and are experiencing their benefits.

Please note that for purposes of these case studies, EHR and EMR may be used interchangeably.

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## 2 COMMON LESSONS LEARNED AND ADVICE DRAWN FROM THE CASE STUDIES

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Many common themes and lessons emerge in the case studies:

- Remember that EHR implementation is a large undertaking and not an overnight project. It is very important to build a solid relationship with your vendor as they will be very important for support during your rollout.
  - A thorough planning and evaluation process can save a lot of time. Put effort in the beginning to help layout timelines, deadlines, assign tasks to team members and create steps to ensure involvement and accountability from a collaborative team.
  - Have a champion on your team to lead the implementation; an internal team point person eases the anxiety that comes with change. Additionally, having team members involved from different departments and various levels within the organization provides a multidisciplinary perspective to ensure adaptability by diverse departments and roles in the organization. By involving staff, you are also helping to promote team buy-in as they are part of the process and not having this thrust upon them.
  - An EHR implementation is an opportunity to re-examine workflows and redesigning processes to maximize the benefits of the EHR. It presents an opportunity to consolidate forms and changing process so that information is entered once and use in different processes and shared with other team members as needed to increase efficiencies.
- Remember to utilize your EHR vendor as they may have manuals or customized training programs. Take advantage of these opportunities prior to going live with an EHR system to ensure a smooth launch and help staff prepare to jump in and feel comfortable using a new system.

This is a big project, but you are already taking a great first step in learning and researching more about EHR. The scope and selection may feel daunting, but EHRs are becoming a business imperative and we believe these case studies and other CAST tools will help you make an excellent choice for your organization and its viability moving forward.

## 3 UPDATING AN EXISTING EHR WITH GREAT RESULTS



### 3.1 Provider: Carolina Care Center

**Contributor:** Debbie Hopper, assistant administrator



### 3.2 Vendor: MDI Achieve

**Categories:** EHR Implementation, EHR Use and Workflow Change Best Practice

#### Organization

Carolina Care Center (CCC) is a full service facility, located in Cherryville, NC, providing 107 skilled nursing beds, 12 assisted living beds and rehabilitation services. CCC received a “4 out of 5” overall rating from the Centers for Medicare & Medicaid Services (CMS), giving it an above average rating overall.

#### Project Description

CCC, an existing client of MDI Achieve, using an older platform product, implemented MDI Achieve’s Matrix for their skilled nursing and assisted living facilities. MDI Achieve’s Matrix software is a web-based EHR solution designed to help eldercare providers achieve the best quality

of care. In addition to the integrated clinical and A/R solution, CCC also implemented Matrix Point of Care (POC), mobile charting technology, MDI Achieve Payroll and MDI Achieve AP/GL. They are currently implementing Matrix eMAR, electronic documentation of medication administration.

#### Approach

CCC needed a more unified system to improve communication between disciplines and the ability to access web-based patient records anytime, anywhere. These were deciding factors in CCC’s implementation of Matrix.

#### Outcomes Achieved

- Improved communication among staff members
- Integration between nursing documentation and MDS assessments
- Accurate documentation by nursing staff
- Comprehensive reports more readily available
- User-friendly system

“Since using Matrix, we’ve seen better communication between staff members about potential resident problems,” states Debbie Hopper, assistant administrator. Matrix contains an internal messaging service, Resident Messages, which provides an at-a-glance view of resident activity. The Resident Messages page displays the messages that are automatically generated when resident activity occurs, such as resident admissions, discharges, events, orders or documents. Alerts are displayed, allowing clinical staff to stay on top of changes in resident condition.

“And because Matrix is web-based, it is so convenient to be able to view patient information while away from the facility and still stay in touch without having to talk with staff in person,” adds Hopper.

As part of the need for a more unified system between disciplines, the facility implemented Matrix POC – the product’s mobile charting technology. Real-time integration with Matrix facilitates the scheduling of MDS-required charting and resident alerts for vitals, intakes and outputs that are out of range. “Our nursing staff is grateful for Matrix because it has made their documentation more organized, accurate and more readily accessible,” says Hopper. The integration of POC and Matrix automatically updates resident records with supporting data for the MDS, which according to Hopper was a problem with a previous system used. “Our MDS staff is pleased with the ease and timeliness of completing an MDS due to the fact that you can easily get to a resident’s chart and return to the form.”

CCC also saw an improvement in accuracy of orders due to Matrix’s comprehensive physician orders system. Doctors’ orders are prescribed online and automatically sent to the pharmacy, radiology and labs in turn helping to reduce the risk of transcription and legibility errors. “Our lab tracking is also more efficient since the labs are already attached to the resident once the document is faxed in. No more searching around charts to find reports. We simply run a report for labs, click on the residents and results are right there at your fingertips,” adds Hopper.

“Having an integrated system where the facility MDS and Accounts Receivable/Billing staff has immediate access to information and real-time data is a huge improvement for the facility,” according to Wes Talton, accountant for CCC. “Using Matrix for AR/Billing, Carolina Care Center gains significant

efficiencies because Matrix handles all of the RUG rates. There are also improvements in Medicare Part B billing information due to Matrix’s management of ancillary codes and the automated import of therapy charges.” Hopper adds, “Before Matrix, we were handwriting data and mailing it to our CPA. Now, this same information is entered into Matrix and the accountant has access immediately.”

CCC also experienced success with implementation of the new software. “The implementation process went very smoothly,” according to Hopper. “The week-long conversion process was more challenging since no such conversion had ever been attempted, but this was resolved and implementation was completed successfully. “The staff had no problems learning Matrix as it is very user-friendly,” adds Hopper. “The trainers were very knowledgeable and were able to answer questions staff had about Matrix.”

“We are very pleased with our decision to move to Matrix and are glad MDI Achieve’s excellent customer service has continued to meet our needs. We are impressed with the company’s knowledge of long-term care and for listening to client feedback during the client meetings that help improve the software,” says Hopper.

#### **Lessons Learned/Advice to Share with Others**

CCC’s experience was less complicated due to the fact that managers (DON, MDS coordinator, and staff development coordinator) planned training in advance by utilizing the elearning module months in advance, as well as providing small-group training and making managerial support staff available on the day of initiation. Matrix is very user-friendly but appropriate training and support by CCC staff and the MDI Achieve staff contributed to a successful experience.



## 4 EXTENSIVE SELECTION FOR EHR



### 4.1 Provider: Christian Health Care Center

**Contributors:** Jennifer D'Angelo, assistant vice President, information services and information Security Officer; Kevin A. Stagg, executive vice president and chief financial officer



### 4.2 Vendor: SigmaCare

**Categories:** EHR Selection, EHR Implementation

#### Organization

The Christian Health Care Center (CHCC), a non-profit organization located in Wyckoff, NJ, consists of five eldercare/senior residences: Heritage Manor (SNF), Southgate (skilled behavioral), Longview Assisted Living Residence (ALF), Hillcrest Residence (independent living), Evergreen Court (senior apartments) and two Adult Day Services programs.

CHCC went live in October 2008 with SigmaCare's complete electronic health records (EHR) system, which included computerized physician order entry (CPOE), medication/treatment administration records (eMAR/eTAR), progress notes, 24-hour

report, assessments, minimum data set (MDS), care planning, CNA charting and rehabilitation.

#### Project Description

CHCC pursued an EHR to help improve quality of care, reimbursement and operational efficiencies. To ensure the right EHR was chosen, they executed an extensive selection process to find an EHR that fit the needs of their Continuing Care Retirement Community (CCRC).

#### Approach

To begin the selection process, CHCC formed a steering committee consisting of department decision-makers who developed a matrix of functional requirements including dashboard functionality to monitor operations, pharmacy integration, customizability and web-based access. CHCC then assessed vendors based on the matrix and brought in staff to provide additional feedback. Once CHCC narrowed their search to two vendors, they went on site visits, checked references and then made their decision. CHCC selected SigmaCare because they believed their clinical functionality was a better fit for CHCC's requirements and easier to use than the other product they evaluated. SigmaCare also offered comprehensive, hands-on implementation and support services to facilitate the transition to a fully electronic system.

To get staff onboard with the transition, CHCC leadership began preparing employees for the change during the selection process. Once they selected SigmaCare, CHCC held technology days during which staff members were able to use computers, laptops and PDAs to get more comfortable

with the transition. CHCC also held a kick-off party with SigmaCare staff to get everyone excited for what was to come.

During training and implementation, CHCC took advantage of SigmaCare's hands-on process consisting of readiness training including PC basics, workflow analysis to inform system configuration, on-site classroom-style training and support as units went live with the system. The implementation methodology enabled staff to transition effectively to an electronic system with high user adoption. In addition, CHCC benefited from SigmaCare's interoperability through bidirectional integrations with their pharmacy, radiology vendor and financial system. The integrations eliminated double-entry and the risk of errors.

Once live, CHCC reinforced adoption by ensuring that clinical managers proactively monitored the dashboard and followed up on any outstanding tasks. Additionally, CNAs were educated on MDS language to ensure complete, accurate and on-time documentation. SigmaCare also provided monthly on-site Performance Consulting services to help CHCC management promote adoption and develop and implement operational best practices to drive outcomes.

### **Outcomes Achieved**

Shortly after going live with SigmaCare, CHCC realized an immediate financial and clinical benefit through the elimination of end of month MAR/TAR recaps, real-time access to resident medical records, proactive alerts ensuring on-time documentation and a streamlined MDS process reducing errors, ensuring accuracy and allowing faster submission of assessments.

CHCC also improved compliance, lowered operational costs and increased reimbursement. For example:

- Medicare Part A rates increased by 11% without adding staff
- Staffing hours decreased 2% by reducing paper-based tasks
- Nursing overtime decreased 80 hours/month as a result of eliminating end of month recaps
- CHCC achieved its best survey results in 10 years.

### **Lessons Learned/Advice to Share with Others**

When selecting an EHR it is important to ensure all clinical department leaders are involved in the process, especially the medical director. Each department leader can then ensure that their functional needs are addressed and the medical director will ensure physician buy-in early in the process. It is also important to solicit staff feedback as they will be using the system daily.

When reviewing EHR functionality, it is important to go beyond a checklist and dive into the details. Vendors may have all the modules but the modules may not be comprehensive and fully integrated to complete the clinical workflow. In addition, purchasing an EHR is not just about the software, it is also about the service and the people. Make sure the vendor partners work with the facility to understand the specific business requirements and EHR objectives.

Lastly, there is always room to improve how staff uses the EHR system. Most systems have multiple reporting tools with clinical and operational alerts that allow management to make decisions. When the right EHR system is used proactively, improved financial outcomes and improved resident care will be realized.

## 5 STREAMLINING BUSINESS AND RESIDENT CARE THROUGH EHR



### 5.1 Provider: Fort Hudson Nursing Center

**Contributors:** Andy Cruikshank, chief executive officer; Jack Coburn, chief financial officer; Dawn Eddy, registered nurse, ADON and quality improvement coordinator

## PointClickCare®

### 5.2 Vendor: PointClickCare

**Category:** EHR Use and Workflow Change Best Practice

#### Organization

Founded in 1969, Fort Hudson Nursing Center (FH) is a 196-bed not-for-profit skilled nursing care facility in Fort Edward, NY offering short-term rehabilitation and sub acute care.

#### Project Description

In 2010, FH made the decision to move to an electronic health record (EHR) platform to streamline its business and resident care processes. After evaluating a number of EHR vendors, FH narrowed their selection to PointClickCare for its suitability to the facility's needs and the completeness of the solution, including the Electronic Medication

Administration Record (eMAR) and Point of Care (POC) solutions.

#### Approach

With a key goal of streamlining business and resident care processes, FH has experienced just that with the September 2011 implementation of PointClickCare's EHR solution and its ability to support a number of process changes designed to improve the quality of resident care. The facility experienced improvement in medication administration, efficiency in shift changes for RNs and LPNs, MDS assessment creation and quality verifications, and documentation and business office processes.

#### Outcomes Achieved

PointClickCare's eMAR is providing FH's nurse managers with quick access to a single, accurate, and timely medication record for all residents. The color-coded clinical dashboard provides a real-time summary view of med passes, medication alerts, physician orders, and other relevant medication information ensuring that the most recent changes to a resident's medication requirements are captured and easily accessible at all times. "eMAR works far better than searching through large MAR and TAR binders and paper charts. Our nurse managers now have a holistic view for every resident to see if there are missed or overdue medications, recent changes to medication requirements, or missing medication signatures. All resident medication data is at their fingertips with just a few simple mouse clicks," states Dawn Eddy, RN, ADON and quality improvement coordinator.

FH has seen improved efficiency of shift changes for RNs and LPNs using the EHR's 24-hour report. Leveraged in the facility's daily meetings, the interdisciplinary team uses the 24-hour report to discuss changes to resident care plans or important care activities that need to be completed during a specific shift, which provides residents with all the care they need at any given time. "PointClickCare gives our nurses the ability to communicate resident information more effectively by easily accessing resident data right from their laptop in their daily meetings," comments Eddy.

Prior to PointClickCare, the facility's MDS coordinator, Debra Ritter, would complete a manual quality check on MDS assessments and submit the final versions using an antiquated dial-up service. Today, all MDS assessment activities are performed in the core system with quality checks performed using the built-in verification functionality, which identifies potential errors in assessments prior to submitting to CMS electronically through the EHR. "Most of the time the RUG optimizer is right on target. I can really see the potential value for this tool in helping to maximize reimbursements," says Ritter.

Before PointClickCare, the facility struggled to get nursing staff to document resident care activities consistently. As a part of the EHR implementation, the facility implemented a new policy that staff must complete documentation before taking breaks. To support staff with this new policy, FH installed wall-mounted, touch-screen POC stations throughout the facility – enabling the effective capture of resident information at the moment a care activity is performed. "PointClickCare has given our staff a higher degree of accountability for resident documentation, which has positively impacted the quality of their work and resident care, as well as our

reimbursements," comments Eddy. "The system's real-time alerts and color-coding make staff more aware of any overdue patient care activities. Any red flags that appear motivate them to complete their documentation – red is seen as a bad omen here," adds Eddy.

PointClickCare has also helped FH reduce its paper usage by 75-80%. All patient records are electronically stored in the EHR, where management and clinical staff have instant access to a complete resident record. "Management no longer has to sort through boundless paper files and binders to review processes and ensure facility policies are being adhered to. Now that the nurses perform MDS assessments with a laptop, they are no longer running around doing audits and searching through paper-based patient records," says Eddy.

By using PointClickCare's billing and accounts receivable functions, the facility is benefiting from a fully integrated system that delivers a single, consistent set of data for complete and accurate financial management. As changes occur in the resident's clinical record, they are automatically captured in the financial module, which eliminates the need for the business office staff to manually enter changes at month end. According to FH's CFO, Jack Coburn, "The real benefit is the speed in which we are completing daily and monthly billing tasks. With the decrease in manual corrections, we've seen a 5-day reduction for Medicare Part A and B submissions and an improvement in the number of submission errors, which means we're reimbursed more accurately and faster for our resident care activities."

### **Lessons Learned/Advice to Share with Others**

When FH Nursing Center made the decision to implement PointClickCare, they anticipated some

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resistance from employees who had always operated in a traditional, paper-based care environment. To prepare staff for the new system, the facility delivered a comprehensive training program through in-servicing and tutorials provided by PointClick-Care.

Andy Cruikshank, CEO, has some friendly advice for independent not-for-profit facilities looking to adopt and implement an EHR. “We initially had visions of grandeur for our implementation, but quickly realized that a slow, methodical, and phased approach works best.”

To see an expanded version of this case study, please visit: <http://bit.ly/Hgzecr>

## 6 EFFICIENCIES GAINED WITH EHR



### 6.1 Provider: Harrison's Hope

**Contributor:** Kristi Hartway, director of operations and compliance



### 6.2 Vendor: HEALTHCAREfirst

**Categories:** EHR Use and Workflow Change Best Practice

#### Organization

Harrison's Hope (HH) in Meridian, ID was started by Jackie Johnson, LSW, in 2006 with the goal to provide unparalleled service to hospice beneficiaries. Johnson's experience in a variety of healthcare segments has helped to develop her passion for end-of-life care and shaped her unique approach to the hospice experience.

#### Project Description

HH completed a hospice vendor search and implemented HEALTHCAREfirst's *firstHOSPICE* solution in 2007. The implementation and use of *firstHOSPICE* has allowed them to see significant efficiency gains in conducting Inter-disciplinary

Team (IDT) meetings. These efficiency gains have netted a 75%+ reduction in the time clinicians spend preparing for IDT meetings.

#### Approach

HH was a "paper-based" agency prior to the implementation of *firstHOSPICE*. Following the implementation, HH has seen an increase in patient transparency, productivity and care consistency within the agency. Additionally, they've seen a decrease in the number of errors related to scheduling of visits and verification of time sheets as well as a decrease in response time. "The immediate access to information and the ability to have that information and not have to dig for it plays a big role in how we respond to our patients and their families," says Kristi Hartway, director of operations and compliance at HH.

Additional specifics regarding efficiencies gained through implementation of *firstHOSPICE* include:

- **Patient Transparency:** At any time, any member of the HH team can retrieve data about a patient. This enables any caregiver to communicate with the patient, the patient's family and other team members about the patient's status, without having to review pages of notes. Says Kristin Reddy, administrative assistant, "*firstHOSPICE* has changed our organization for the best by giving us a better way to document all types of visits. Both the office and on-call staffs have the ability to review the chart electronically to see what is going on with the patient at all times." In addition, it allows for a more

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effective IDT review, as all disciplines have access to the same patient information.

- **Decrease in errors:** *firstHOSPICE* encourages a system of checks and balances. Scheduling of visits, frequency orders, verification of time sheets and assigning visits from one person to another are all done more efficiently and without error when done through the system.
- **Increased productivity and care consistency:** Reading notes and trends without having to physically pull a chart has reduced the amount of time and effort needed at HH to review a patient's information. Additionally, by having all disciplines working off of the same data, the overall consistency of care within the organization has improved. IDT meetings are conducted more smoothly and efficiently, resulting in a higher level of employee satisfaction.
- **Decreased response time:** Having patient data available at their fingertips has decreased the amount of time it takes HH to respond to the doctors, patients and patients' families.

For more information on this case study, please visit: <https://www.healthcarefirst.com/news/CaseStudies.aspx>

### Lessons Learned/Advice to Share with Others

Implementation of an EHR can seem daunting and overwhelming. A strong partnership between a vendor and an agency is an essential ingredient in the recipe for success as was the case of HH.

The implementation and use of *firstHOSPICE* created efficiencies empowering HH to help, and serve, patients and families in an increased capacity.

## 7 EHR IMPLEMENTATION ACROSS SITES



### 7.1 Provider: The Kendal Corporation

**Contributors:** Lynne Seligman, researcher; Judy Braun, director of affiliate services; Peggy Sinnott, director of health services; Elaine Jackson, affiliate services training coordinator



### 7.2 Vendor: AOD Software

**Categories:** EHR Implementation, EHR Use and Workflow Change Best Practice, EHR Interoperability

#### Organization

Kendal Corporation's affiliates offer a broad variety of care models including accredited CCRCs and Joint Commission Accredited Long-Term Care and Home Health Care. The chart below indicates the communities with EHR implementations:

#### Project Description

The project's goal is transitioning to a completely paperless EHR over a two-year period including care planning, eMAR and eTAR, computerized order entry with pharmacy link, electronic rehab records, electronic interdisciplinary notes, MDS reporting, embedded clinical decision support tools, and integrated financial links.

#### Approach

The project was identified as a priority corporate strategic goal in 2002. Early in 2007, health services agreed to lead the team for this resident-centered project, as opposed to it being viewed as an IT project. A team of health services professionals from

Affiliate	CCRC Independent Living	Home Care	Assisted Living and Personal Care	Skilled Nursing	Short and/or Long Term Acute Rehabilitation
Kendal at Longwood, PA	✓		✓	✓	
Kendal Crosslands, PA	✓		✓	✓	
Kendal at Hanover, NH	✓		✓	✓	
Kendal at Granville, OH	✓		✓	✓	✓
Kendal at Oberlin, OH	✓	✓	✓	✓	
Kendal on Hudson, NY	✓		✓	✓	✓
Kendal at Ithica, NY	✓	✓	✓	✓	
Barclay Friends, PA			✓	✓	✓
Kendal at Lexington, VA				✓	✓



all affiliates became involved in the planning and implementation of the EHR. Requirements were identified by team members and, after a thorough review of vendors, AOD Software's Answers™ EHR was selected.

An aggressive rollout schedule was planned, with one community at a time going live with a full paperless system, often called the “big-bang” approach. Systems slated for conversion were migrated and tested prior to go-live. The local team reviewed and corrected data, and double-checked every order on each resident record. At the same time, the IT members of the implementation teams were heavily involved in installing and testing the equipment and data lines, ensuring wireless coverage, purchasing and securing equipment, and making sure each employee in the health center had secure access to the site. AOD Software's subject-matter experts and corporate staff trained super users and trainers two months before the go-live date. This group, in turn, trained every member of the health services and financial staff. Printed and online user guides were an integral part of this training and provided user support at go-live.

Kendal at Hanover went live first. Staff called the go-live a “non-event,” to their own surprise. Although certainly there were some issues to resolve, nobody had anticipated that the move to the Answers™ EHR system would go as smoothly as it did.

After the initial implementation at Hanover, the team took several months to refine the use of the new technology. The second implementation at Kendal at Granville resolved many of the issues that had arisen. One major change was the use of electronic care plan tools to integrate best practice workflows and decision support for certain conditions, such as urinary tract infections, into the

daily schedule of caregivers. The community had to temporarily wait on the eMAR, eTAR, and electronic prescriptions until the needed changes were approved by the Ohio Board of Pharmacy, underscoring that state regulations can have a big impact on an EHR implementation. Kendal at Granville also learned that mixing EHR and paper-based systems was much more difficult and error prone than simply using the full EHR alone.

During the ensuing months, each Kendal community in turn implemented the full Answers™ EHR. Time and time again the phrase “non-event” for the go-live was used. The extensive effort that went into preparation paid off as the technology went live. Several communities have been paperless two years now, and adopting electronic health records is no longer a project; it is simply the way the work is done and documented.

### Outcomes

Among the most important outcomes is the new paperless process itself. Every detail associated with resident care is instantly available without searching for binders or files. In addition, staff, especially aides, feel empowered by technology in that it permits them to understand how their work fits into the scope of care a resident requires. Certain processes, like month-end review of orders, have been completely eliminated. Nearly every affiliate has had improved state review results, and several facilities have had deficiency-free reviews.

As Kendal looks to the future, it is encouraging to see that AOD Software's Answers™ EHR has now become the first fully CCHIT Certified® 2011 LTPAC EHR in the field. The interoperability and security of CCHIT certification was significant for Kendal affiliates as the healthcare continuum evalu-

ates new demands for information exchange and payment reforms.

### **Lessons Learned/Advice to Share with Others**

Each implementation revealed new challenges and opportunities for improvement. The importance of the provider/vendor partnership is key. It's not only about the software, but also about the caliber, stability and commitment of the vendor. The preparation and planning that go into the implementation efforts is also critical. Managing change, by making sure the clinical staff understand the reasons for the change, keeping them deeply involved in planning, set-up, and implementation, and using their feedback to develop further changes, is also vital to success. Project champions were vital to the Answers™ EHR success, and they emerged from every level of staff, especially DONs and CNAs. Though the “big-bang” approach is often eschewed in favor of a lengthy rollout, Kendal has proven that the move to a paperless EHR doesn't have to drag out over years, but can take place as a carefully orchestrated “non-event” go-live event.

## 8 ROLLING OUT UPDATES AND NEW EHR IMPLEMENTATION



### 8.1 Provider: Lantis Enterprises

**Contributor:** Paula Reese, systems analyst



### 8.2 Vendor: HealthMEDX

**Categories:** EHR Use and Workflow Change Best Practice

#### Organization

Lantis Enterprises (LE), headquartered in Spearfish, SD, manages the operations of a network of rurally-based healthcare providers that offer quality care to seniors and individuals needing care either in their homes or at specialized locations such as rehabilitation clinics, assisted living residences, and long term care facilities.

LE's range of services offered include 21 long-term care facilities, six Alzheimer's units, 14 personal care/assisted living centers, six home health agencies and 2,000+ staff members.

Services:

- Skilled Nursing
- Assisted Living
- Home Health

- Homemaker Care
- Hospice
- Therapy
- Rehabilitation
- Adult Day Care
- Alzheimer's
- Respite Care

#### Project Description

In serving the population of residents within LE's long-term care facilities, the administration of medications and treatments was documented on paper. The opportunity to have missing information in the Medication Administration Record (MAR) was always present. Plans were put into place to seek out a software solution that included paperless order administration to address LE's needs.

#### Approach

LE chose the HealthMEDX Vision solution for its overall software needs. Part of the solution purchased included the HealthMEDX Vision order management component. While in the process of rolling out the order management and administration solution to LE's facilities and agencies, HealthMEDX released a newer version of the software. At that point, some LE facilities were live and operational with the original version of order management from HealthMEDX and some facilities were still operating in paper. With the new version of order management available, the decision was made to rollout the new solution to all facilities in order to realize the benefits of the enhanced order management component.

As part of this implementation, LE followed the progress closely to measure actual benefits realized for each facility. Pre-implementation data, as well as post-implementation numbers, were captured to identify these benefits.

The first facility to receive the enhanced eMAR/eTAR solution from HealthMEDX in conjunction with the Order Administration and Clinical Smartboard home screen widgets was a paper-based facility needing to make the move to electronic documentation. Time savings were realized from a streamlined documentation process within the Vision solution at this facility. In comparing pre- and post-implementation data, a full hour of time was saved per medication cart within three days' time with the new components implemented. On top of this benefit, end-users were pleased to have data at their fingertips without wasting time searching through paper documentation.

After rolling out the latest version of HealthMEDX Vision's order management solution in the first facility, LE moved on to one already using the earlier version. Moving to the latest release created time savings as well. Feedback on the new Order Administration and Clinical Smartboard widgets also proved the benefits to end-users. They cited prompting of the Clinical Smartboard regarding follow-up needed on PRN medications as a valuable benefit.

Overall, the implementation of the order management solution within LE facilities was well received by end-users. The benefits were both tangible and intangible, creating improvements that tied directly to resident care. Increased efficiency and the management of risk were critical end goals realized from implementation of the HealthMEDX Vision solution.

### Outcomes Achieved

- Realized annual savings of over \$3,000 per medication cart
- Decreased order administration time by one hour every three days
- Created instant review of missed medications
- Decreased risk of medication errors
- Eliminated "copy cat" charting
- Provided charting audit capabilities for management
- Reduced risk with automatic prompting for follow-up on administered PRN medications
- Reduced new user training time with straightforward interface
- Streamlined physician order processing
- Increased accuracy in communicating orders
- Increased accuracy in documentation of orders

Feedback from end-users taking on the HealthMEDX Vision order management component included the following:

"It is easy! It gives you more info more quickly than chart MARs or TARs."

"Clicking a mouse is easier than the old method of writing down, and if you make a mistake it can be corrected easier."

"Physician orders are being processed much quicker than they have in the past."

### Lessons Learned/Advice to Share with Others

None offered.

## 9 POST-ACUTE FACILITIES INTERFACE TO MAIN HOSPITAL SYSTEM



### 9.1 Provider: LifeBridge Health

**Contributor:** Domenic Saraceno, senior systems analyst



### 9.2 Vendor: Health Care Software, Inc.

**Category:** EHR Interoperability

#### Organization

LifeBridge Health (LBH), Baltimore, MD, is an integrated delivery system that includes two acute hospitals, a chronic hospital, a Partial Hospitalization Program (PHP), adult day care, and two nursing homes. The two nursing homes, Levindale Hebrew Geriatric Center and Hospital and Courtland Gardens Nursing and Rehabilitation Center, represent the main areas of post-acute services for LBH. These facilities use the Health Care Software, Inc. (HCS) product, INTERACTANT™, as their primary information system, which is interfaced to Sinai Hospital’s Cerner® EMR for demographics, ancillary services, and charges.

#### INTERACTANT Applications:

- Registration
- Revenue Cycle Management
- Order Entry
- EMR

#### Interfaces Deployed:

- Lawson®
- Cerner®
- Omnicare®
- McKesson®

#### Project Description

##### *Applications and Interfaces*

Levindale Hebrew Geriatric Center and Hospital and Courtland Gardens Nursing and Rehabilitation Center use INTERACTANT applications interfaced to the Cerner system and additional third-party vendors. Standards used currently include HL7 and other proprietary formats.

#### Approach

##### *The Interface Creation Process*

All vendors supporting HL7 standards have specifications for creating and supporting these types of interfaces. Domenic Saraceno, senior systems analyst at Sinai Hospital, states, “HCS conforms to the other vendors’ specifications and makes it work.”

“We can adapt very efficiently and quickly,” states Darren Yonkin, HCS CTO. “Even using HL7, one side needs to be flexible, so we’ll do whatever it takes to get the job done to create interfaces and complete transactions successfully.”

Saraceno adds, “Creating interfaces with HCS and the INTERACTANT System was much easier than what I have experienced with other vendors.”

## Outcomes Achieved

### *Benefits and Statistics Achieved by LBH*

#### *Benefits:*

- Increased efficiency and accuracy by eliminating redundant data entry
- Real-time information of order status
- Single point-of-entry in one system for end-users
- Increased communication to facilitate better care

#### *Statistics:*

- eDischarge Transactions      866
- Demographics                      9,319 admissions
- Orders                                  92,540 lab orders
- Charges                                249,322 lab charges

## Lessons Learned/Advice to Share with Others

- Thoroughly review the current workflow and define best practice in realistic terms.
- Define exact data elements to be exchanged. They must be elements that users need and not simply what the system provides.
- Test both positive and negative outcomes with as many real-life scenarios as possible.
- Have a plan in place for speedy resolution as new issues arise.
- Be willing to adapt as care delivery changes.

## 10 A CASE STUDY IN CHANGE MANAGEMENT

### LIFESPAC E COMMUNIT IES

#### 10.1 Provider: Lifespace Communities, Inc.

**Contributor:** Deb Goss, RN, BSN, director of health services



#### 10.2 Vendor: Optimus EMR, Inc.

**Category:** EHR Implementation

##### Organization

Lifespace Communities, Inc. (Lifespace) is the sixth largest independent living provider and seventh largest senior living provider of not-for-profit retirement communities in the United States, managing a network of 12 communities in seven states. In fulfillment of its commitment to excellence and innovation, Lifespace launched a national search for the right electronic health record (EHR) partner with the appropriate software solution and an implementation philosophy that aligned with the organization. Lifespace's key stakeholders conducted a rigorous review of EHR providers to discern an efficient and effective system, with the goal of enhancing consistency and reducing risk.

Optimus EMR<sup>®</sup>, Inc. was founded in 2000 to address the clinical operations of the post-acute care industry and to support the necessities of its clinical

procedures and processes. They are at the forefront of the paradigm shift to Point of Care (POC) documentation, complete electronic (paperless) charting applications, and automating many previously manual processes for workflow simplification and maximum efficiency. The installation of an EHR cannot be completed successfully without the comprehensive evaluation of current practices and the reengineering of documentation workflows that leverage the efficiencies provided by the technology, according to Craig Griffin, senior vice president of implementation at Optimus EMR, Inc.

##### Project Description

The implementation of a full EHR in a long-term care facility is both an art and science. In an ever-changing regulatory and reimbursement climate with veteran staff and embedded manual processes, the natural tendency is to resist change which makes for a steep hill to climb before ever getting started. Given those circumstances, how can one implement an EHR in a multi-site organization and reap the benefits that intuitively come with a standardized system? That is the question Lifespace had to address.

The goal was to implement Optimus' EHR in all ten communities within 16 months, which included the clinical assessment modules, POC charting system and the Electronic Medication Administration Record (eMAR), as well as having the systems in place to effectively manage community operations and quality of care during the implementation process and after. This must be part of any implementation project in order to measure the success of change and the adoption of the new system and processes.

## Approach

Lifespace began the project with a comprehensive, corporate-wide evaluation of the documentation workflow within each community. All communities were represented and encouraged to participate in the corporate-mandated workflow for all documentation. A detailed gap analysis of existing documentation needs was compared to Optimus' documentation capabilities. Gaps were incorporated into the workflow. The Lifespace team reached a consensus on the approved workflow as it related to the clinical documentation standards for use in all communities, with an acceptable margin accounting for regional or personnel differences. The approved workflow was fully documented and training plans were created for use with each individual community implementation.

Additionally, a master project plan with site specific timelines was established, with consideration to each community's annual survey window. This plan included identification of corporate resources and the recognition of the system "champions," individuals charged with the responsibility for becoming early adopters and mentors. Also included was an in-depth evaluation of the current computing environment of each community. Lead times were built in for each community to prepare staff for computer training prior to implementation. Lifespace and Optimus mutually agreed on an aggressive plan that would capitalize on the momentum created by each community as they converted to EHRs.

Having the computing environment set and tested 45 days ahead of the project start date for each community was essential for staying on track. Corporate resources went to each unique facility environment and evaluated the regional and personnel differences for workflow adoption and began train-

ing the "champions" with a standardized approach. The two implementation teams worked side-by-side throughout the project, measuring the acceptance of change and system adoption after each launch, noting that there was a noticeable improvement of process. Each subsequent community benefited from the experiences and best practices gleaned from the earlier installations.

## Outcomes Achieved

Benefits gained from a successful EHR implementation cannot be limited to the implementation itself. The practical use of the EHR system, workflow adaptation and financial outcomes will continue to be measured over time. Lifespace continues to measure its post-implementation success and has found improvements in reimbursement, risk (legal) avoidance, and verifiable time savings. According to Deb Goss, Lifespace's director of health services, the organization found that the Optimus implementation has provided Lifespace with a consistent approach to efficient and effective documentation.

## Lessons Learned/Advice to Share with Others

Perhaps the most valuable lesson learned was the development of the workflow. It was time-consuming and somewhat painful at times to hear all the discussion about "we do it this way because we had a surveyor tell us \_\_\_\_\_" ... "we've been doing it for years like this and never gotten cited"... "in our state, we have to \_\_\_\_". Defining Lifespace's practice in the health center supported the training necessary for implementation. Adult learners need to know how "this" impacts or relates to them (or their job). Having a written document for staff to refer to is instrumental for successful implementation. It remains a valuable tool as new people join the workforce and technology continues to improve.



## 11 IMPLEMENTATION WITH AN INTEGRATION ENGINE



### 11.1 Provider: Lorien Health Systems

**Contributor:** Brian Bluedorn, director of information technologies



### 11.2 Vendors: BlueStep and BridgeGate International

**Category:** EHR Interoperability

#### Organization

Lorien Health Systems (LHS) is a Maryland-based, privately owned, for-profit health care system encompassing the health care continuum from post-acute services, skilled and long-term care nursing and assisted living to home and community-based services. LHS's commitment to providing seamless care that is transparent and accessible to residents/families, medical providers, health information exchanges and health care institutions is based on an accessible, web-based electronic medical/health

record (EMR/EHR).

LHS has seven distinct communities throughout Maryland, providing care to over a thousand residents in 600 nursing home beds and 400 assisted living beds.

Services:

- Nursing & Post-Acute care
- Rehabilitation Therapy
- Assisted Living
- Skilled Nursing
- Ventilator Care
- Medically Complex Rehab

#### Project Description

LHS needed a fully integrated EMR that incorporated a complete solution for clinical, therapy, medications and supplies but also integration points with third-party providers. It sought a solution that could address the immediate clinical system requirements and interfaces, yet would be flexible for future changes as they come.

#### Approach

LHS selected BlueStep for its EMR. BlueStep provides a solution that unifies all resident clinical data into a single view that is flexible and responsive to the end-user's needs now and in the future. Additionally, BlueStep's partnership with BridgeGate International enabled LHS to quickly integrate BlueStep's Computerized Physician Order Entry (CPOE) system for pharmacy orders as well as laboratory and radiology results into the BlueStep platform. BridgeGate's rapid integration platform provided the ability to include resident patient data

to the Chesapeake Regional Information System for our Patients (CRISP), Maryland's health information exchange (HIE), and a custom clinical assessment platform. Additional interfaces currently being incorporated involve the sharing of therapy minutes and receiving patient discharge information from referring acute care centers. BridgeGate manages real-time resident data bi-directionally, providing BlueStep unparalleled interoperability with all of LHS's partners and solution providers.

### Outcomes Achieved

LHS's goal was to have a fully interoperable EMR system that provides accurate data exchange and availability as well as offering operational efficiencies. That goal is being realized.

"No longer will our nurses and medical providers have to log onto three different programs. It will be one login, one point for order entry, results reporting and data input. A true Best-in-Class resident medical record that contains all pertinent clinical data without having to compromise the quality of the record because provider programs are not interoperable," explains Wayne Brannock, LHS's VP, clinical affairs.

LHS realized the following value from its partnership with BlueStep and BridgeGate:

- Unified view of all resident patient data on one system via BlueStep's platform
- Real-time, two-way access to patient data through BridgeGate's integration platform
- Participation in progressive interoperability such as HIE

- Ability for LHS to adapt easily as company needs change and address changes in the future with the flexibility of BlueStep and BridgeGate
- Seamlessly transition and transform LHS's IT landscape as needs or requirements change
- Vendor agnostic; LHS can quickly switch vendors to reduce costs or provide additional services
- Ability to integrate now; new integrations can happen in weeks, not months.

### Lessons Learned/Advice to Share with Others

The biggest lessons LHS learned are:

- It takes a lot longer than you think. LHS has been through a couple of big changes in software so they thought they had a good idea how long this would take, but with so many parties having to be coordinated, it is taking longer than anticipated.
- With so many parts to the puzzle, be sure to define what part of your system will be the "master" and have a strong, organized project manager at that point to coordinate all of the other connections.

## 12 UPGRADING AN EXISTING EHR



**Monroe Community Hospital**

### 12.1 Provider: Monroe Community Hospital

**Contributor:** Rosemary Provo, deputy director



### 12.2 Vendor: LINTECH

**Categories:** EHR Implementation, EHR Use and Workflow Change Best Practice

#### Organization

Monroe Community Hospital (MCH), located in Rochester, NY, is a county-owned health care facility providing quality long-term care to more than 566 individuals with complex and chronic health conditions. It is home to residents of all ages – from infants to centenarians – and provides a comprehensive range of health care services including acute care, skilled nursing care, short-stay rehabilitation and specialty care including hospice and care for children and young adults, individuals with Alzheimer's disease, and those needing ongoing respiratory care.

#### Project Description

Currently using LINTECH's integrated financial and clinical suite of solutions, MCH made the relatively easy decision to implement LINTECH's COMET™ Point-of-Care application to document ADLs, vital signs, weight and height, meal and snack consumption, restorative nursing and recreational therapy. The use of touch-screen and mobile tablet devices to implement COMET™ Point-of-Care improved workflow, productivity and the quality and accuracy of real-time documentation. The documented information is instantly available to the entire interdisciplinary care team.

#### Approach

Before the project was implemented, there were many technical decisions that needed to be made regarding the number and placement of touch-screens to maximize efficiency, purchasing the hardware and running the necessary cabling for the devices and installation. A key focus was training the staff of approximately 400 on both the use of LINTECH's COMET™ Point-of-Care application through the touch-screen and re-educating on MDS definitions. MCH is a large facility so the deployment approach was one unit at a time to ensure adequate training and support for each unit as they went live. LINTECH's COMET™ Point-of-Care documentation was completed by CNAs, nursing staff, restorative nursing and recreation staff. This data, using sophisticated algorithms, flows directly to the MDS based on the assessment reference date.

### Outcomes Achieved

The most noticeable improvement in workflow was for the CNAs. Previous paper documentation would typically be completed during the last hour of the shift and now this time has been given back to direct resident care. The accuracy of the documentation has improved because observations and treatments are documented directly after they are completed, rather than at the end of shift, and are not influenced by what has been previously documented. This was extremely beneficial when the MDS became the standard tool for reimbursement for Medicaid in New York State. Application access was streamlined by utilizing existing badge swipe versus traditional user ID and password login. The application is also used on portable tablet devices with touch-screen interface in areas that did not have an accessible kiosk with wall mounted touch-screens. These devices are mainly used to document attendance and participation at recreational programs for large groups of 100 or more residents. The reporting and auditing capabilities quickly identified missing and/or inaccurate information as well as identified opportunities for improvement and education. Real-time information can be easily accessed by the entire interdisciplinary team from multiple locations to assist in improved resident quality care. This EMR documentation was then utilized by the entire interdisciplinary team: administration, utilization review, medical, pharmacy, nursing, nutrition, social services, rehabilitation, recreation, laboratory, quality improvement and consultants. LINTECH's COMET™ EMR information is accessed from off-site physician offices, in-facility offices or on the nursing unit.

### Lessons Learned/Advice to Share with Others

- Provide opportunities to practice documentation prior to go-live; this also allows validating the education on MDS definitions.
- Perform audits during the go-live to identify any additional educational opportunities.
- Establish a system to train relief agency staff and new staff to ensure consistent and accurate documentation.
- Establish a system to have nurse management perform ongoing review of ADL documentation to ensure accuracy.
- Leverage existing procedures to integrate solutions such as incorporating a badge swipe (used for time card systems and facility door security) for login. This improves efficiency and further facilitates the desired real-time documentation.

## 13 CONNECTING COMMUNICATION IN HEALTH IT



### 13.1 Provider: Presbyterian Homes and Services of Kentucky, Inc.

**Contributor:** Dearl Layton, director of information technology



### 13.2 Vendor: American HealthTech

**Categories:** EHR Selection, EHR Implementation, EHR Use and Workflow Change Best Practice

#### Organization

Presbyterian Homes & Services of Kentucky (PHSK) has four campuses serving communities in Kentucky including a CCRC, two skilled nursing facilities and one assisted living facility.

#### Project Description

PHSK had been struggling with dissimilar applications for several years with two different systems for electronic health records (EHRs) and financials with even more systems serving various other needs.

They faced three major challenges – lack of integration and manual data entry between clinical and financial systems; medical records systems that, not being long-term care focused, were cumbersome and causing confusion and extensive training time; and major technical problems with its clinical system, which created too great a risk.

#### Approach

American HealthTech (AHT) was deployed to PHSK's campuses. Starting with the basics, focusing on medical records, CNA documentation, and preparing for electronic medication administration, implementation was done in phases. Workflow is key, and AHT shared best practices on how to optimize them in new ways to create efficiencies.

PHSK facilities were using handheld devices previously. Residents were uncomfortable with the devices and felt like they were being scanned. AHT installed wall kiosks, which replaced the handheld devices for better CNA documentation. AHT *Smart Charting* simplified PHSK's CNAs' delivery of care. CNAs liked how easily they could access and find information.

Because resident needs constantly change, CNAs need a regular flow of updates on new tasks. PHSK's previous system required a unit secretary in each facility focused on assigning tasks. With *Smart Charting*, tasks are sent directly to CNAs at the kiosks. There's no delay, and unit secretaries are freed up to focus on staffing needs.

The PHSK assessment process needed streamlining, and its user-defined assessment needed improvement. With AHT real-time reporting in place,

the physicians are prompted by resident-specific observations and given rich behavioral information providing the greater accuracy necessary for more informed diagnosis and successful treatment.

Previously, PHSK accident, incident and infection reporting cost 4 to 5 more hours per month in report compilation time. With AHT, directors get real-time reports, and can immediately target resident-specific follow up. With better accident, incident and infection tracking, PHSK was able to free up those extra hours per month.

Regional hospitals rely on PHSK for a complete care transition package. With AHT reporting in place, and accountable care being a top priority for PHSK, automated reporting makes the entire process easier.

Documentation of clinical care is vital for reimbursements as nearly 90% of PHSK's revenues go directly to support program services. With PHSK's previous EHR system, they had challenges with documentation that resulted in default rates. PHSK continuously invests in residents' quality of care, the environments in which it is delivered and program services. With AHT system's real-time reporting and superior training, default rates disappeared.

## Outcomes Achieved

### *Clinical*

- Boosted resident satisfaction, improved assessments, streamlined care transitions, simplified accident/incident/infection tracking, and expanded education
- Eliminated potential for missed follow up documentation for medication administration – a potential survey issue
- Freed up 1 FTE per facility formerly dedicated to updating assignments – with streamlined workflows

### *Financial*

- Eliminated 95% of overtime and an FTE equivalent in the business office for data entry between the financial and clinical system
- Drastically reduced default rates – previously one incident alone prior to AHT had an opportunity cost of \$100K

### *Enterprise*

- Surfaced new reports for benchmarking and leveraging of best practices
- Launched outcomes reporting to monitor clinical excellence, drive continuous improvement and prepare for the accountable world of health care to come

## Lessons Learned/Advice to Share with Others

Facilities need not be resistant to change. Technology is a key strategy for driving high-quality care, and a partnership with your EHR vendor is core to operations across the enterprise. Full EHR is tantamount to delivering higher quality of care, accurate and timely reporting which improves facilities time and dollar efficiencies.

Link to full, detailed report: <http://www.healthtech.net/presby-homes-of-ky/>

## 14 RECOGNIZING THE NEED TO MOVE TO EMR



### 14.1 Provider: St. Clare Manor

**Contributor:** Patrick Eckler, administrator



### 14.2 Vendor: New Tech Computer System

**Category:** EHR Selection

#### Organization

St. Clare Manor (CM) is a 216-bed, faith-based, not-for-profit nursing facility established in 1988 as an affiliate of Our Lady of the Lake Regional Medical Center in Baton Rouge, LA. CM accepts Medicaid, Medicare, private pay, commercial pay and even a governmental contract for the National Hansen's Disease Program.

#### Project Description

A decision was made by the board of directors just over two years ago that recognized a need to move into the world of electronic medical records (EMRs). A steering committee was formed to evaluate the limited opportunities available in the marketplace. After extensive field work, site visits and financial analysis, the decision was made to partner with New Tech Computer System's Pioneer ACMS. This EMR offered a fully integrated elec-

tronic health record that fit CM's needs and aligned with their current information system's infrastructure. The go-live date was July 1<sup>st</sup>, 2010.

One of the primary criteria when selecting Pioneer was the ability for a smaller vendor to adapt to CM's specific needs and offer the proper footwork required to implement an effective system. This deliberate effort proved invaluable in the successful implementation of the EMR. Any less commitment and dedication between vendor and customer would have undoubtedly led to failure. Although the focus of this case study centers on process improvements, enhanced quality of care and workflow efficiency, without proper implementation no progress could have been made.

#### Outcomes Achieved

Ever-increasing challenges in today's economy force facilities to be financially prudent. Fortunately, CM's desire to enhance patient care spurred them to commit the necessary financial resources for total EMR implementation and integration. Although direct financial analysis proves to be quite difficult, in the aggregate CM offers the following observance:

A survey of clinical staff within the facility indicated that the average time spent looking for paper charts exceeded 25 minutes per 8-hour shift. An average patient care day was equivalent to 87.5 FTE's per resident day. This figure represents a loss time of 36.45 unproductive hours per day or 13,307 hours per year spent on looking for charts. Conservative estimates would account over \$133,000 of wages spent on searching for charts. Furthermore, consideration was given to energy exerted in this wasteful process.

In addition to the less obvious outcomes above, the facility has benefited from the more traditional efficiencies that one would expect from the proper implementation of an EMR. CM has experienced improvements in overall resident quality measures, reduction in regulatory reporting non-compliance, improved accuracy in resident census billing, and perhaps most importantly, an increase in employee engagement scores.

The general measure of success of an EMR vendor is determined by gauging the customer's satisfaction. It is a rare event that a customer shifts from being satisfied to becoming a promoter of a vendor's service. CM can truly say their facility is more efficient than ever, and this could not have been achieved without the total commitment from New Tech Computer Systems.

**Lessons Learned/Advice to Share with Others**

None offered.



## 15 SAFE MEDICATION PRACTICES IN THE LTC SETTING



### 15.1 Provider: Three Links Care Centre

Contributor: Rita Steeple, director of care



### 15.2 Vendor: Catalyst Healthcare oneMAR

**Categories:** EHR Implementation, EHR Use and Workflow Change Best Practice

#### Organization

Three Links Care Centre (TLCC) is a publicly funded, non-profit long-term care facility and an affiliate of the Vancouver Coastal Health Authority. TLCC consists of three floors with 90 private bedrooms on the second and third floors and a 6-bed peritoneal dialysis unit, with nursing stations located on each unit. Interdisciplinary care services are provided on a 24-hour basis by a team of professional staff including registered nurses (RNs)/registered psychiatric nurses, licensed practical nurses, a clinical dietician, a social worker and a music therapist.

#### Project Description

Catalyst oneMAR is a real-time, Internet-based system that integrates TLCC with its pharmacy service provider, meaning 100% accountability to

the dose level from filling a prescription to administration. With incident reviews identifying any errors, responsible individuals, specific dates/times, and locations (facility or pharmacy), TLCC has rapid identification of the source of the error, a level of detail unattainable in the past. Remediation is rapid; there is no more trial and elimination. TLCC has risk management, quality improvement and solution implementation at the right point in the process.

#### Approach

With the adoption of oneMAR, TLCC has benefited from efficiencies both internally and externally, including real-time connectivity with its off-site community pharmacy provider in the potentially high-risk area of medication administration. There's the added safety of barcode scanning to ensure the right medication is given to the right resident at the right time; the improved communication both internally and externally for all medications administered; and the added efficiencies due to accurate inventory management. TLCC has realized significant improvements in day-to-day operations, which translate into reductions in nursing workload, improved resident care, time savings, a decrease in inventory ordering, fewer medication errors, and a motivated staff.

#### Outcomes Achieved

- *Time savings & quality improvements* - Less nursing time is spent on the labor side of medication administration. Time previously spent on paper documentation to communicate and assess the mental and

physical status of residents has been replaced by time with the residents ensuring that medications are actually taken.

- *Safety in medication administration* - Adherence to the “7 Rights” of medication administration: right medication, right client, right dose, right time, right route, right reason and right documentation are embedded in nursing practice. The use of oneMAR supports and enforces the “7 Rights.”
- *Enhanced communication* - Immediate ability for health care providers to access and print real-time medication administration records (MAR) from any computer terminal for emergency transfers or off-site appointments.
- *Improved resident care* – oneMAR allows for review of any resident incident report that may be related to a prescribed medication. With the ability to view the live MAR at anytime from anywhere, patterns of behavior in relation to medication are easily identified.
- *Customer satisfaction* - Residents and their families appreciate how quickly TLCC can provide documentation to support a leave of absence. Traditionally TLCC staff had to find a resident chart and photocopy information, which took a long time. With oneMAR, all users have access to up-to-date information for all residents.
- *Inventory management* - TLCC has seen a significant elimination of surplus stock in med rooms with the migration to multi-dose strip packaging and oneMAR. All re-orders and requests are sent electronically from the point of care. Users at the facility or pharmacy can verify when an order was placed, whether it

has been filled and delivered by the pharmacy, and who received it at the facility in real-time.

- *Risk management* - Traditional error points in medication administration are eliminated through oneMAR’s built-in warnings if a nurse attempts to administer a drug already dispensed or a medication to the wrong resident.
- *Decision support & reporting* - Reports are available in seconds. Having the ability to export MDS data saves 312 hours of nursing time on an annual basis. TLCC also uses Catalyst MDS as its Resident Assessment Instrument to improve clinical and operational decision-making.

#### **Lessons Learned/Advice to Share with Others**

It has been five years since TLCC first implemented the oneMAR software and TLCC continues to reap unexpected benefits from its use. The software is now a widely used tool by each member of the interdisciplinary team.

- Physicians are using it to determine responses to drug dosing changes and to determine optimum administration time.
- Renal Dialysis Team accesses the software remotely to confirm medication compliance since the last clinic visit and to complete the point of transfer medication reconciliation.
- Mental Health Team reviews responses to medication changes since the previous week’s visit and is able to monitor during the interval between visits.
- Professional nursing staff drug administration practices changes have continued to show significant improvements since

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implementation and the progress is being maintained.

- Medication reviews are now done using only the oneMAR with pharmacy, nursing and physicians using available historical MAR data for decision making. The advantage of real time access to any changes means that changes made at the medication review can be sent immediately to the offsite pharmacy and delivered later the same day, eliminating costly nursing time.